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Independent System Operator

2026-2027 Non-Firm Informational Capacity Accreditation Factors (iCAFs)

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July 22, 2025

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Background

Background on Non-Firm CAFs

- **On April 11, 2025, the New York State Reliability Council (NYSRC) Executive Committee (EC) approved the use of historical fuel estimates to model winter fuel availability constraints in the Installed Reserve Margin (IRM) study for the 2026-2027 Capability Year[1]**
  - A 6-tiered fuel constraint model was recommended to apply varying levels of available fuel to the thermal units in Load Zones F-K for the months of December, January, and February
- **Because fuel availability constraints modeling will be included in preliminary and final base cases for the 2026-2027 IRM study, the NYISO will be able to calculate Capacity Accreditation Factors (CAFs) for firm and non-firm resources beginning with the 2026-2027 Capability Year**

1. NYSRC EC Meeting 4/11/2025 Meeting Minutes; *see also* Fuel Availability Constraints Modeling Phase 2

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Non-Firm Capacity Accreditation Resource Class Modeling Approach

- The representative (100 MW) unit for the Non-Firm Capacity Accreditation Resource Class (CARC) is modeled as not adding fuel when a fuel constraint is triggered in the IRM model
- Therefore, the representative unit for the Non-Firm CARC is assumed to be unavailable at loads above 22,000 MW during December, January and February of the applicable Capability Year.

NYCA Load Conditions (MW)	Dec, Jan, Feb: Representative Unit (MW)	All other months: Representative Unit (MW)
>26,000	0	100
25,000 - 26,000		
24,000 - 25,000		
23,000 - 24,000		
22,000 - 23,000		
<22,000	100	

- This modeling approach is consistent with the methodology presented at the June 3, 2025 ICAPWG

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Background on iCAFs

Background on Informational CAFs

- The CAF reflects the marginal reliability value of the representative unit over a perfect unit.
- The following iCAFs were calculated using the marginal reliability improvement (MRI) technique
  - A 100 MW representative unit is used for each CARC, consistent with the methodology for calculating CAFs as outlined in Section 7.2.1 of the ICAP Manual.
- These CAFs are for informational purposes only, utilizing information available at the time of calculation
- These informational values are not the final CAFs that will be used to determine the market revenue of ICAP Suppliers starting with the Capability Year that begins on May 1, 2026
- Final CAFs will be calculated in accordance with Section 7.2 of the ICAP Manual and posted by March 1, 2026
  - The final CAF results and the inputs to the GE Multi-Area Reliability Simulation software program (MARS) model may differ from these informational values.

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iCAF Disclaimer

- The iCAFs and the input assumptions used in the GE MARS model to calculate these CAFs are being provided to inform NYISO stakeholders and market participants of the drivers that may impact the final CAF calculation process. These iCAFs are not the final CAFs that will be used to determine the market revenue of ICAP Suppliers for the upcoming Capability Year. The final CAF results and the inputs to the GE MARS model may differ from these informational values.
- All CAF value calculations will utilize the current up-to-date model assumptions at the time the calculations are performed

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Objective of Today's Presentation

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- Present the Non-Firm iCAFs for the Non-Firm CARC in response to stakeholder requests for this information prior to the November 1, 2025 deadline for 2026-2027 Capability Year firm fuel elections [1]

1. *See N.Y. Indep. Sys. Operator, Inc.,* 192 FERC ¶ 61,049 (2025) (extending the deadline from August 1, 2025, to November 1, 2025 to submit firm fuel elections for the 2026-2027 Capability Year)

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Important Concepts for Understanding Non-Firm CAFs

Relationship between the Winter Loss of Load Expectation and Non-Firm CAFs

- **The Winter Loss of Load Expectation (LOLE) risk impacts CAF values**
  - CAF values are calculated based on how effective a resource class is at addressing LOLE risk compared to a perfect Generator
- **The "fuel availability constraints" model is applied as a winter-only constraint (December-February). Therefore, Winter LOLE occurs when fuel availability constraints are triggered**
  - Based on the observation from this case and previously presented Non-Firm iCAF values [1]
- **As fuel availability decreases, winter LOLE risk is expected to increase, and Non-Firm CAFs are expected to decrease**
  - This increased winter LOLE risk is expected to decrease the Non-Firm CAFs because the representative non-firm unit cannot solve any events in the winter at load levels above 22,000 MWs

1. June 4, 2024, ICAPWG

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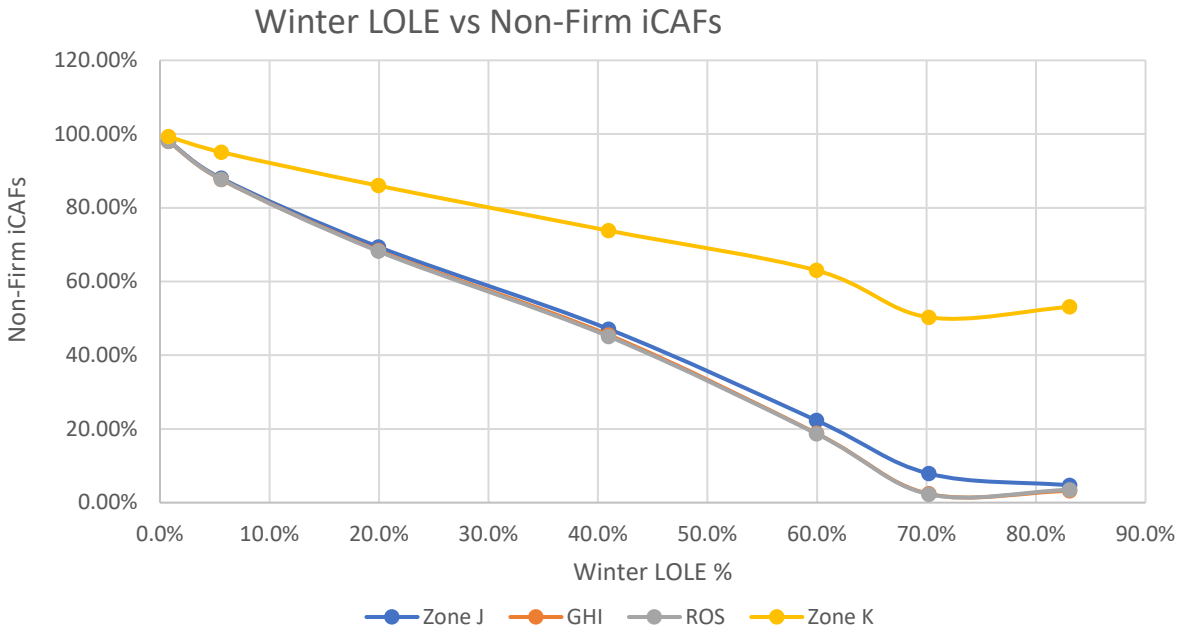
Graphical representation of Winter LOLE and 2024-2025 Non-Firm iCAFs



- This graph shows the directionality of Non-Firm iCAFs based on a prior analysis presented at the June 4, 2024, ICAPWG[1]
- These results illustrate that, as winter LOLE risk increases, Non-Firm iCAFs decrease

1. June 4, 2024, ICAPWG presentation

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2026 - 2027 Non-Firm iCAFs

Starting Point Base Case for Non-Firm iCAFs

- A Tan45 test case that added the fuel availability constraints modeling construct (with the updated fuel availability assumptions) to a case consisting of the 2025-2026 IRM FBC plus the proposed behind-the-meter solar and enhanced load modeling improvements was performed
- Since the Transmission Security Limit (TSL) floors were not considered during the Tan45 process, 2025-2026 TSL floors were then applied to the Tan45 test case with the following results:
  - IRM: 25.7%
  - G-J Locality: 78.9%
  - J Locality: 78.5%
  - K Locality: 108.4%
  - LOLE : 0.0998
- This is the starting point base case for the calculation of the Non-Firm iCAF
  - This case resulted has a winter LOLE risk of 3.05%
  - It is important to note that this starting point base case does not include the modeling of the Champlain Hudson Power Express (CHPE) line

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2026-2027 Non-Firm iCAFs

Locality	Non-Firm iCAFs
ROS	88.85%
GHI	88.67%
J	91.40%
K	97.98%

- These iCAFs align with Non-Firm iCAFs presented at the June 4, 2024 ICAPWG
- Zone K has higher Non-Firm iCAFs compared to the other Localities due to the presence of a high number of oil-only units that can continue to meet load in a derating event that the other Localities do not have

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Additional Considerations for 2026-2027 iCAFs

Additional Consideration for 2026-2027 iCAFs

- **The NYISO is discussing a proposal to facilitate development and potential use of 2 sets of ICAP market parameters, including CAFs, reflecting different modeling assumptions for certain new resources.[1] If approved, the proposal would apply to CHPE for the 2026-2027 Capability Year.**
  - One set of parameters would reflect a case without the modeling of CHPE
  - One set of parameters would reflect a case with the modeling of CHPE
- **Currently, the modeling of CHPE is included in the 2026-2027 IRM preliminary base case (PBC)**
  - CHPE is included in the NYSRC Installed Capacity Subcommittee (ICS) approved Assumptions Matrix for the 2026-2027 IRM PBC[2]
  - Based on initial testing, incorporating CHPE and the fuel availability constraint model may increase winter LOLE to ~15% while the fuel availability constraint modeling may independently only introduce ~5% of the increase in winter LOLE[3]
- **The NYISO is continuing to monitor the progress of CHPE and the modeling discussion at the NYSRC for the 2026-2027 IRM study**

1. Alternative ICAP Market Parameters presentation
2. Assumptions matrix for the 2026-2027 IRM PBC
3. For additional details refer to the July 10, 2025, ICS presentation

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Next Steps

Next Steps

- **At a late September or early October ICAPWG, present iCAFs for all CARCs based on the 2026-2027 IRM PBC**
  - NYISO is targeting the 8/15/2025 NYSRC EC meeting to seek approval of the 2026-2027 IRM PBC

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Appendix

Modeling of Fuel Availability Constraints in the 2026-2027 IRM Study

- **Fuel availability constraints will be applied in Load Zones F-K for the months of December, January, and February of the applicable Capability Year**
- **On April 11, 2025, the NYSRC EC approved the use of the following 6-tiered fuel availability assumptions for the 2026-2027 IRM study. These tiers reflect the different levels of fuel availability constraints under different load conditions[1]**
  - The "Available Gas" limits the historical production data to peak loads above 22,000 MW
  - The "Available Oil" was informed by reported available non-gas fuel storage (in MWh) from generator weekly fuel surveys, an energy duration production assumption of 56 hours, potential limitations imposed by certain air permits, and historical operating experience under tight winter operating conditions
    - 56 hours is the proposed duration requirement for firm fuel based on the assessed reliability needs and potential winter reliability risks using the model developed as part of the 2023 Fuel and Energy Security study[2]

Tier	NYCA Load Conditions (MW)	Available Gas (MW)	Available Oil (MW)	Total Available Fuel (MW) (Gas + Oil)**	Illustrative Modeled Derate (Rounded MW)***
1	>26,000	275	11,750	12,025	7,975
2	25,000 - 26,000	550		12,300	7,700
3	24,000 - 25,000	2,550		14,300	5,700
4	23,000 - 24,000	4,225		15,975	4,025
5	22,000 - 23,000	5,625		17,375	2,625
6	<22,000	No Constraint			0

1. Fuel Availability Constraints Modeling Phase 2
2. Modeling Improvements for Capacity Accreditation: Firm Fuel Requirements. *See also* 4/30/2025 MC Presentation

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2024 - 2025 Non-Firm iCAFs

Method 1: Non-Firm CAFs

- The Representative Unit (100MW) for the Non-Firm CARC is not available at loads above 22,000 MW during December, January and February

NYCA Load Conditions (MW)	Dec, Jan, Feb: Representative Unit (MW)	All other months: Representative Unit (MW)	Gas Availability (MW)	Oil Availability (MW)	Available Fuel with Representative Unit (MW)
>26,000	0	100	375	11,000	11,375
25,000 - 26,000			750		11,750
24,000 - 25,000			2,750		13,750
23,000 - 24,000			4,500		15,000
22,000 - 23,000			5,500		16,500
<22,000	100		No Constraint		No Constraint

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Method 1: Non-Firm CAF Sensitivities

- Non-Firm CAFs modeled using the 2024-2025 Final LCR respecting TSL floor values
- Sensitivity cases run assessing the effect of varying levels of oil availability on Non-Firm CAFs and Winter risk:

Available Oil Modeled	ROS	GHI	J	K	Winter LOLE Risk
12,000	98.0%	98.0%	98.1%	99.3%	0.8%
11,000	87.7%	87.7%	88.0%	95.1%	5.6%
10,000	68.2%	68.4%	69.4%	86.0%	19.9%
9,000	45.1%	45.5%	47.1%	73.8%	41.0%
8,000	18.7%	18.8%	22.3%	63.0%	59.9%
7,000	2.3%	2.4%	7.9%	50.3%	70.2%
6,000	3.5%	3.2%	4.7%	53.1%	83.1%

- As fuel availability decreases, winter risk increases, and Non-Firm CAFs decrease

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Our Mission & 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

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