

Modeling Improvements for Capacity Accreditation

Nikolai Tubbs & Brendan Long

ICAPWG

February 20th, 2024

Agenda

■ Gas Constraints

- Tariff Revisions
- Firm supplier data submissions

■ ICAP Supplier Bidding Requirements

- Review
- Stakeholder Feedback
- Tariff Revisions

■ Next Steps

Gas Constraints

Proposed Tariff Revisions: Gas Constraints

- **Tariff related to Natural Gas Constraints include:**
 - 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 deficiency charge
 - MST 23.4 changes include:
 - 23.4.5.4 – Exemption from Must Offer Requirements of Pivotal Suppliers
- **Included with today's material is draft tariff language posted with the final market design package presented at the 12/13 BIC meeting**
 - Incremental changes from the 12/4 ICAPWG are highlighted in **blue**
 - Incremental change since BIC posting are highlighted in **green**

Firm Supplier Data Submissions

- In response to stakeholder feedback at the 2/02 ICAPWG, the NYISO will start accepting data submissions from ICAP suppliers electing any amount of firm supply
- The NYISO will be providing more information as soon as possible on how to submit the required data

ICAP Supplier Bidding Requirements

Review

■ Issue

- The existing market rules do not explicitly prohibit Installed Capacity Suppliers from fulfilling their availability requirement (MST 5.12.7) by offering a portion of their capacity in the DAM at an Emergency Upper Operating Limit (UOLe)
- Emergency Capacity is largely unavailable because operators infrequently use it

■ Proposal

- Each Installed Capacity Supplier, unless explicitly exempted, will schedule a bilateral or bid energy in the DAM with a Normal Upper Operating Limit (UOLn) at a level equal to or greater than its Installed Capacity Equivalent of Unforced Capacity supplied, or notify the ISO of any outages

■ Exemptions

- Combined Cycle Units qualified to sell reserves in their duct-firing range
- Block Loaded Combustion Turbines that can be committed in either peak firing or normal firing mode

Stakeholder Feedback

- Received a suggestion to require Block Loaded Combustion Turbines with peak-firing capability to bid their peak-firing range at UOLn during seasonal peak hours
- The NYISO sees value in exploring this option, but believes further discussion is warranted. Due to the timelines needed for this project, the NYISO recommends not including this at this time.
 - When the Improve Duct-Firing Modeling Project is implemented, we plan to revisit the duct-firing exemption & peak-firing exemption

Proposed Tariff Revisions: UOLe vs UOLn

- The proposed changes are reflected in Draft MST 5.12.7 which is included with this presentation
 - Incremental changes from the 12/4 ICAPWG are highlighted in blue

Next Steps

Next Steps

- February 28th MC Meeting
- Q1 2024: Board Review and FERC filing
- For any questions or feedback please email ntubbs@nyiso.com or blong@nyiso.com

Previous Discussions

Previous Discussions on Modeling Improvements for Capacity Accreditation

Date	Working Group	Discussion Points and Links to Materials
January 26, 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 - Exploratory Testing Methodology for Existing SCRs: 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 (Continued): 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 Initial 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 9, 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%20Startup%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 3, 2023	ICAPWG	SCR Modeling – Project Update: https://www.nyiso.com/documents/20142/40342797/2023-10-03%20Modeling%20Improvements%20-%20SCR%20Modeling.pdf/e5b6faa3-7865-c92a-dbf2-39e1ea6c65e8
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
October 19, 2023	ICAPWG	Startup Notification – Proposed Capacity Tariff Revisions: https://www.nyiso.com/documents/20142/40696384/Startup%20Time%20Capacity%20Tariff%20Discussion-%20ICAPWG%2010-19.pdf/247ea46c-9bc3-60c5-9363-69d787bb78c9

Previous Discussions on Modeling Improvements for Capacity Accreditation

Date	Working Group	Discussion Points and Links to Materials
October 26, 2023	ICAPWG	SCR Modeling– Enhanced SCR Modeling Results: https://www.nyiso.com/documents/20142/40834869/2023-10-26%20Modeling%20Improvements%20-%20SCR%20Modeling.pdf/7d81b04c-e08a-0298-aaa6-cf99d92aa88c
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/8badbff-06cd-3db3-46f9-c7de5107e993
November 17, 2023	ICAPWG	Gas Constraints – Response to Stakeholder Feedback: https://www.nyiso.com/documents/20142/41273741/Natural%20Gas%20Constraints_11_17_ICAPWG_v3.pdf/9e3b921a-0161-3a21-4874-21811077efb5
November 27, 2023	ICAPWG	Modeling Improvements for Capacity Accreditation – Summary: https://www.nyiso.com/documents/20142/41393553/2023-11-27%20ICAPWG%20-%20Modeling%20Improvements%20Summary.pdf/9c383992-bebf-6a4a-e660-4cb96f842ef2
December 4, 2023	ICAPWG	Modeling Improvements for Capacity Accreditation – Tariff Review: https://www.nyiso.com/documents/20142/41570800/2023-12-04%20ICAPWG%20-%20Modeling%20Improvements_v3.pdf/7d334598-46c3-23d8-3217-4bf3eeacadce
December 13, 2023	BIC	BIC Presentation: https://www.nyiso.com/documents/20142/41671891/06%20Modeling%20Improvements%20for%20Capacity%20Accreditation.pdf/470bc7a0-277c-dfac-62e6-9cd439f9c813 BIC Motion: https://www.nyiso.com/documents/20142/41671891/06%20Modeling%20Improvements%20for%20Capacity%20Accreditation%20Motion.pdf/f6afdb1e-f59a-584b-8280-b9b1cab39151
February 2, 2024	ICAPWG	Modeling Improvements for Capacity Accreditation – Gas Constraints Tariff Revisions and ICAP Supplier Bidding Obligations: https://www.nyiso.com/documents/20142/42748388/2%202024-2-2%20ICAPWG%20-%20Modeling%20Improvements.pdf/Od4f32dd-036d-0a5a-2481-cdf230d35a16

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