MMU Comments on the 2024 Reliability Needs Assessment

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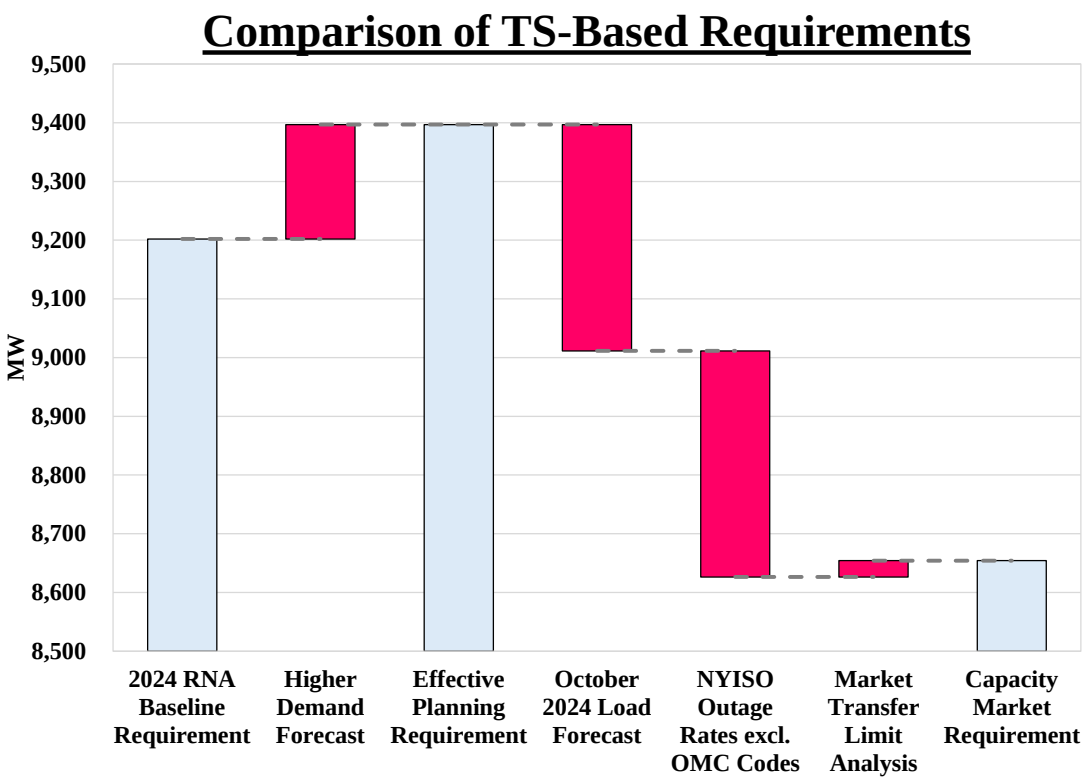
Introduction

- The 2024 RNA evaluates reliability, discussing key supply and demand trends and potential risks in over the next ten years.
- The RNA identifies transmission security-driven needs in NYC:
  - ✓ On the 345 kV system in 2033 (since a deficiency in 2025 is addressed by retaining four Narrows and Gowanus barges);
  - ✓ On the 138 kV system beginning immediately if more than two of the four barges are retired.
- The Tariff requires the MMU to identify any failure of the competitive markets to satisfy reliability needs. This presentation summarizes our findings regarding:
  - ✓ The 2024 RNA results and process; and
  - ✓ The market design issues raised by these results
- The full memo is posted with the meeting materials.

Overview

- We highlight five issues with market incentives for TS needs:
  - ✓ *Planning-market gap* – between (a) effective TS planning requirements and (b) capacity market requirements
  - ✓ *Treatment of peak-shaving* – that are also SCRs leads to inflated TS-based market and reliability requirements
  - ✓ *Market enhancements needed for TS-driven requirements* – to (a) accredit resources and (b) price surplus capacity
  - ✓ *Local deficiencies in NYC demonstrate need for Granular Capacity Zones* – to provide efficient incentives for investment.
  - ✓ *Investors need additional transparency* – regarding principles for determining TS planning assumptions
- Market enhancements are also needed to:
  - ✓ Develop seasonal ICAP requirements and accreditation
  - ✓ Provide incentives for flexible load participation

The Planning-Market Gap
Transmission Security for New York City 2025



- Effective planning requirement exceeds market requirement by 743 MW ICAP
- 840 MW surplus expected in 2025 despite 563 MW peaker retention
- Unforeseen retention is a significant risk for investors

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Transmission Security-Based Requirements and the Capacity Market

- The TS requirement is based on a "reconstituted" load forecast with SCR curtailed MWs added back.
  - ✓ However, pre-emergency peak-shaving is also added back, which inflates TS-based planning and market requirements. We estimate this caused increases of 160 MW in NYC and 460 MW statewide.
- Recommend Granular Capacity Zones (#2022-4) to provide market incentives in import-constrained areas like NYC's 138 kV system.
- Recommendations for areas with TSL-based LCRs:
  - ✓ Accredit resources based on reliability contribution (#2022-1)
  - ✓ Use sloped demand curves that reflect the marginal value of capacity for transmission security (#2023-4)
- Ensure that planning requirements are reasonably transparent:
  - ✓ Many assumptions in TS Margins assessment reflect 'credible combinations of conditions' with multiple possible values *(see next)*
  - ✓ NYSRC rules don't prescribe level of conservatism or risk these combinations of conditions should capture.



Summary of Assumptions in NYC TS Tipping Points Analysis [1]

Assumption	Approach	Basis
Import Limit	Based on power flow modeling of N-1-1-0 transfer limit.	NPCC/NYSRC criteria
Baseline Demand Forecast	Gold Book coincident peak load forecast.	Credible combinations
Higher Demand Forecast	Gold Book higher demand forecast representing faster economic growth, policy-driven electrification, and large load growth than base case. Reliability Needs were quantified using Higher Demand Forecast in 2023 Q2 STAR and Baseline Demand Forecast in 2024 RNA.	Credible combinations
Generator Outages	NERC 5-year generator class average outage rates. Includes outages related to transmission system problems (9300 event codes). Includes additional outages of large generators that are modeled as unavailable in N-1-1-0 limit calculation (e.g. Ravenswood 3).	Credible combinations
Generator Temperature-Based Rerates	None (output reflects expected performance at ICAP conditions).	Credible combinations
Generator Fuel Unavailability	No fuel available to gas-only generators without firm contracts at winter peak. No reduction in availabiltiy of dual fuel / oil generators due to fuel inventories.	Gas fuel availability based on NPCC criteria.

Summary of Assumptions in NYC TS Tipping Points Analysis [2]

Assumption	Approach	Basis
Offshore Wind Output	Summer: 10% of nameplate Winter: 20% of nameplate Represents P20 level (80% chance of exceedance) during peak load window.	Credible combinations
Solar PV Output (UPV and BTM)	Summer: 22% of DC MW in 2025, 11% in 2034. Winter: 0%. Represents P50 level (50% chance of exceedance) during peak load window.	Credible combinations
External Imports	Includes recent and expected UDR sales (Linden VFT and CHPE), does not include additional non-firm imports.	NERC criteria (MMWG ERAG interregional coordination)
UDR outages	None for UDRs that are not part of N-1-1-0 design contingency.	NPCC/NYSRC criteria (transmission outages modeled based on design contingencies)
SCRs	Not assumed to provide any load reduction.	NPCC/NYSRC Criteria (Emergency Action considered to be inconsistent with NSYRC requirement to secure system at Normal transfer criteria)

Other Findings

- Flexible Load Participation Models
  - ✓ RNA assumes perfect flexibility of certain new large loads
  - ✓ Most popular DR program (SCR) has smaller contribution to market requirements (TS and RA)
  - ✓ Need to ensure that participation models efficiently incentivize flexible loads
- Seasonal ICAP Market and Accreditation
  - ✓ RNA finds tightening reliability margins in winter
  - ✓ Enhancements needed so that ICAP requirements, prices and CAFs efficiently reflect seasonal reliability needs (Recommendations #2022-2 and #2021-4)

Conclusions

- We highlight five issues with market incentives for TS needs:
  - ✓ *Planning-market gap* – differences between (a) TS planning needs and (b) capacity market requirements undermines market performance
  - ✓ *Treatment of peak-shaving* – peak shaving that is included in SCRs leads to inflated TS-based market and reliability requirements
  - ✓ *Market enhancements needed for TS-driven requirements* – changes are needed for: (a) resource accreditation and (b) pricing surplus capacity
  - ✓ *Granular capacity zones are needed* – Local deficiencies in NYC demonstrate that more granular zones are needed to provide more efficient incentives for investment and retirement
  - ✓ *TS planning transparency* – Investors need a better understanding of the principles that determine TS planning assumptions
- Market enhancements are also needed to:
  - ✓ Develop seasonal ICAP requirements and accreditation
  - ✓ Provide incentives for flexible load participation