

Winter Fuel Availability Constraints Modeling: Final Recommendations

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Background

- The objective of the 2026 winter fuel availability constraints modeling whitepaper effort is to introduce additional information from the 2025 Fuel Constraints Study by ICF and generator Firm Fuel Characteristic Elections for consideration of potential modeling enhancements.
- During the 07/08/2026 ICS meeting, the NYISO reviewed its final recommendations for enhancements to the winter fuel availability constraints model.^[1]
 - NYISO proposed annual processes to update the model during the Preliminary Base Case (PBC) and Final Base Case (FBC), including sensitivity cases to be considered
- This presentation provides a summary of NYISO's final recommendations for EC review.

[1] [7/8/26 ICS Presentation](#)

Recommended Enhancements Summary

■ Winter Fuel Availability Constraint Trigger Conditions:

- Transitioning to a normalized load definition for triggering conditions (as a proxy for weather conditions), using the regression data between 96.25% to greater than 106.25% of the baseline forecast for the IRM study year
 - Based on feedback from ICS, the regression used to estimate available gas supply is evaluated at the midpoint of each load range. The available gas levels are unchanged from the initial recommendations, but the load range boundaries are revised. This formulation maintains consistency with the initial recommendations and the regression methodology, and results in the intended representation of gas availability as modeled within the IRM study base case.

■ Refinements to Available Fuel Assumptions:

- Continue applying winter fuel availability constraints in Load Zones F-K and monitor fuel availability in Load Zone A-E for potential modeling expansion in future study years
- Updating the available gas and available oil dataset on a rolling ten-year while also monitoring winter weather trends to ensure the rolling ten-year historical data continues to support the modeling objective
 - Maintaining the use of weekly generator fuel survey data dating back to Winter 2019-2020 to inform the “available oil” assumptions to continue expanding the dataset annually until a rolling ten-year dataset is achieved
- Not including any specific adjustments to account for potential pipeline expansion projects for the 2027–2028 IRM study with ongoing monitoring for future study years

■ Improving the Allocation of Available Fuel:

- Refining the allocation of assumed available fuel by leveraging Firm Fuel Characteristic Elections and conducting the application of derates zonally across all affected zones
 - Allocating available fuel first to elected firm fuel MW in each zone and then allocating any remaining assumed available fuel to the remaining capacity in each zone

■ A standing sensitivity case on the PBC starting with the 2027-2028 IRM study is recommended, using Firm Fuel Characteristic Election data directly to derate the available capacity during winter by the amount of the non-firm MW

Updated Fuel Constraint Modeling Recommendation

- The table below represents the recommended winter fuel availability constraints model for the 2027-2028 IRM PBC.

Tier	Percentage of NYCA Baseline Forecasted Winter Peak Load	Fuel Availability Data ¹			MARS Model Parameters				
		Available Gas (MW) ²	Available Oil (MW)	Total Available Fuel (MW) (Gas + Oil)	Modeled ICAP (MW)	Unavailable ICAP (MW) ³			
						F	G	J	K
1	>106.25%	675	11,550	12,225	20,726	2,602	1,351	2,388	729
2	105% +/- 1.25%	1,350		12,900		1,908	1,351	2,388	729
3	102.5% +/- 1.25%	2,775		14,325		736	1,278	2,214	655
4	100% +/- 1.25%	4,000		15,550		718	886	1,504	404
5	97.5% +/- 1.25%	5,050		16,600		711	442	919	265
6	<96.25%	No Constraint				No Constraint			

1. Note: Available fuel data is in terms of UCAP. Derates are applied to the generator ICAP.

2. Note: Available gas at Tier 1 is assumed to be 50% of the available gas at Tier 2; consistent with 2026-2027 IRM study methodology for Tier 1.

3. Note: Values represent aggregate level derate applied to generator ICAP. Actual derate % applied varies depending on the fuel type (i.e., gas-only vs dual fuel) of each unit.

Recommendations for Future Years

- **The annual update to the winter fuel availability model will be conducted in the following manner:**
 - For the PBC, the model will be updated with revised “Available Gas” and “Available Oil” assumptions, and zonal allocation based on the prior year’s Firm Fuel Characteristic Elections.
 - For the FBC, the model will be updated to incorporate revised “Available Gas” assumptions using the final winter load forecast, and zonal allocation based on the Firm Fuel Characteristic Elections for the upcoming Capability Year.
- **Beyond the 2027-2028 IRM study, the following areas should be considered for potential future enhancements:**
 - Monitor the annual update of the underlying data for “available gas” and “available oil” to ensure the rolling ten-year historical data continues to support the modeling objective
 - Monitor the progress of pipeline expansion projects and consider the potential need for incremental changes in assumed gas availability in addition to historical production data
 - Monitor winter operating experience and system conditions for potential modeling expansion to other areas of the NYCA
 - Monitor changes in winter maintenance practices and evaluate the interaction between winter fuel availability constraints and seasonal maintenance assumptions
 - Monitor resource performance with Firm Fuel Characteristic Elections for additional consideration for election data integration
 - As recommended by the ICS at the 7/8 ICS meeting, revisit the interaction between winter fuel availability constraints and probabilistic forced outage modeling as GE MARS capability evolves to accommodate direct representation of fuel limitations across multiple units.

Next Steps

- **Seek EC approval of the final recommendations.**
- **Subject to EC approval, implement the recommended approach beginning with the 2027–2028 IRM PBC.**

Questions?

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Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

