

2026 RNA Findings

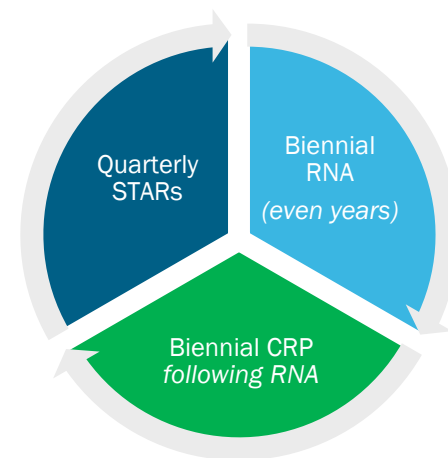
NYSRC Executive Committee

October 8, 2026

Reliability Planning Process

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 New York State Bulk Power Transmission System (BPTF) reliability needs in years 4-10 on Base Case
 - Considers Transmission Owner LTPs, proposed generation, and proposed transmission that meet inclusion rules, demand forecasts, and updates to the system
 - If Reliability Needs are identified, the NYISO issues a competitive solicitation for market-based and alternative regulated solutions, and the Responsible Transmission Owner(s) is required to propose a regulated backstop solution
- **Comprehensive Reliability Plan (CRP)**
 - Biennial report that documents the plans for a reliable grid over the 10-year planning horizon
 - If applicable, includes an assessment of viability and sufficiency and an evaluation and selection of the more efficient or cost-effective transmission solution to a Reliability Need(s) in years 4-10



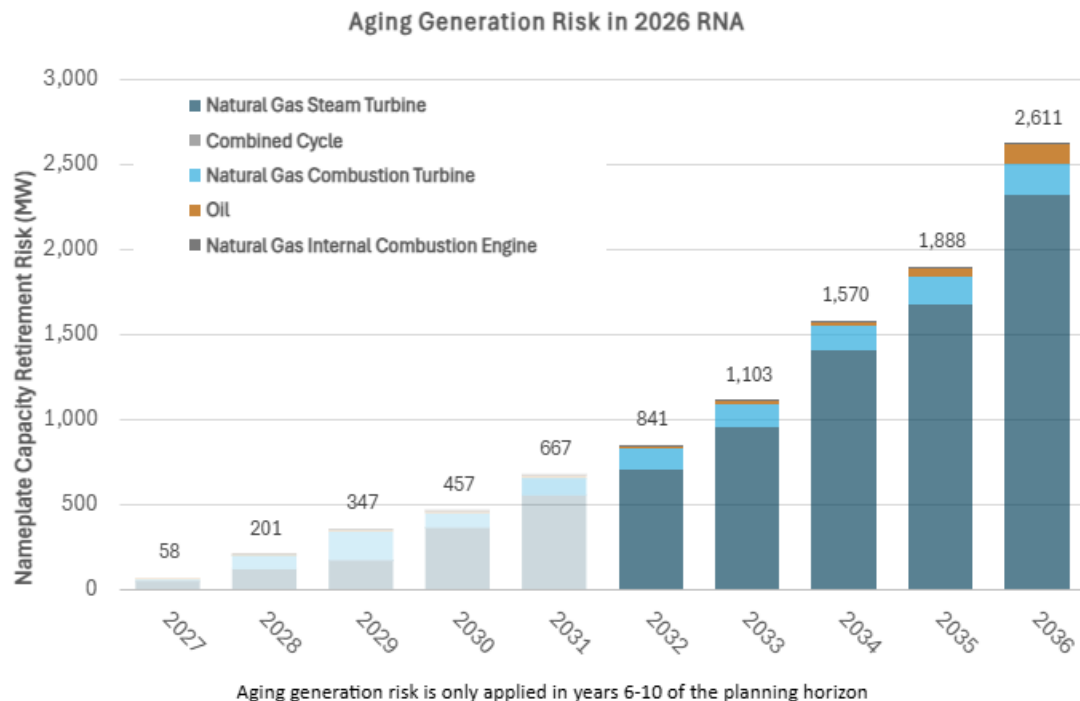
Key System Trends

Key Assumptions

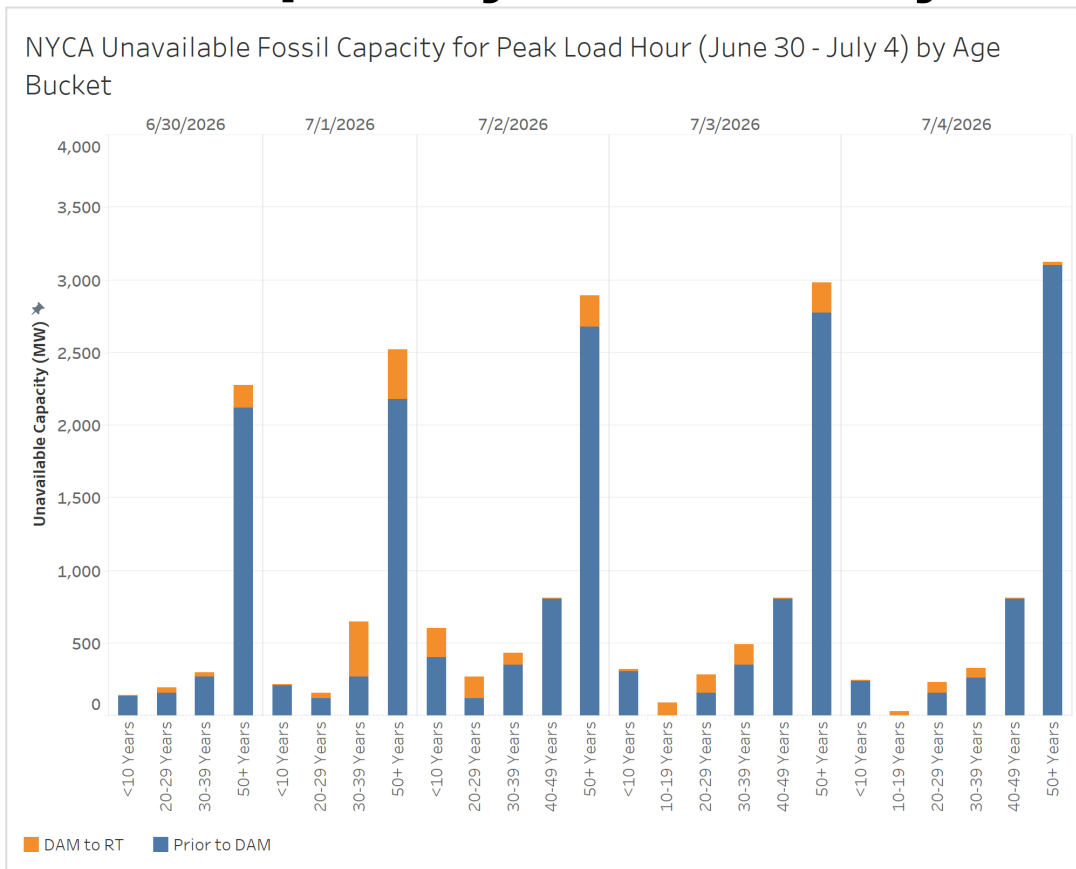
- **Key assumptions were reviewed and discussed with stakeholders at the beginning of the RNA. Highlights are summarized below:**
 - **Generation**
 - ~6,200 MW of solar, wind, and storage proposed projects
 - 517 MW of NYPA small plants assumed retired in 2031
 - ~5,400 MW of non-firm gas out of service during winter peak
 - **Large Loads**
 - ~2,700 MW of large load projects
 - **Emergency assistance decreases from 3,500 MW to 2,500 MW by 2036 for resource adequacy assessment**
 - 100 MW reduction applied annually beginning in the first study year
 - **Transmission security margin incorporates NYCA 5-year zonal-average EFORD values**
 - **Generation aging risks considerations – details on next slide**

Aging Generation

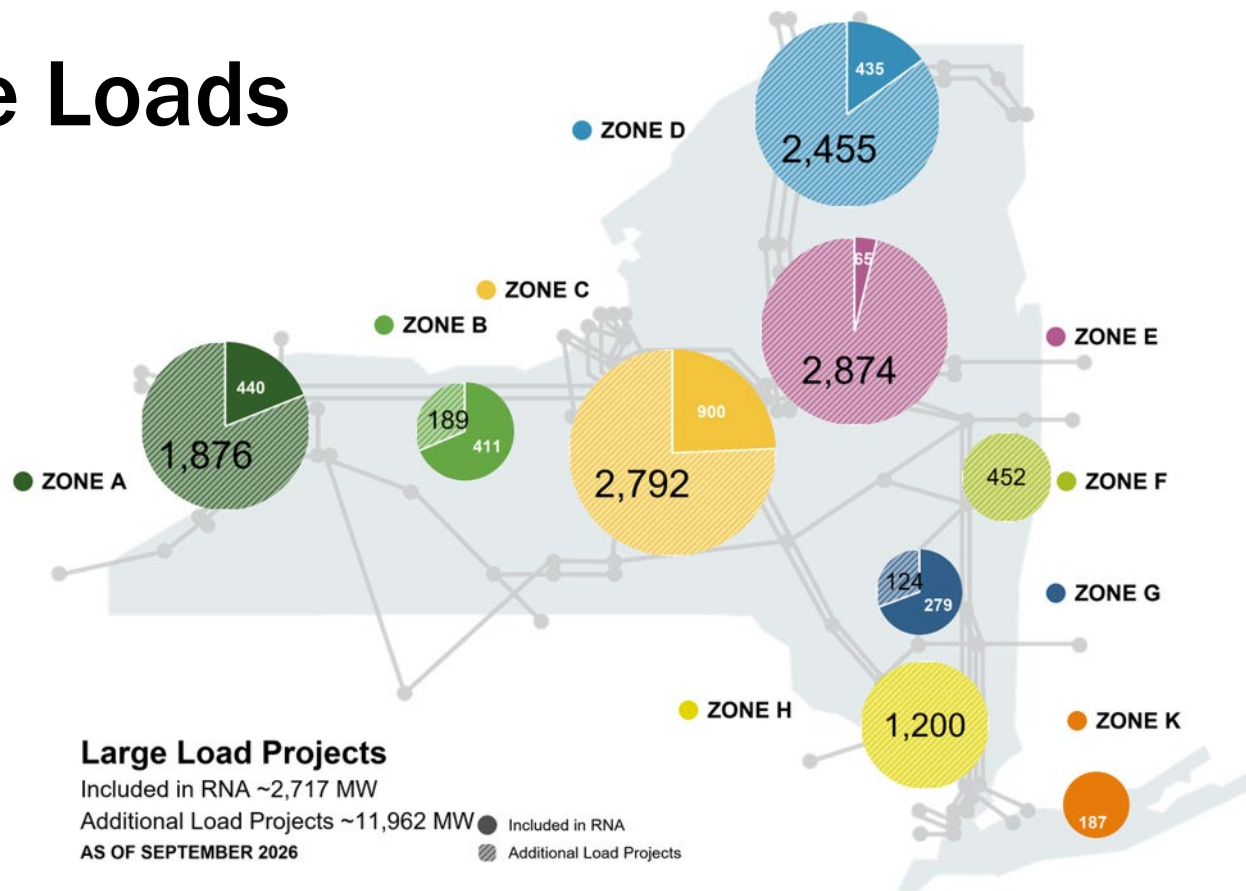
- The aging generation model applies to years 6-10
- Units contribute to aging generation risk after crossing a threshold age
 - For the Base Case, this is the age by which 95% of peer capacity had retired



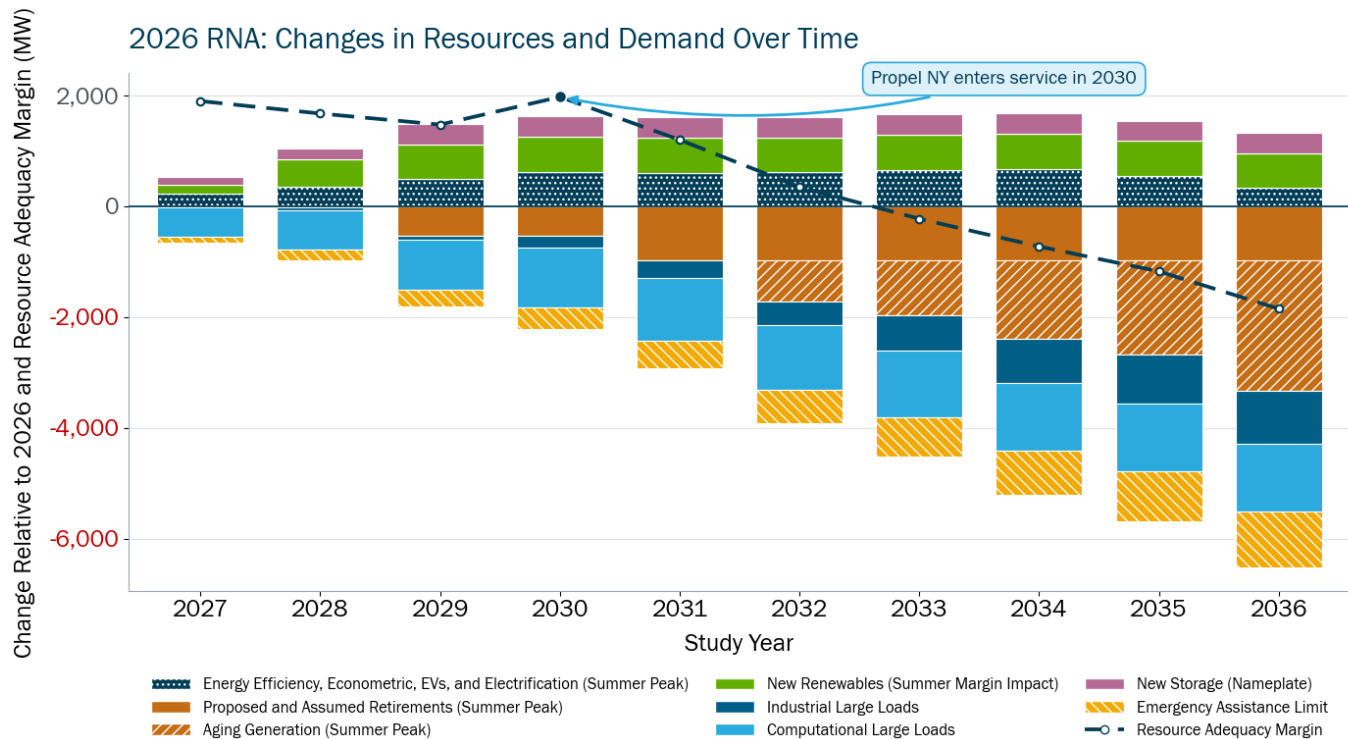
Unavailable Capacity in the July Heatwave



Large Loads



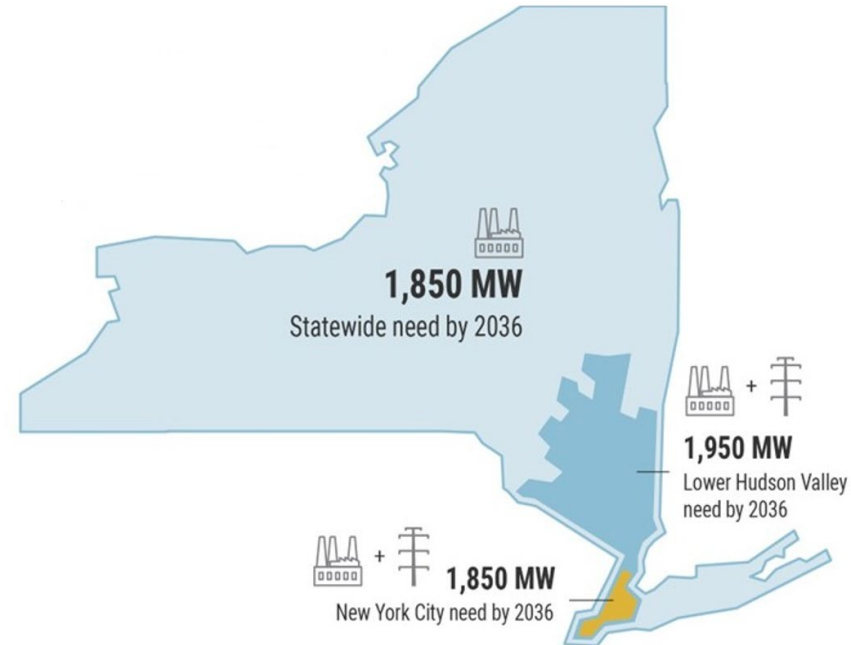
Reliability Impact of Key Trends



Reliability Needs

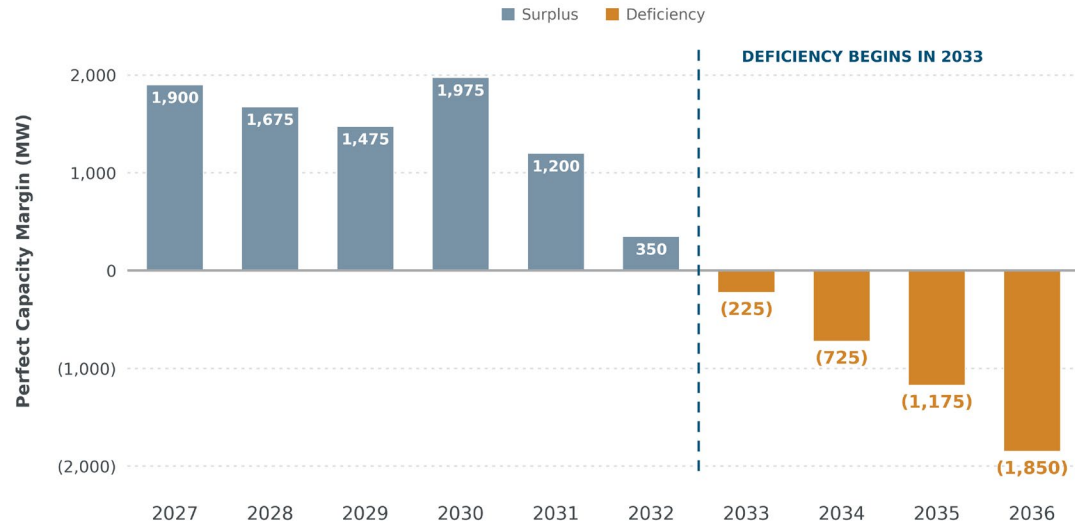
Reliability Needs Summary

- **This RNA identifies three Reliability Needs:**
 - A statewide resource deficiency beginning in 2033,
 - A transmission-constrained deficiency in New York City beginning in 2032, and
 - A related transmission security need in the Lower Hudson Valley also beginning in 2032.
- **Taken together, the findings indicate that maintaining a reliable grid will require at least 1,850 MW of new generation resources appropriately located with the necessary operating characteristics, coupled with transmission capability necessary to deliver those resources.**
- **In-state transmission alone will not resolve the statewide need.**



Statewide Need

Statewide Resource Adequacy Deficiency Begins in 2033

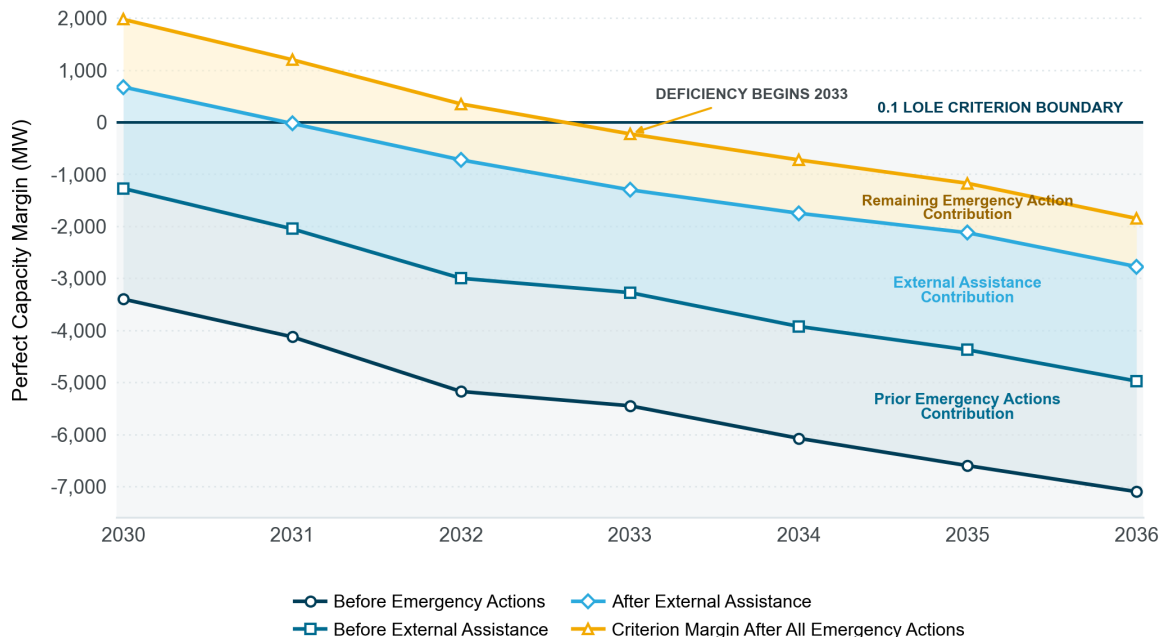


- The base case exceeds the state's resource adequacy criterion starting in 2033 with a deficiency of approximately 225 MW and gets worse through 2036 with a deficiency greater than 1,850 MW.
- Unlike previously identified reliability needs, this resource deficiency is not driven by internal transmission constraints but rather is an issue of insufficient statewide supply to meet projected demand.

Statewide Margin by EOPs

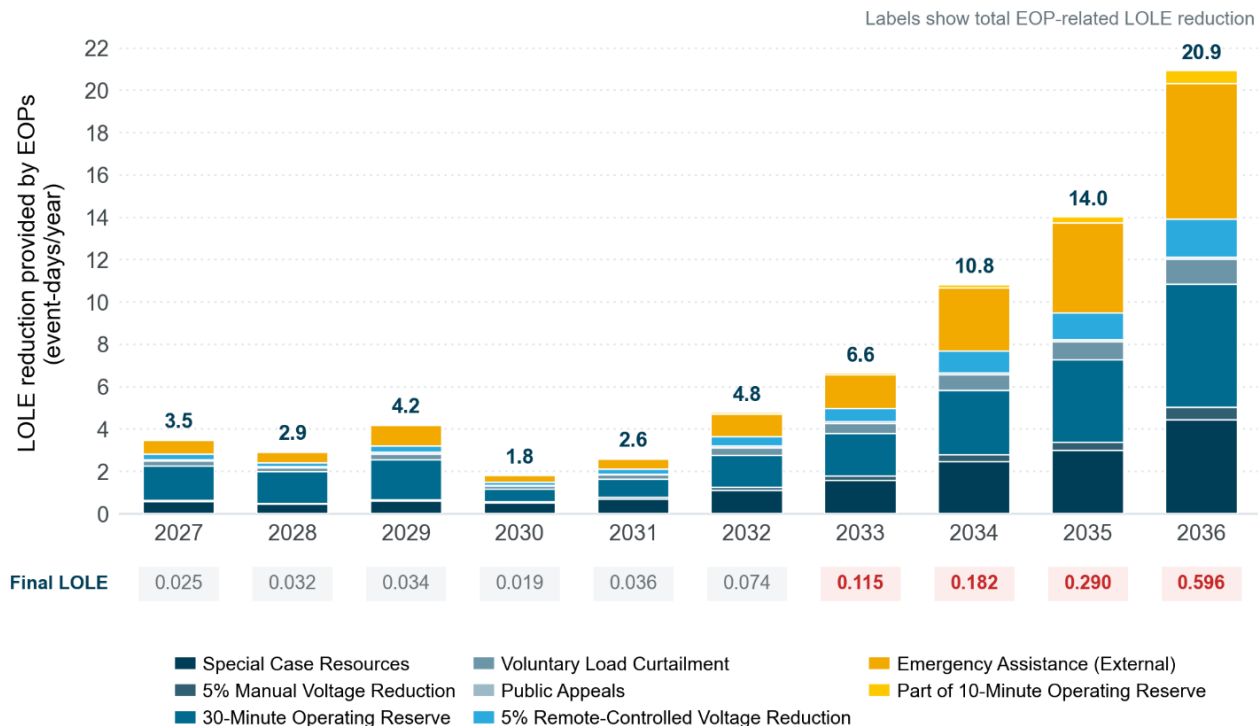
- While the identified deficiency begins in 2033, reliability conditions tighten well before a criterion violation occurs. The analysis indicates increasing reliance on emergency operating procedures and external assistance to maintain reliability, reducing the system's ability to withstand unexpected changes in demand, resource performance, or imports.

Statewide Resource Adequacy Margin by Emergency Operating Procedure



Reliance on EOPs

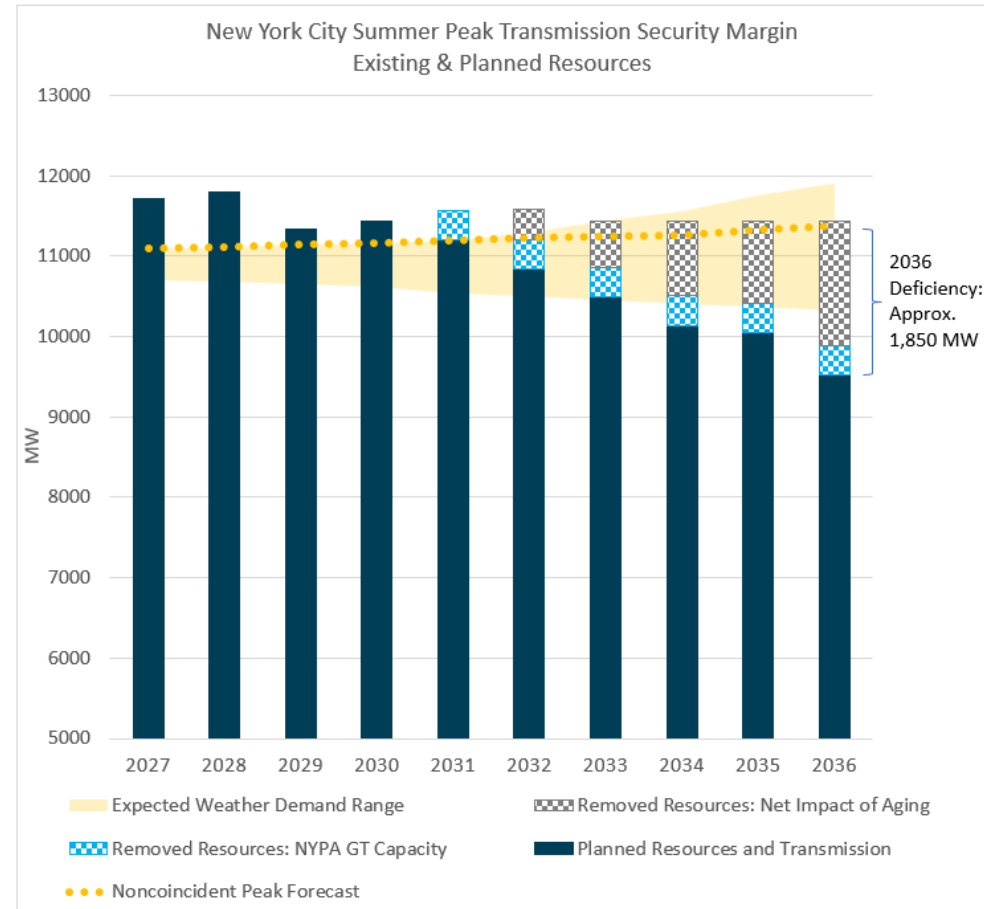
Resource Adequacy Contribution by Emergency Operating Procedure



Note: Each segment represents the reduction in LOLE between consecutive emergency actions.
Red Final LOLE values exceed the 0.1 event-day/year criterion.

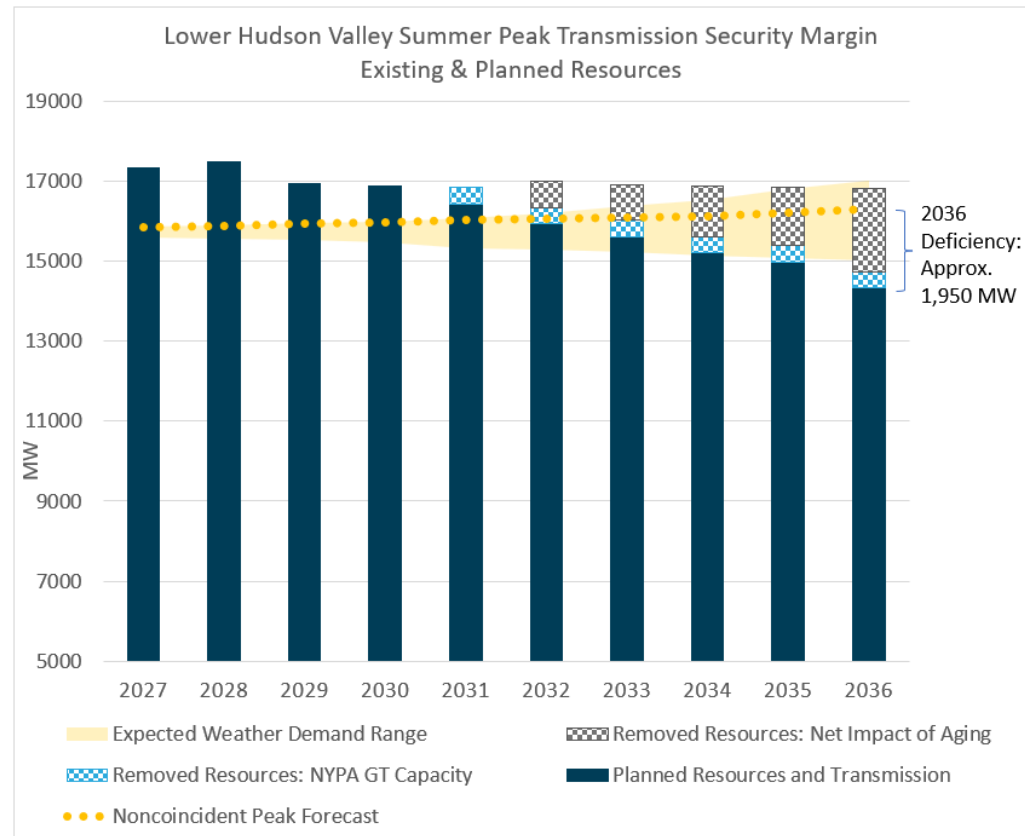
New York City Need

- New York City is deficient by approximately 400 MW for seven hours in summer 2032, with the deficiency growing to approximately 1,850 MW for fifteen consecutive hours during the peak demand day in summer 2036.
- The deficiency also is observed in the winter with a deficiency of approximately 800 MW for sixteen consecutive hours in 2036.
- The identification of both summer and winter deficiencies indicates that effective solutions must provide reliable performance for a long duration across a broad range of seasonal conditions.



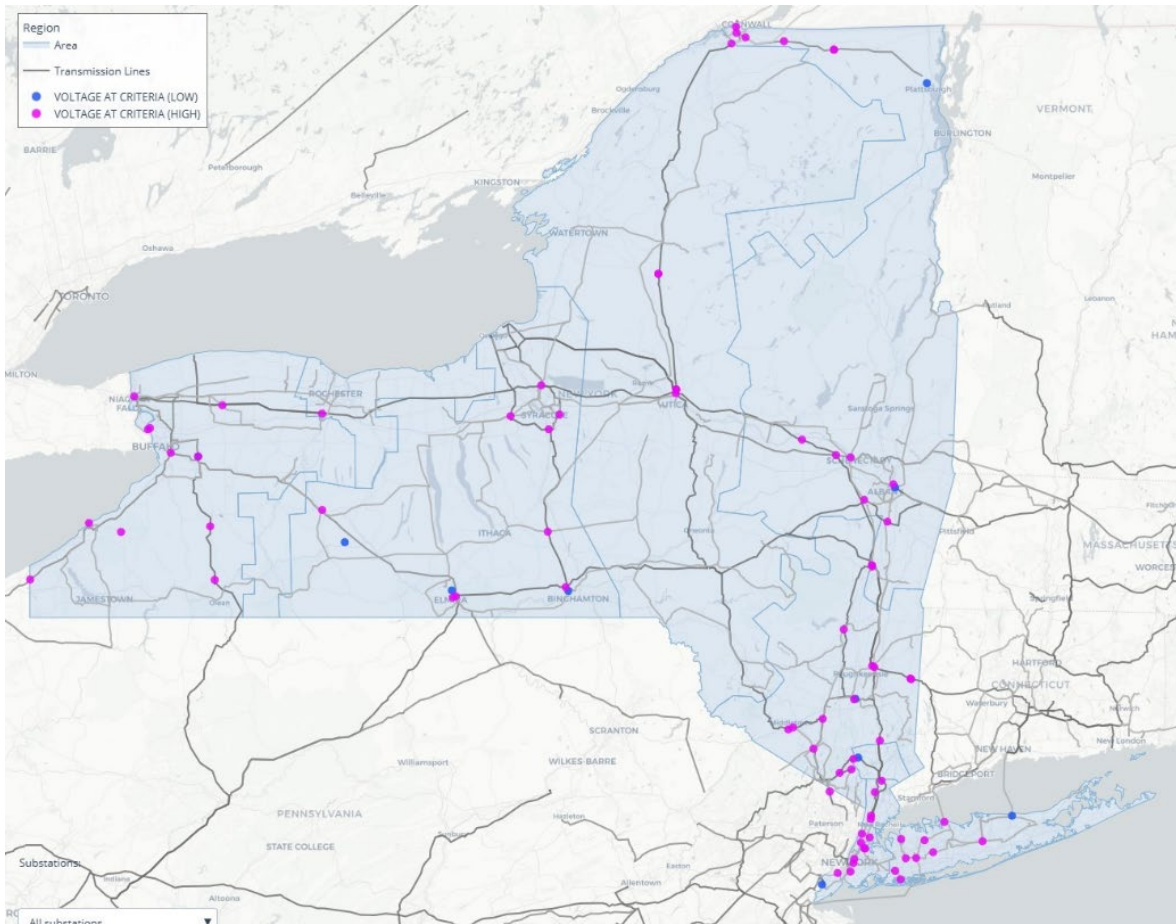
Lower Hudson Valley Need

- The Lower Hudson Valley is deficient by approximately 130 MW for two hours in summer 2032, increasing to approximately 1,950 MW for seven consecutive hours during the peak demand day in summer 2036.
- Lower Hudson Valley transmission security Reliability Need is driven by the same principal factors as the New York City deficiency: forecast demand growth, the projected effect of aging generation, and the assumed retirement of the NYPA small gas plants

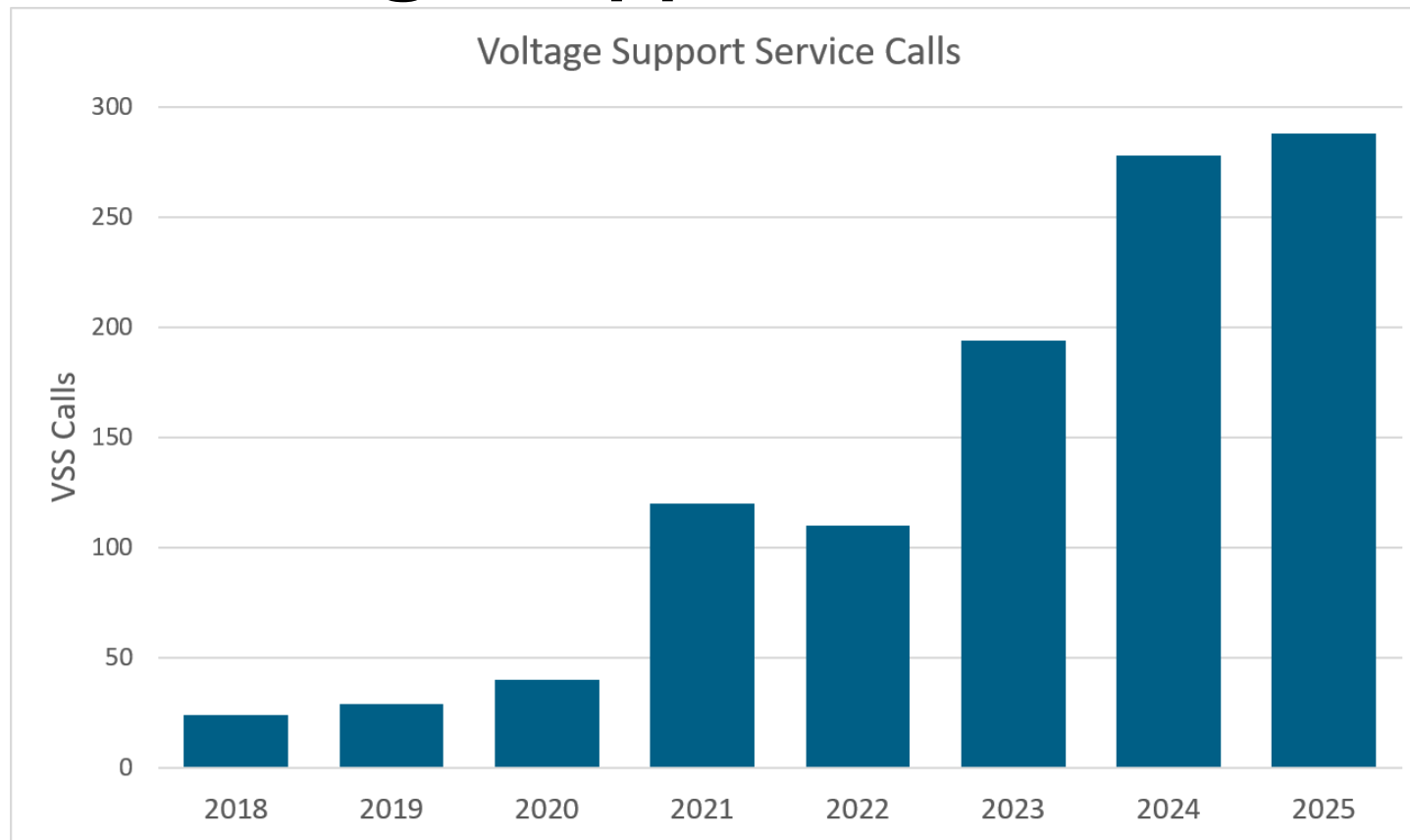


System Voltages at Limits

- The RNA found little remaining voltage-control margin in some regions during nighttime low-demand conditions, with all or nearly all available devices needed to maintain acceptable voltages.
- Locations facing both high- and low-voltage concerns should be prioritized for evaluation of dynamic reactive devices to strengthen voltage control as system conditions change.



Recent Voltage Support Service Calls

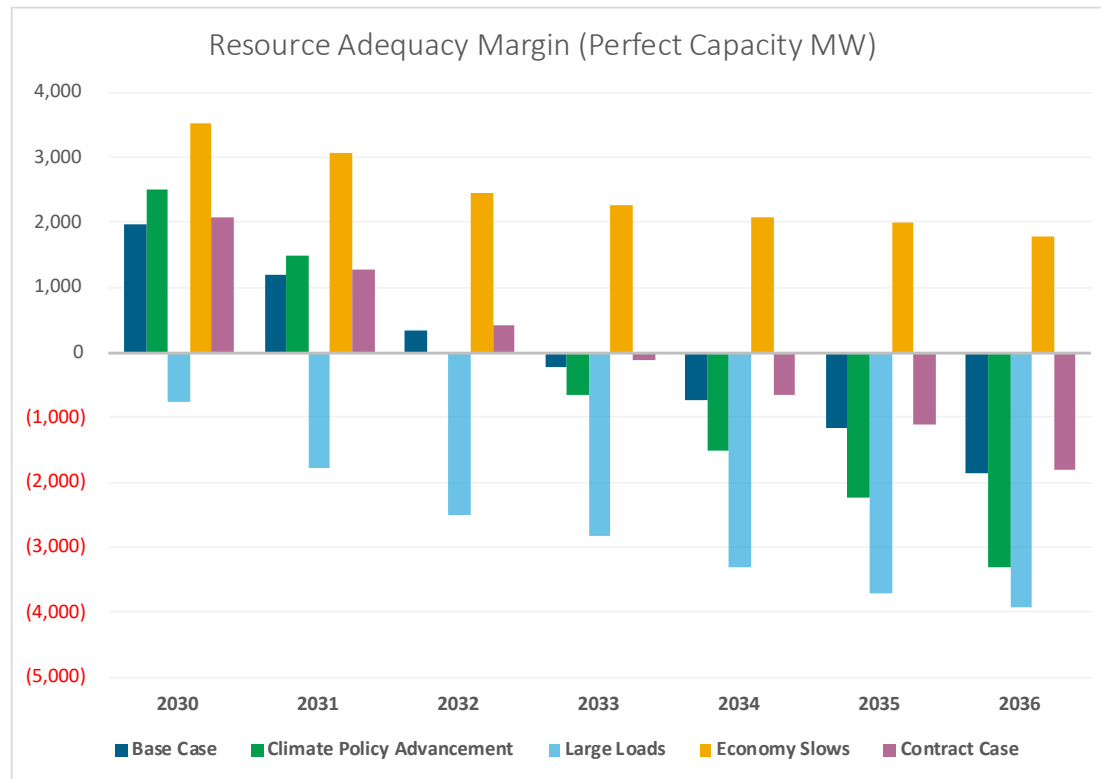


Scenario Results

Scenarios in the 2026 RNA

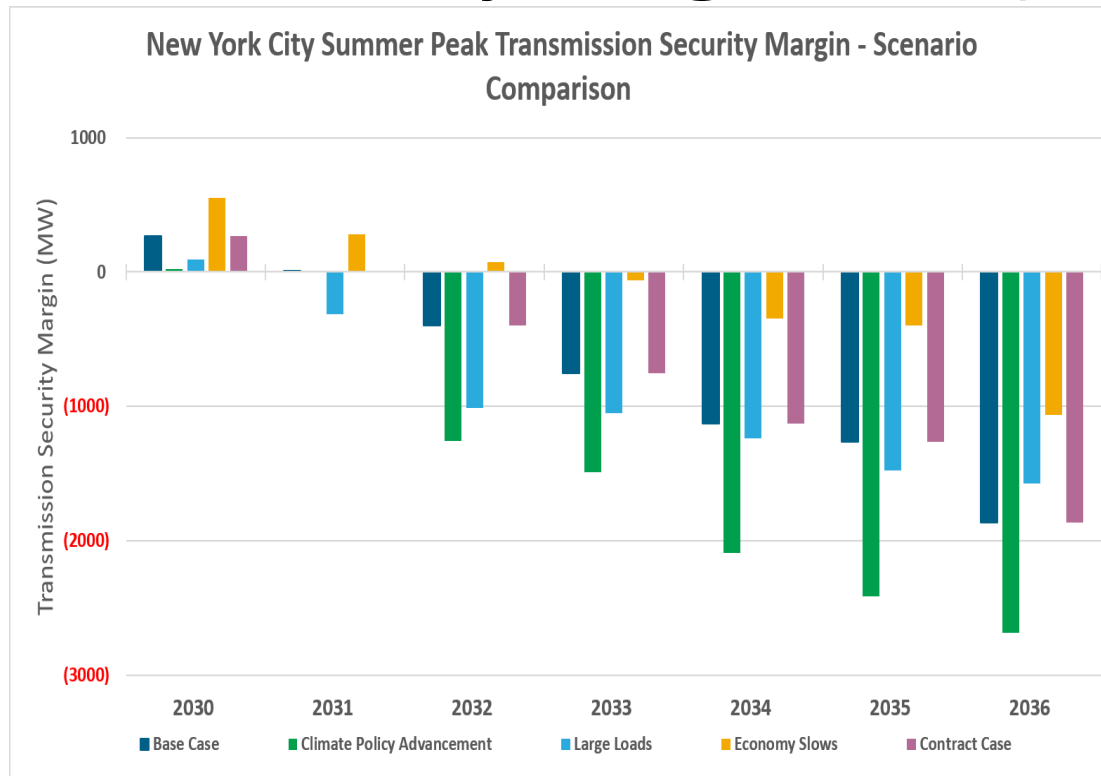
- The 2026 RNA considered two types of scenarios, both of which are informational
- Five scenarios intended to represent a diverse range of plausible system outcomes that cannot be fully captured in the RNA Base Case
 - “Climate Policy Advancement”
 - Tests reliability impacts of policy-driven resource changes towards a reduced-emissions future, including accelerated retirements, increased transportation and heating electrification, and additional clean generation.
 - “Large Loads”
 - Evaluates reliability under higher large-load growth assuming more aging generation is retained and having lower imports as neighboring systems would experience similar load growth.
 - “Economy Slows”
 - Examines a lower-growth future with reduced demand and delays to planned resource projects.
 - “Outlook Contract”
 - Evaluates the system using generation and transmission project assumptions consistent with the Outlook Contract Case, adding all generation projects with financial commitments (e.g., NYSERDA and offshore wind REC contracts) and NYPSC-approved transmission projects as of May 2026.
 - “IBR Voltage Control”
 - Assesses how inverter-based resources and changing power flow patterns affect voltage performance and reactive power needs. Only transmission security analysis was performed for this scenario.
- Other informational scenarios were analyzed to test the robustness of the analysis in this RNA, to identify risks to reliability, and to inform the nature of potential solutions.

Statewide Resource Adequacy Margins



Note: Negative resource adequacy margin indicates the amount of perfect capacity that must be added to meet 0.1 LOLE.
Positive resource adequacy margin indicates the amount of perfect capacity that can be removed before reaching 0.1 LOLE

Transmission Security Margin: NYC (Summer)



Note: Negative transmission security margin indicates insufficient available resources to serve expected demand in the represented peak hour

Other Informational Scenarios

■ Repowering to address aging generation risk

- If aging generators are modernized, repowered, or replaced such that their capability remains available to the grid, reliability outcomes improve significantly. The Lower Hudson Valley transmission security margin would remain sufficient throughout the study horizon and statewide resource adequacy would remain within criteria until 2036, although the New York City transmission security margin would still become deficient beginning in 2032.

■ Large load impacts

- If the forecasted large load growth through 2036 does not materialize, there would not be statewide deficiencies.

■ Propel NY reliability benefits

- Without the Propel NY project, the Long Island margin would be deficient starting in 2030. Additionally, the statewide deficiency would occur a year sooner and would be roughly 550 MW larger.

Scenarios to Inform Potential Solutions

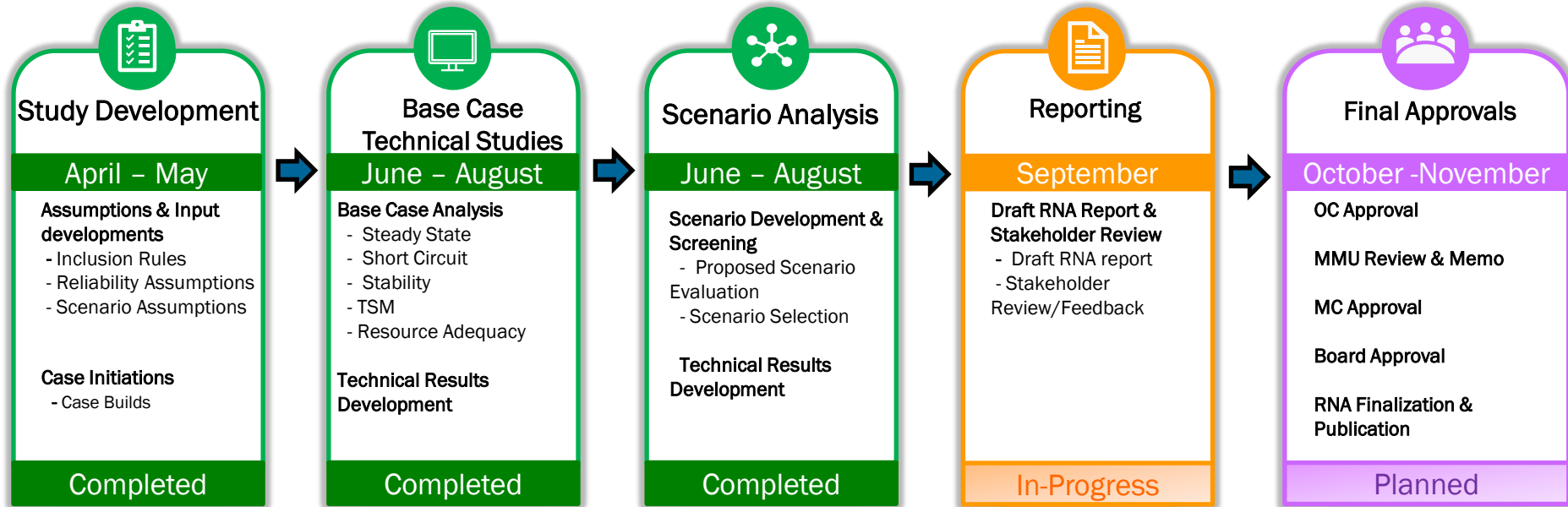
- Included table highlights the varying resource adequacy and transmission security margin value of building a 500 MW nameplate project with different resource types.
 - Given the long duration of the deficiencies in New York City (up to 16 hours) and Lower Hudson Valley (up to 7 hours), storage projects would likely not provide the reliability shown on their own
- Additional scenarios explored how different potential pathways could resolve the Reliability Needs

Reliability Value Provided by 500 MW Nameplate of a Resource Type			
Resource	Statewide Resource Adequacy (2036)	NYC and LHV Summer Margin (2036)	NYC Winter Margin (2036)
Solar	25 MW	55 MW	0 MW
Land-Based Wind	75 MW	25 MW	75 MW
Offshore Wind in NYC	125 MW	50 MW	100 MW
4 Hour Battery Energy Storage in NYC	275 MW	500 MW for 4 hours on peak day, if charged	500 MW for 4 hours on peak day, if charged
8 Hour Battery Energy Storage in NYC	475 MW	500 MW for 8 hours on peak day, if charged	500 MW for 8 hours on peak day, if charged
Natural Gas Combustion Plant in NYC (with firm fuel)	475 MW	460 MW	460 MW
Natural Gas Combustion Plant in NYC (without firm fuel)	200 MW	460 MW	0 MW
Hybrid – 500 MW Nameplate Solar and 200 MW 4 Hours Battery Energy Storage	150 MW	255 MW	200 MW for 4 hours on peak day, if charged
Transmission Into Constrained Locality (generic 500 MW capability increase)	0 MW	500 MW	500 MW

Next Steps

RNA Study Schedule

2026 RNA Study Timeline



Current Draft Report

- Report: October 8, 2026 TPAS/ESPWG meeting material
- October 15, 2026 Operating Committee

Questions?

Our Mission and 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

