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Independent System Operator

Modeling Improvements for Capacity Accreditation: Natural Gas Constraints

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ICAPWG/MIWG

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Agenda

- Final CARC Classification
- Updated Requirements
- Data Verification
- Shortfall Penalty

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Final CARC Classification

Final CARC Classification

Fuel Arrangements	Class (CARCs)
Dual Fuel/Oil Only: Demonstrated Inventory/Tested Dual Fuel: Not Demonstrated/Tested + Firm Transportation	Firm
Gas Only: Firm Transportation (Includes LDC Connected units with Firm Transportation on Pipeline and LDC)	
Additive Arrangement: See slide 8	
Gas Only: Fuel Constrained LDC Connected/Fully Interruptible, Interstate Direct Connect w/o Firm Transportation	Non-Firm
Dual Fuel/Oil Only: No Demonstrated Inventory/not tested	

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Updated Requirements

Single Fuel Requirements

- Firm Transportation contract(s) covering full capacity value for Dec., Jan., and Feb. with a contract path from supply source to unit burner tip
- <u>Supply source must be a liquid receipt point</u>
  - The ISO is currently working through defining characteristics of a liquid receipt point

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Dual Fuel/Oil-only Requirements

- After receiving stakeholder feedback, the NYISO proposes adding additional flexibility to the dual fuel/oil-only requirements
- To elect to the firm class, dual fuel and oil-only units will be required to have the on-site storage and if applicable, replenishment strategy to achieve 96 hours of run time
  - Units will only need to be capable of running at max capacity for 16 consecutive hours a day but still 96 hours (e.g., 24hrs/day for 4 days, 16hrs/day for 6 days, etc.)
  - For the remaining 8 hours, the unit can be at min. gen. or off, as long as it is able to cycle in time
- Dual fuel units will also be required to validate their dual fuel capability through a DMNC test
  - Units will not be required to run on their alternate fuel for the entire duration of the test, but may start on their primary fuel as long as at least one of the four hours is done on the alternate fuel
  - If the unit chooses to do the entire test on their primary, it must submit a subsequent test showing that the unit achieved its maximum output on the alternate fuel
  - The test(s) will need to occur in November unless the unit chooses to do an out of period test
  - Operational data can be utilized

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Requirements for Additive Arrangements/Contracts

- If a unit is unable to meet the firm requirements for a single fuel arrangement, the unit can have multiple arrangements/contracts assessed additively
  - Includes firm transportation contracts on multiple pipelines
- If together, any combination of fuel arrangements, or multiple contracts on any single fuel arrangement, bring the unit greater than or equal to 100% of the applicable requirements, that unit will be eligible for the firm CARC
  - e.g., a gas only unit has two firm transportation contracts, the first of which only covers its capacity value for the month of December, but the second covers January and February, would be eligible for the firm CARC.
- When units submit their firm supply contracts, they must explain how these fuel arrangements allow the unit to meet the requirements based on operational characteristics such as the ability to burn more than one fuel, max daily fuel deliveries for dual fuel units, ability to cycle, etc..
- <u>There will be no partial firm units</u>

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Data Verification

Data Verification Timeline

- **Units electing to the Firm CARC will need to supply to the NYISO information which substantiates their fuel supplies for the Winter Capability Period**
- **Initial election made on Aug. 1**
  - Unit will be required to indicate what fuel supply it will have in place for the following Winter Capability Period
- **At the end of August prior to the applicable Winter Capability Period, units will be able to begin submitting to the NYISO, contracts which show that the unit has procured the required firm fuel based on its election.**
- **Units will have until Dec. 1 of the applicable Winter Capability Period to fully substantiate their fuel supplies which includes:**
  - All relevant contracts are submitted with a written explanation of how these contracts allow the unit to meet the applicable requirement
  - Dual fuel and oil only units have completed their DMNC testing requirement and has demonstrated proof of inventory

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Shortfall Penalty

Shortfall Penalty

- The NYISO is seeking feedback on a penalty to ensure units make CARC elections based on accurate estimates of their winter fuel supply
- Units that elected Firm but were unable to procure the required supply by Dec. 1 or were unable to maintain their firm status will be subject to an ICAP Shortfall penalty
  - The shortfall will be based on the amount of capacity the unit oversold by being in the firm CARC, above what it would've been permitted to sell if in the Non-firm CARC and subject to the 1.5x multiplier
  - The penalty will be retroactive from the date the unit was no longer able to maintain firm status extending to the beginning of the Capability Year but only in cases where the loss of firm status was due to a reason that was within the control of the unit including:
    - Being unable to substantiate their firm supply by Dec. 1
    - Being unable to get fuel due to an illiquid receipt point
    - Selling firm rights to another MP
    - Other
  - For units whose loss of firm status was for a reason out of their control, they will be required to inform the NYISO of the change in status and work to restore their firm status if possible
- All units that are unable to maintain their firm supply will be subject to the shortfall penalty, but will be able to utilize the NYISO's dispute resolution process to address cases where the change in firm status was outside of the unit's control
- Once a loss of firm status occurs, going forward, the unit will only be permitted to offer UCAP into the Capacity Market up to the non-firm level of the unit

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Next Steps

Next Steps

- Return to an October ICAPWG to continue the discussion with stakeholders.
- For any questions or feedback please email ntubbs@nyiso.com

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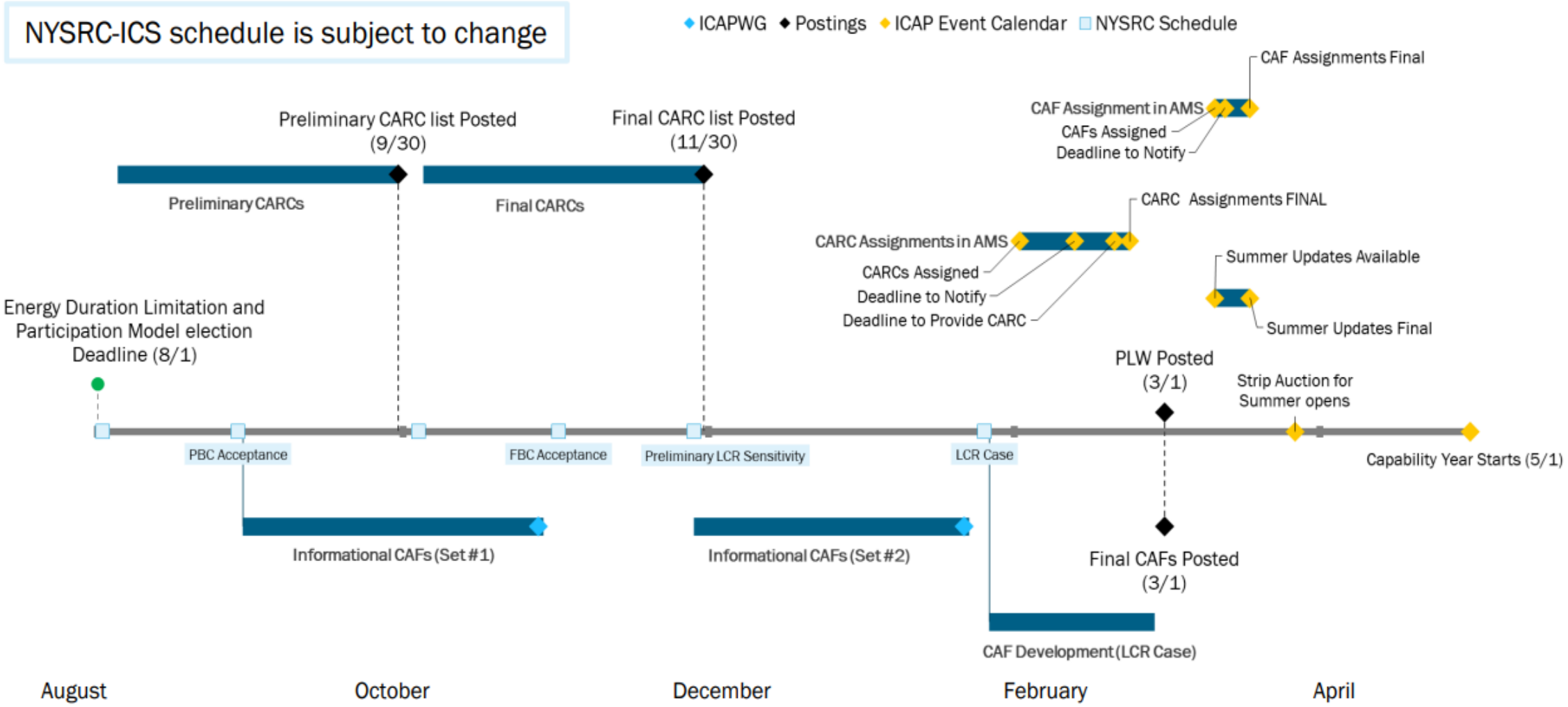
Appendix

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

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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
August 8, 2023	ICAPWG	Gas Constraints – Classification Proposal, Requirements for Firm Units, and Data Submittal Timeline: https://www.nyiso.com/documents/20142/39257338/Natural%20Gas%20Constraints_08_09_2023%20ICAPWGv4%20(002).pdf/de6053e0-030d-5520-ed59-18f2225f0f92

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Previous Discussions on Modeling Improvements for Capacity Accreditation

Date	Working Group	Discussion Points and Links to Materials
September 5, 2023	ICAPWG	Correlated Derates – Ambient Adjustments: https://www.nyiso.com/documents/20142/39768278/5%20Correlated_Derates_ICAPWG_090523_final.pdf/5aa71990-e873-166b-a520-e8e6c44b42e1

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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

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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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