

Modeling Improvements for Capacity Accreditation

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ICAPWG

February 2nd, 2024

Agenda

- **Gas Constraints Tariff Revisions**
- **ICAP Supplier Bidding Requirements**
- **Next Steps**

Proposed Tariff Revisions

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**

ICAP Supplier Bidding Requirements

Review

- **MST 5.12.7 – Availability Requirements**
 - “The total amount of Energy that an Installed Capacity Supplier schedules, bids, or declares to be unavailable on a given day must equal or exceed the Installed Capacity Equivalent of the Unforced Capacity it supplies.”
 - The existing market rules do not explicitly prohibit Installed Capacity Suppliers from fulfilling their availability requirement by offering a portion of their capacity at an Emergency Upper Operating Limit (UOLe).
- **Potomac Economics concluded that Emergency Capacity is largely unavailable because operators infrequently use it**
 - Operating above Normal Upper Operating Limit (UOLn) has greater risk of tripping
 - Emergency capacity is only dispatchable under emergency operating procedures
 - [Quarterly Report on the New York ISO Electricity Markets Third Quarter of 2023 \(nyiso.com\)](#)
- **The 2023 Modeling Improvements project addressed some of these concerns by sunsetting the Capacity Limited Resources (CLR) classification**
- **Stakeholders requested the tariff language be further refined to clarify the availability requirements of Installed Capacity Suppliers**

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**
- **Limited exemptions are being proposed for units with physical restrictions that currently cannot be reflected in the NYISO bidding system**

Exemptions

- **Combined Cycles qualified to sell reserves offer their duct-firing range in the emergency capacity range to avoid being given an infeasible schedule in real-time, as the current market model does not accommodate a duct-firing ramp constraint**
 - The Improve Duct-Firing Modeling Project seeks to enhance the Operating Reserves product to better accommodate combined-cycle generators equipped with duct-firing
 - We will revisit this exemption after the Improve Duct-Firing Modeling Project is implemented
- **Block Loaded Combustion Turbines that can be committed in either normal or in peak firing mode**
- **The NYISO will continue to investigate other potential exemptions**

Proposed Tariff Revisions: UOLe vs UOLn

- The proposed changes are reflected in Draft MST 5.12.7 which is included with this presentation

Next Steps

Next Steps

- Return to a future ICAPWG to continue discussions as needed
- Q1 2024: 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/8badbfff-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

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