New York ISO
Independent System Operator

2024 RNA: Modeling Winter Gas Unavailability

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Background

- **To simulate anticipated winter risks from the unavailability of generating units due to a gas shortage, the NYISO performed scenarios in the 2022 RNA and 2023-2032 CRP with roughly 6,400 MW of gas generation modeled as unavailable**
  - The transmission security scenario modeled this generation as unavailable in statewide margin and NYC transmission security margin calculations, which showed a deficient statewide margin for expected weather.
  - The 2020 Area Transmission Review also included thermal, voltage, and stability analysis for a winter peak scenario with even greater fuel unavailability.
  - The resource adequacy scenario modeled this generation as unavailable throughout the winter months, which resulted in the NYCA LOLE being below 0.1 event-days/year for each studied year.
- **In anticipation of the approval of NYSRC proposed reliability Rule (PRR) 154a [link], the NYISO plans to reflect the unavailability of generating units due to gas shortage in the Reliability Base Case**

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PRR 154a

- PRR 154a was established to reflect non-firm (contractually interruptible) gas generation unavailability during forecasted winter peak as a credible combination of system conditions applicable to system design
  - This rule allows for planning the winter system in a way that better aligns with expected gas plant availability
- Generation fueled by non-firm gas will be modeled as out-of-service during winter peak conditions while certain dual-fuel units will have reductions in generation capability when running on their alternative fuel source
  - The total reduction of generation resources in applying this rule is about 6,400 MW, with roughly 5,600 MW located in Zones F through K

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2024 RNA Transmission Security Methodology

- In the winter peak cases, generation fueled by non-firm gas will be modeled as out-of-service while certain dual-fuel units will have reduced generation capability when running on their alternative fuel source
- This system condition will be studied in steady-state (thermal and voltage limits), stability, statewide margin, and transmission security margin analyses

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2024 RNA Resource Adequacy Methodology

- In the winter months, the gas unavailability is triggered when the load exceeds that year's forecasted baseline winter coincident peak
  - Each non-firm gas-only plant is modeled as unavailable and each affected dual-fuel unit will have a unit-specific derate
- The NYISO intends to run a scenario looking at further fuel unavailability

The 2024 Gold Book Baseline Winter Coincident Peak Demand

Year	NYCA
2025-26	24,210
2026-27	24,730
2027-28	25,270
2028-29	25,760
2029-30	26,350
2030-31	27,020
2031-32	27,900
2032-33	28,850
2033-34	29,950
2034-35	31,480

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Questions?

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Our Mission & Vision

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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

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