

Modeling Improvements for Capacity Accreditation: Natural Gas Constraints

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ICAPWG/MIWG

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Agenda

- Classification Proposal
- Requirements for Firm Units
- Data Submittal Timeline
- Incentives for Accurate Reporting
- Next Steps
- Appendix
 - Capacity Accreditation Timeline
 - Previous Discussions
 - Background
- Today's Objective: Gather stakeholder feedback on the NYISO's classification proposal for firm and non-firm units, requirements for firm units and data submittal timelines

Classification Proposal

Classification Proposal

- The NYISO proposes to classify units based on their ability to procure firm gas contracts or to utilize dual fuel capability during the months of greatest risk in the Winter Capability Period
- Note: Currently the NYISO is only looking to recognize firm transportation as firm capacity for gas only units
 - Reviewing gas sales contracts may come as a future addition as deemed necessary
 - Issues of gas supply are largely observed during outlier events like Winter Storm Elliot and currently gas transportation issues are more critical
 - LDC units able to procure firm transportation will be able to elect to the firm class

<u>Fuel Arrangements</u>	<u>Class (CARCs)</u>
<u>Dual Fuel/Oil Only</u> : Demonstrated Inventory/Tested <u>Dual Fuel</u> : Not Demonstrated/Tested + Firm Transportation	Firm
<u>Gas Only</u> : Firm Transportation*	
<u>Gas Only</u> : Fuel Constrained LDC Connected/Fully Interruptible, Interstate Direct Connect w/o Firm Transportation	Non-Firm
<u>Dual Fuel/Oil Only</u> : No Demonstrated Inventory/not tested	

Requirements for Firm Units

Requirements for Firm Units

- **In order to be classified as firm, a unit must demonstrate to the NYISO, that it will have or anticipates having adequate dual fuel and/or firm transportation contract(s) in place prior to the Winter Capability Period**
 - The NYISO will look to allow units without firm contracts in place during the Capacity Accreditation process to describe what they anticipate having during the Winter Capability Period
 - Units will be required to substantiate their firm fuel supplies closer to the Winter Capability period
 - If a unit does not have dual fuel or does not anticipate acquiring firm contracts, they will be placed in the non-firm CARC

Firm Dual Fuel Units

- **To be considered firm capacity, the NYISO proposes that dual fuel units will need to demonstrate that they can operate on an alternate fuel for 96 consecutive hours**
 - Will apply to both dual fuel units and oil only units
 - If a unit does not have adequate on-site supply (i.e., < 96 hours) to meet the requirement, providing information on an in-place replenishment strategy that meets the 96-hour requirement will be acceptable
 - Will require proof of inventory by the start of the winter capability period
- **The Dual Fuel Requirement is sensitive to the results of the 2023 Fuel and Energy Security study and/or other information indicating that a different value provides the same or greater contribution to reliability**
- **Dual fuel units will be required to test on their alternate fuel prior to the beginning of the Winter Capability Period**
 - Existing DMNC rules require units to test on fuels anticipated during peak operations. Section 4.5 of the ICAP Manual states:
“All generating Resources must test using usual and customary industry practices. For example, the operating configuration and fuel mix used to test must be the same configuration and fuel mix expected to be used during the summer or winter peak Load conditions, as applicable.”

Firm Single Fuel Gas Only Units

- **To be considered firm capacity, gas only single fuel units will need to demonstrate, prior to the Winter Capability Period, that they have procured firm transportation contracts covering their full capacity value for the months of December, January and February**
 - Will require contract path from fuel supply source to facility
 - Units connected to multiple pipelines that cannot satisfy the full capacity value on any individual pipeline can have multiple contracts assessed additively

Differentiation of Non-Firm Units

- **At the last ICAPWG, stakeholders raised a concern regarding differentiating non-firm units connected to multiple pipelines and those which are not**
- **Currently, the NYISO does not find it necessary to differentiate between those units due to:**
 - Current Resource Adequacy modeling limitations
 - That the gas constraints issue is not one of supply but of transportation and that during times of winter weather pipelines will be similarly constrained
 - The expected lack of a difference between similarly situated units with differing levels of firm fuel supply

Data Submittal Timeline

Data Submittal Timeline

- **Fuel supply elections will need to be made as a part of the Capacity Accreditation Process over a year before the Winter Capability Period**
- **Fuel supply elections will be required by Aug. 1 and data showing proof of adequate supply will be needed to be gathered closer to the Winter Capability Period over a year later**
 - e.g., on Aug 1, 2024, units will make CARC elections based on the supply they have in place or expect to have in place for the 25'/26' winter and in late August of 2025, units will have approximately 30 days to submit the required information
 - This timeframe would allow the Generator Fuel and Emissions Reporting (GFER) annual survey to potentially be utilized and concentrates submittals within a shorter period rather than having more dispersed submittals after the initial election

Incentives for Accurate Reporting

Incentives for Accurate Reporting

- In order to provide the flexibility of prospective accreditation based on anticipated fuel supplies, the NYISO will look to develop incentives for accurate reporting to ensure units deliver the firm supply they claimed capable of
- The NYISO will return to a subsequent working group to discuss reporting and data verification structures once the requirement and timeline considerations are more fully developed

Next Steps

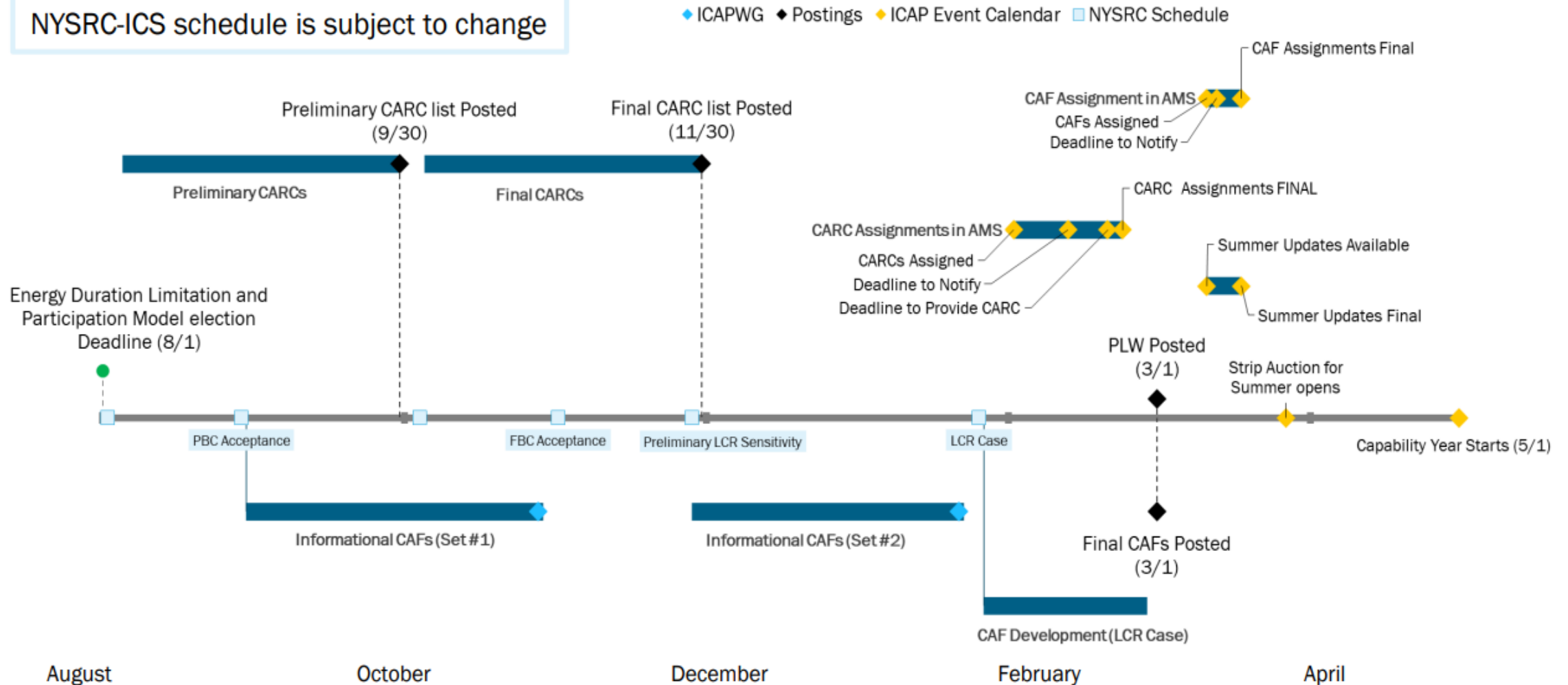
Next Steps

- Return to a late August/early September ICAPWG to continue the discussion with stakeholders.
- For any questions or feedback please email ntubbs@nyiso.com

Appendix

Capacity Accreditation Timeline

NYSRC-ICS schedule is subject to change



*Approximate timeline for illustrative purposes, actual dates may change

Previous Discussions

Previous Discussions on Modeling Improvements for Capacity Accreditation

Date	Working Group	Discussion Points and Links to Materials
January 23, 2023	ICAPWG	Modeling Improvements for Capacity Accreditation: Project Kick Off: https://www.nyiso.com/documents/20142/35880057/2023-01-26%20ICAPWG%20Modeling%20Improvements%20-%20Kick%20off.pdf/c7ac6b6e-c90b-54b4-832d-ec6ecfc8f7ff
February 28, 2023	ICAPWG	Correlated Derates Overview: https://www.nyiso.com/documents/20142/36499713/Correlated_Derates_MIWG_022823_FINAL.pdf/35eaab46-740e-aed0-9e2d-2207c06a0659 Natural Gas Constraints - Overview: https://www.nyiso.com/documents/20142/36499713/Gas%20Constraints%2002_28_2023%20ICAPWG_Final.pdf/e258d867-12f9-8453-c93b-49bc94b8e803 SCR Modeling Overview: https://www.nyiso.com/documents/20142/36499713/2023-02-28%20ICAPWG%20Modeling%20Improvements%20-%20SCR%20Modeling.pdf/c1a52495-bc30-3e7c-f5c1-61c38f30fbe4
April 27, 2023	ICAPWG	Natural Gas Constraints - Gas Availability Estimates and Classification: https://www.nyiso.com/documents/20142/37254128/Natural%20Gas%20Constraints%202023_04_27_Final.pdf/0821aba8-bdcd-b1ce-96f3-2d8a740e1356 SCR Modeling - Current IRM Modeling and Historic SCR Performance, Exploratory Testing https://www.nyiso.com/documents/20142/37254128/2023-04%20ICAPWG%20Modeling%20Improvements%20-%20SCR%20Modeling.pdf/30382824-7468-24d2-e567-56c770d6a185 Start up Notifications - Project Overview: https://www.nyiso.com/documents/20142/37254128/Start-up%20notification%20time%20-%20ICAPWG%204.27.2023%20v0.2%20clean.pdf/b44eb773-6f7d-e895-e202-a12f2fb6e24e
May 8, 2023	ICAPWG	Correlated Derates - Ambient Adjustments and Emergency Capacity: https://www.nyiso.com/documents/20142/37431277/5%20Correlated_Derates_ICAPWG_050823.pdf/a1e9a0f4-d922-503d-06d0-682b49c46c4c

Previous Discussions on Modeling Improvements for Capacity Accreditation

Date	Working Group	Discussion Points and Links to Materials
June 1, 2023	ICAPWG	Natural Gas Constraints – Potential methods for quantifying firm capacity, CARC designation, and fuel election timelines: https://www.nyiso.com/documents/20142/37883690/Natural%20Gas%20Constraints%2006_01_2023_ICAPWG_Final.pdf/d479ea64-a0d0-86d1-388a-f93d01ff1e10
June 7, 2023	ICAPWG	SCR Modeling – Exploratory Testing Methodology: https://www.nyiso.com/documents/20142/38023757/2023-06-07%20ICAPWG%20Modeling%20Improvements%20-%20SCR%20Modeling.pdf/250f8f1d-9dfe-5756-640b-c1e31f3a6328
June 27, 2023	ICAPWG	Natural Gas Constraints – Addressing Stakeholder feedback and discussion on simpler framework for classifying units: https://www.nyiso.com/documents/20142/38423065/2%20Natural%20Gas%20Constraints_06_23_2023_ICAPWG_Final.pdf/177ad95e-1fa3-5c57-a626-d06182b55c9b
July 11, 2023	ICAPWG	SCR Modeling – Exploratory Testing Methodology Results: https://www.nyiso.com/documents/20142/38699263/2023-07-11%20ICAPWG%20Modeling%20Improvements%20-%20SCR%20Modeling%20v2%20-%20clean.pdf/2f27473b-2292-31d4-ecb7-5d30d6b860f0
July 27, 2023	ICAPWG	Correlated Derates - Ambient Adjustments and Emergency Capacity: https://www.nyiso.com/documents/20142/39044934/Correlated_Derates_ICAPWG_072723_final.pdf/0f80f8f2-8100-b8f7-0c65-0098242634e1 Start-up Time – Long Start-up Time and Considerations: https://www.nyiso.com/documents/20142/39044934/Startup%20time%20-%20ICAPWG%207.27.2023_v2.pdf/bbf6fa0d-b45e-6b7f-1697-2c002442b1de

Background

Background

- Capacity accreditation reflects resources' contribution to resource adequacy with the goal of producing more efficient ICAP Market outcomes
- Recent winter reliability concerns have raised questions of the availability of generation utilizing natural gas as a primary fuel source on a Non-firm basis due to pipeline and/or other constraints
- For this portion of the Modeling Improvements for Capacity Accreditation project, the NYISO is looking to develop methodologies to identify and quantify natural gas constraints and resources impacted by such constraints in addition to corresponding methodologies for implementation in GE MARS.
 - The Special Case Resource modeling, Correlated Derates, and Start-up Notification portions of Modeling Improvements for Capacity Accreditation will be covered in separate discussions.
- **The 2023 Project deliverable is Q4 – Functional Requirements**

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