2023 Comprehensive Reliability Planning Report

Report Outlines Risks to Grid Reliability

NYISO's *2023-2032 Comprehensive Reliability Plan* (CRP), which sets forth a plan for the bulk electric system over a 10-year horizon, finds growing risks to reliability on the grid, including: generator deactivations, extreme weather, uncertain demand trends due to electrification, and slow or delayed development of new generation resources.

Changing Conditions

- ✓ The grid is undergoing unprecedented transformation. **The pace of fossil generator retirements exceeds the pace of new resource additions**. Further, **the intermittency of new, cleaner resources** makes the continual balance of supply and demand more challenging**.**
- ✓ **Growth in demand, driven by electrification of heating, cooking, and transportation, is forecasted to have profound impacts** on how the grid operates. If demand grows at a rate greater than the build-out of generation and transmission, deficiencies could arise throughout the ten-year horizon.
- ✓ **The ability to serve forecasted demand in New York will be more challenging as the grid transforms from a summer to a winter-peaking system within 10 years.** Deficiencies arise as early as winter 2027-28 for an extreme winter cold snap coupled with a gas supply shortage.
- ✓ **The reliance on dual-fuel resources will increase** into the next decade to support winter system reliability.

Added Risks

- ✓ **Added demand from new, large industrial customers** (microchip fabrication and data centers, primarily in western and central New York) **creates the potential for a statewide resource deficiency** within the planning period.
- ✓ **New York Power Authority's small natural gas plants will be phased out by December 2030,** as directed by recent legislation. This will impact already thin reliability margins in New York City without additional resources to take their place.
- ✓ **Extreme weather conditions** such as heatwaves, cold snaps, and storms, pose additional threats to reliability in the absence of more resources, especially in New York City.
- ✓ **Planning for more extreme system conditions** of heatwaves, cold snaps, and fuel availability is currently beyond established reliability design criteria.
- ✓ **The NYISO's quarterly Short-Term Assessments of Reliability** will continue to provide timely analysis of evolving risks to the grid.

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Road to 2040 Reliability

NYISO-administered wholesale electricity markets are an important, proven tool to mitigate risks by leveraging appropriate price signals for new market entry and retention of resources that assist in maintaining reliability.

Significant public and private investment in research and development will be required to identify the most efficient, cost-effective, emissions-free technologies.

Significant resource development will be required to achieve CLCPA energy targets. The installed capacity to meet policy objectives is projected to triple by 2040, while the system will need to be more resilient to the impacts of severe weather.

111-124 Gigawatts
NEEDED BY 2040

Additional transmission investment is necessary to deliver renewable energy across the state and address constraints. Delays in the planned 2026 in-service date for **Champlain Hudson Power Express,** bringing 1,250 MW clean power from Hydro Quebec to NYC, would impact reliability as early as 2026.

In addition to supplying energy, many fossil generators provide reliability services that are essential to keep the grid in continuous balance. As fossil generators deactivate, the reliability services they provide must be identified and replaced.

Follow NYISO Continued Reporting

- ✓ The NYISO will continue to assess the reliability of the bulk grid through the **quarterly *Short-Term Assessment of Reliability* (STAR)**.
- ✓ In 2024 our ***Reliability Needs Assessment*** **(RNA)** will cover the study period through 2034

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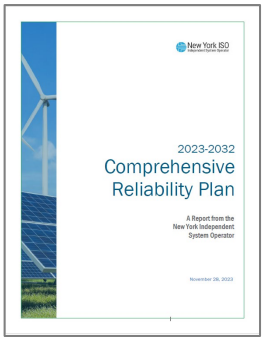
Essential Role of Competitive Markets

Markets shift the risk of investment from consumers to electricity suppliers. The NYISO is leading the way in innovating market design to drive and incentivize:

- » **New technologies** such as: advanced nuclear, long-duration storage, hydrogen-fueled generators, and other emissions-free resources.
- » **Grid reliability services** such as operating reserves, ramping, regulation, voltage support, and black start.
- » **Balancing the intermittency** of renewable generation.
- » **Increased energy efficiency** and programs that reduce demand, especially when it is most critical for system reliability.



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New York ISO
Independent System Operator

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