

Modeling Improvements for Capacity Accreditation: Natural Gas Constraints

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ICAPWG/MIWG

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Agenda

- **Response to Stakeholder Feedback**
 - Timeline Clarification
 - Dual Fuel Cycling Clarification
 - Shortfall Penalty Clarification
 - EFORd Double Counting Clarification
 - Tariff Clarification on Partial Firm Election
 - Sensitivity Case CAFs

Response to Stakeholder Feedback

Timeline Clarification

- **ICAP Suppliers will need to notify the ISO of their intent to demonstrate any amount of firm fuel capability based on their anticipated fuel supply for the Winter Capability Period over a year later and then substantiate their elections closer to that point**
- **Initial election made on Aug. 1 of the calendar year preceding the applicable Capability Year**
 - Units will be required to indicate what fuel supply it will have in place for the Winter Capability Period in the upcoming Capability Year and may begin to submit any necessary data to substantiate their election with the opening of the Generator Fuel and Emissions Reporting annual survey
- **Units will have until Dec. 1 of the applicable Winter Capability Period to fully substantiate their fuel supplies which includes:**
 - Submitting all relevant contracts 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 testing requirement and provided documentation of inventory/fuel arrangements

Dual Fuel Cycling Clarification

- **To elect to the firm class via a fuel other than natural gas, dual fuel and oil-only units will be required to have the on-site storage and if applicable, fuel arrangements/contracts to run at max output for 16 hours/day for 6 days during the months of Dec., Jan., and Feb.,**
 - Units will only need to be capable of running at max capacity for 16 consecutive hours
 - If a unit can cycle in time to meet the next 16-hour block, they will not be required to have the fuel to maintain min gen during the remaining 8 hours
 - If they cannot cycle, the unit will need the fuel supply to maintain min gen during the remaining 8 hours
 - Dual Fuel units will not be permitted to plan to operate at min gen on their non-firm fuel during the 8 hours
- **Dual fuel units will also be required to demonstrate operability via two separate tests including a DMNC test on their primary and a separate test on their alternate fuel lasting one hour and demonstrating max output by the Dec 1st deadline**
 - These tests must occur during the previous Winter DMNC test period or with an out of period test that is confirmed during the month of Nov. prior to Dec. 1st of the applicable Winter Capability Period
 - Operational data may be utilized for either test, subject to the above requirement
 - ICAP values will be set using maximum value of the two tests, with any MW difference between the two test values treated as non-firm

Shortfall Penalty Clarification

- **Units that made an election to demonstrate any amount of firm fuel capability based on having firm supply but were unable to procure the required supply by Dec. 1 or were unable to maintain their firm status may be subject to an ICAP Shortfall penalty**
 - The shortfall will be based on the amount of capacity the unit oversold times the spot auction market clearing price and subject to the 1.5x multiplier
 - The penalty will be retroactive from the date the unit was no longer able to maintain their elected firm status extending to the beginning of the Capability Year but only in cases where the loss or reduction in 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
 - Broken supplier contracts
 - Other
- **Units will be required to inform the NYISO of the loss or reduction in firm supply and will have 14 days to restore full capacity if possible**
- **Units that experience a reduction in firm supply will have their UCAP adjusted based on the new proportion of the applicable requirement that is satisfied**
- **Units will not be subject to a penalty when the loss of firm status is due to the acts of other parties and not within the unit's control**
 - A unit that is unable to maintain its firm status due to the acts of a third party will be subject to a revenue claw back for the MWs that were not firm (and therefore oversold)

EFORd Double Counting Clarification

- Units that elect firm in any amount will continue to take a EFORd derate for inability to operate due to fuel unavailability
- Non-firm units will not take an EFORd derate when there is a difference between firm and non-firm CAFs
- The NYISO is working to exclude cause codes for the individual unit calculation for non-firm units during the period when there is a difference in CAFs

Tariff Clarification on Partial Firm Election

- Based on feedback at the 11/8 ICAPWG, MST 5.12.6.2.2 has been updated to clarify the CARCs that the partial firm adjustment applies to

Sensitivity CAFs

- **The NYISO is currently developing a set of sensitivity case CAFs to demonstrate the difference between the firm and non-firm CARCs in a system with increased winter risk**
- **CAF values will be presented prior to the Dec. BIC**

Next Steps

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- Q4 Market Design Complete
- Bring ‘Modeling Improvements for Capacity Accreditation’ package for vote at December BIC and MC
- Q1 2024: Board Review and FERC filing
- For any questions or feedback please email ntubbs@nyiso.com

Appendix

Proposed Tariff Revisions

Proposed Tariff Revisions

- **Tariff revisions for the Natural Gas Constraints Portion of Modeling Improvements for Capacity Accreditation are proposed in MST 5.12 and MST 5.14**
- **MST 5.12 changes include:**
 - 5.12.1.15 – Establishment of Dual Fuel Testing Requirement
 - 5.12.6.2.2 - UCAP Adjustment for Partial Firm Units
 - 5.12.8 – Detailed Dual Fuel Testing Requirement
 - 5.12.15 – CARC Characteristic Elections
- **MST 5.14 changes include:**
 - 5.14.2.3.5 – Shortfall Penalty

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
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

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
September 18, 2023	ICAPWG	Startup Notification - Recommendation and Draft Tariff Revisions: https://www.nyiso.com/documents/20142/40044890/7%20Start-up%20Time%20Proposed%20Capacity%20Tariff%20Revision%20-%20ICAPWG%2009-18.pdf/9d6e8c5e-b7cd-384c-b713-be93507912ed
September 20, 2023	ICAPWG	Gas Constraints – Updated Requirement, Data Verification Timeline and Shortfall Penalty: https://www.nyiso.com/documents/20142/40085480/Natural%20Gas%20Constraints_9_20_2023_v4.pdf/8c76a250-d1e0-d30a-2c24-115f10268c65
October 10, 2023	ICAPWG	Gas Constraints – Response to Stakeholder Feedback, Liquid Receipt Point Guidance, Additive Arrangements: https://www.nyiso.com/documents/20142/40481418/2%20Natural%20Gas%20Constraints_10_10_v3.pdf/7f39851d-f477-6a12-d7d2-52f52af87fcb Correlated Derates – Ambient Adjustment Procedures and CLR Tariff: https://www.nyiso.com/documents/20142/40481418/3%20Correlated_Derates_ICAPWG_101023_final.pdf/76326e11-e97f-cb93-2ca4-902d11365bda
November 8, 2023	ICAPWG	Gas Constraints – Response to Stakeholder Feedback and Market Design Summary + Tariff: https://www.nyiso.com/documents/20142/41049783/Natural%20Gas%20Constraints_11_8_w_Tariff_v5.pdf/8badbfff-06cd-3db3-46f9-c7de5107e993

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