Modeling Improvements for Capacity Accreditation: Firm Fuel

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ICAPWG

February 4, 2025

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Today's Objective

- **Today's objective is to discuss proposed changes to the firm fuel requirements**
  - As a reminder, the market design proposal detailed in this presentation is expected to evolve over time as the NYISO is able to monitor the performance of ICAP Suppliers making firm elections and as the system evolves

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Agenda

- Background
- Fuel Characteristic Elections
- Firm Fuel Requirements
- Penalties
- Next Steps

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Background

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Background

- On July 23, 2024, FERC accepted the tariff revisions for the Modeling Improvements for Capacity Accreditation project
  - As part of its acceptance, FERC directed the NYISO to submit a compliance filing that delayed the implementation of the firm fuel election process to the 2026-2027 Capability Year
    - On October 24, 2024, FERC accepted the NYISO compliance filing
- At the November 21, 2024 ICAP Working Group (ICAPWG) meeting, the NYISO presented proposed changes to the firm fuel election process and requirements to address open questions

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Fuel Characteristic Elections

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Fuel Characteristic Elections

- **As discussed at the 11/21/2024 ICAPWG, ICAP Suppliers making a firm fuel characteristic election will no longer be required to submit supporting documentation composed of firm fuel contracts or liquid fuel inventory documentation to validate their firm fuel election**
  - Relevant dates related to data submission and NYISO review will be removed from the approved tariff language
  - Based on this change, there will be no ex-ante review of documentation prior to firm fuel elections
- **Further, the NYISO proposes that ICAP Suppliers not be required to submit an attestation with their firm fuel election**
- **Elections will be made with the understanding that the ICAP Supplier can meet the criteria that will be set forth in the ICAP manual for its elected MWs to be considered firm for capacity accreditation**
  - Elections will be made by August 1 of the calendar year preceding a subject Capability Year (Aug. 1 2025 for the 2026/2027 CY) and will need to include the firm fuel election coversheet (See Appendix Slide 24).

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Firm Fuel Requirements

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Firm Fuel Requirements

- **By selling UCAP based on a firm fuel election, ICAP Suppliers are committing to have fuel available to run for 56 hours over any consecutive seven-day period from December through February if called**
  - Firm supply must be able to, at a minimum, allow the ICAP Supplier to operate its unit for eight hours a day for seven consecutive days at the elected MW value (e.g., 100 MW Firm election = 5600 MWh)
    - Performance will be evaluated based on the ability to operate for a minimum of eight hours on any given day if not having already run for a total of 56 hours the seven consecutive days at the elected firm MW
      - For example: If a 100MW unit has run for 5600 MWh over the seven consecutive days, it **will not** need to perform a minimum of eight hours on Day 8 to satisfy its firm fuel obligation
      - Note: Ramping intervals will be counted towards the MWh balance within the seven-day period
    - A failure to perform is triggered when:
      - An ICAP Supplier is unavailable due to fuel related issues and has not run for its MWh commitment (5600 MWh in this example) over the previous seven consecutive days
- **Important Note: Outages irrespective of fuel status will be accounted for in individual EFORd calculations**

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Firm Fuel Requirements (Cont’d)

- **Partial Firm**
  - ICAP Suppliers unable to fully satisfy the firm fuel requirements will be able to make a partial firm election
    - Partial firm elections will only be permitted if an ICAP Supplier is unable to fully cover its ICAP MW value with firm supply
      - Partial firm elections based on inability to satisfy the duration requirement will not be permitted

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Firm Fuel Requirements (Cont'd)

- **For initial implementation, ICAP Suppliers with dual fuel capability electing any amount of firm fuel capacity via the use of an onsite fuel <u>will not</u> need to demonstrate operability through the successful completion of a one-hour test on their onsite fuel**
  - ICAP Suppliers will have discretion to elect the firm fuel MW value consistent with satisfying the performance requirements or be at risk of a deficiency charge
- **The NYISO will continually evaluate the need for a testing requirement based on the elections and performance of units utilizing onsite fuel arrangements**

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Penalties

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Penalties

- To mitigate against ICAP Suppliers making fuel characteristic elections that do not align with their ability to perform during the winter performance period, under the penalty structure, revenues generated by electing firm fuel and failing to perform should not exceed those of a non-firm fuel election
- The NYISO has revised its penalty proposal which seeks to provide a stronger incentive for making fuel characteristic elections that align an ICAP Supplier’s fuel arrangements with the firm fuel performance requirement

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Penalties (Cont'd)

- **ICAP Suppliers who elect any amount of firm MW but thereafter are not available (outage, derate, etc.) at any time during the months of December, January and February due to lack of fuel and have not run for 56 hours over the past seven consecutive days will be subject to a penalty or a revenue clawback**
  - The penalty/clawback will be based on the ratio of the total firm/non-firm MW difference of the unit to what the unit sold in each month of the subject Capability Year
    - e.g., If the unit's full firm fuel value is 100MW but would otherwise be 90MW non-firm, and it sold 75 MW in December, the base penalty MW for that month would be 10MW * .75 = 7.5MW
  - The penalty/clawback will be further prorated by the ratio of months within the winter performance period in which the ICAP Supplier demonstrated successful performance (e.g., did not have a fuel related outage, derate, etc., during a given month)
    - e.g., If a supplier fails to perform in December but successfully performs in January and February, 1/3 of the MW difference will be subject to a penalty/clawback (7.5MW*(1/3) = 2.5MW)
- **Whether an ICAP Supplier is assessed a penalty or a revenue clawback will depend on the reason firm fuel supply was not available (i.e., whether the loss of firm fuel was within or outside ICAP Supplier's control. See Slides 17-19)**

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Penalties (Cont'd)

- **Penalty Example:**
  - 100 MW Unit electing fully firm assuming the following facts: 100% Firm CAF, 90% Non-firm CAF, and no individual derating factor
    - Winter MCP = $10/ KW-month
    - Summer MCP = $20/ KW-month
    - MW Sold = 100 MW = 100% of unit
    - Full Firm/Non-Firm MW delta = 100-90 = 10MW
    - MW Subject to Penalty = 10MW * 100% = 10MW
    - Penalty Multiplier = 1.5
  - Assuming the unit successfully performed in January and February, the full penalty amount for the capability year would equal (10MW * 1/3)*((6*$10*1000)+(6*$20*1000))*1.5 = $900,000
- **A more detailed set of penalty/clawback examples for a full Capability Year is included in Appendix Slide 25**

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Penalties (Cont'd)

- **Example of Performing 56 hours over any Consecutive Seven-Day Period (100MW Firm Fuel Election):**

	December									
	1	2	3	4	5	6	7	8	9	10
Capability (MWh)	800	1600	1000	800	800	800	600	0	0	0
Performance (MWh)	800	1600	1000	800	800	800	600	0	0	0
Prior 7 Day Total Performance (MWh)							6400	5600	4000	3000

*In this instance, although Day 7 performance was for less than eight hours at the elected firm MW value, the unit successfully performed 56 or more hours over the previous seven consecutive days and thus is not subject to a penalty/clawback

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Penalties (Cont'd)

- The NYISO proposes to utilize NERC guidance on "Outside Management Control" (OMC) to determine whether a loss or reduction in firm fuel supply was within or outside of the ICAP Supplier's control
- The NERC guidance contained in the following slides is not an exhaustive list, and the NYISO may consider other factors such as weather when determining if loss of firm fuel was outside an ICAP Supplier's control

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Penalties (Cont'd)

- **NERC guidance specifies that outside of management control includes failure of a fuel supplier to fulfill contractual obligations or a pre-arranged deal due to physical fuel disruptions or operational impairments (e.g., force majeure on a pipeline or compressor down; making the pipeline incapable of making its firm deliveries.) More detailed examples include:**
  - Firm pipeline gas transportation segment interrupted causing disruption or reduction in the flow of natural gas
  - Physical damage to pipeline or cyber disruption
  - Routine pipeline maintenance (e.g., pigging)
  - Commodity supplier fails to deliver firm gas to primary pipeline receipt point

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Penalties (Cont'd)

- **NERC guidance specifies that lack of fuel due to contractual or tariff provisions that allow for service interruption or price fluctuations during peak demand periods are not considered outside of management control. Examples include:**
  - Company's fuel supply group allocates limited firm fuel to other fleet sites
  - Interruptible pipeline transportation interrupted
  - Pipeline issues Operational Flow Order
  - Pipeline enforces ratable takes provision to tariff levels
  - Local Distribution Company confiscates or interrupts fuel scheduled for delivery to plant gate
  - Plant fuel buyer rejects gas at implied delivered price (possibly including penalties)

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Penalties (Cont'd)

- **Based on the movement to the performance approach, the provisions in section 23.4.5.4 of the Services Tariff related to exemptions for Pivotal Suppliers offering mitigated capacity will be removed**
  - By making a firm fuel election, Pivotal Suppliers commit to being available during December, January and February or otherwise be subject to a penalty/clawback

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Next Steps

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Next Steps

- Return to an ICAPWG with ICAP Manual and Tariff language related to firm fuel requirements
- For any questions or feedback, please email ntubbs@nyiso.com

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Appendix

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Firm Fuel Election Coversheet

Firm Supply Election Coversheet

PTID____

Unit Name____

Market Participant____

Nameplate____

Unit Type____

Fuel Type____

Subject Capability Year____

Date of Submission____

Summary of
Submission____
____
____
____
____

Main Contact (name)____

Main Contact (email)____

Main Contact (phone) ____

Total Firm Election
(MW)____

Utilized Fuel Arrangements (Check One)

Primary____

Secondary____

Both____

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Detailed Penalty/Clawback Examples (Based on Capability Year)

Penalty/Clawback Example - 100 MW Firm, 90MW Non-firm	May	June	July	August	September	October	November	December	January	February	March	April	Totals
(A) MCP $	20	20	20	20	20	20	10	10	10	10	10	10	
(B) Full Firm MW	100	100	100	100	100	100	100	100	100	100	100	100	
(C) Non-firm MW	90	90	90	90	90	90	90	90	90	90	90	90	
(D) MW Sold	80	100	100	100	70	80	80	100	100	100	80	80	
(E) % Unit Sold	80%	100%	100%	100%	70%	80%	80%	100%	100%	100%	80%	80%	
(F) Unit Revenue $ = (A)*(D)*1000	1,600,000	2,000,000	2,000,000	2,000,000	1,400,000	1,600,000	800,000	1,000,000	1,000,000	1,000,000	800,000	800,000	16,000,000
(G) Revenue Full Firm Capacity $ = (A)*(B)*1000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	18,000,000
(H) Non-firm Revenue $ (A)*(C)*1000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	900,000	900,000	900,000	900,000	900,000	900,000	16,200,000
(I) Weighted Revenue Difference $ (G)-(H)*(E)	160,000	200,000	200,000	200,000	140,000	160,000	80,000	100,000	100,000	100,000	80,000	80,000	1,600,000
(J) Penalty Multiplier	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
(K) Clawback Multiplier	1	1	1	1	1	1	1	1	1	1	1	1	
(L) Full Penalty Amount $ (I)*(J)	240,000	300,000	300,000	300,000	210,000	240,000	120,000	150,000	150,000	150,000	120,000	120,000	2,400,000
(M) Full Clawback Amount $ (I)*(K)	160,000	200,000	200,000	200,000	140,000	160,000	80,000	100,000	100,000	100,000	80,000	80,000	1,600,000
Penalty Scenario 1 - Fail one month $ (L)*(1/3)	80,000	100,000	100,000	100,000	70,000	80,000	40,000	50,000	50,000	50,000	40,000	40,000	800,000
Penalty Scenario 2 - Fail two months $ (L)*(2/3)	160,000	200,000	200,000	200,000	140,000	160,000	80,000	100,000	100,000	100,000	80,000	80,000	1,600,000

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