New York ISO
Independent System Operator

# Start-up Time: Proposed Capacity Tariff Revision


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## ICAPWG/MIWG

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# Agenda

- Previous Discussions
- Background
- Stakeholder Questions/Concerns from previous ICAPWGs
- Analysis
- Proposal
- Draft Capacity Tariff Revisions
- Next Steps
- Appendix

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# Previous Discussions

# Previous Discussions

| Date | Working Group | Discussion Points and Links to Materials |
|---|---|---|
| January 26, 2023 | ICAPWG | Modeling Improvements for Capacity Accreditation: Project Kick Off: Slide 1 (nyiso.com) |
| April 27, 2023 | ICAPWG | Startup Notification Kick Off: PowerPoint Presentation (nyiso.com) |
| July 27, 2023 | ICAPWG | Market Design Considerations and Recommendation: PowerPoint Presentation (nyiso.com) |
| September 18, 2023 | ICAPWG | Proposed Capacity Tariff Revision: 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 |

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# Background

# Background

- Startup time is defined as the amount of time required to ramp from offline state to lower operating limit (LOL)/min. generation
- Startup time for a given unit may vary based on how long the unit has been offline

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# Background

- MARS is not designed to consider unit commitment separately from dispatch. Hence, MARS cannot accurately estimate reliability value of inflexible units such as generators with long startup notification times

- The 8-hour Peak Load Window for the Summer Capability Period is HB 12 through HB 19. During a peak-load window, all resources not in an outage should be available for being called upon. Resources with start-time greater than 24 hours cannot be scheduled for a noon start on the following day since DAM Schedules and LBMP posted by 11 a.m.

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# Background

- Units with startup time under 24 hours are not a resource adequacy concern as NYISO has operating and dispatch control on those units in that 24 hour-window. There is no need to differentiate between those resources, in the capacity market, based on their start time.

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# Stakeholder Questions/Concerns from previous ICAPWGs

# Stakeholder Questions/Concerns

- **What would be the penalty for failing to meet the proposed rule?**
  - Penalty in accordance with Market Administration and Control Area Services Tariff (MST) Section 5.12.12.2: Sanctions for Failing to Comply with Scheduling, Bidding, and Notification Requirements
- **What is the expected response to NYISO SRE calls on normal days and forecasted peak load days?**
  - On forecasted peak load days: Mentioned in slide 18
  - On normal days:

    **MST 5.12.1.10:** When the ISO issues a Supplemental Resource Evaluation request (an SRE), NYCA Resources must Bid into the in-day market unless (and only to the extent) the entity has a bid pending in the Real-Time Market when the SRE request is made or is unable to bid in response to the SRE request due to an outage as defined in the ISO Procedures, or due to other operational issues, or due to temperature related deratings.

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# Stakeholder Questions/Concerns

- **Will the pre-start requirements for long-lead time units negatively impact their emissions, efficiency and incurred startup costs?**
  - NYISO is in the process of collecting information from affected generators
- **What were the dates in the last five years when: localities reached the 90% forecasted peak load threshold and all units in each load zone would have been required to start in no more than 24 hours?**
  - An excel sheet with the required information is provided in the meeting materials

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# Analysis

# Forecasted peak load events

- These are the days when demand, according to a day's 2-day ahead baseline 50-50 forecast, is equal to or greater than 90% of forecasted seasonal ICAP peak in the capacity zone(s) the supplier is in or providing to.
- Table with values of peak load and 90% of peak load for each capability period from 2018 to 2022 is in the Appendix

| Year | Number of days | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NYCA | | G-J | | NYC | | LI | |
| | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter |
| 2018 | 5 | 9 | 1 | 21 | 1 | 24 | 4 | 6 |
| 2019 | 4 | 0 | 0 | 16 | 1 | 21 | 5 | 5 |
| 2020 | 4 | 0 | 1 | 0 | 0 | 0 | 12 | 0 |
| 2021 | 5 | 1 | 3 | 1 | 2 | 0 | 9 | 0 |
| 2022 | 3 | 6 | 4 | 6 | 4 | 3 | 11 | 9 |

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# No. of days with 24-Hour Requirement (2018-2022)

- Indicates number of days for which all units in a load zone or group of load zones are required to commit to reach lower operating limit (LOL)/min. generation with no more than 24 hours notice

| LOAD ZONES | 2018 | | | 2019 | | | 2020 | | | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Summer | Winter | Total | Summer | Winter | Total | Summer | Winter | Total | Summer | Winter | Total | Summer | Winter |
| ROS | 14 | 5 | 9 | 4 | 4 | 0 | 4 | 4 | 0 | 6 | 5 | 1 | 9 | 3 | 6 |
| G-I | 26 | 5 | 21 | 20 | 4 | 16 | 4 | 4 | 0 | 7 | 6 | 1 | 12 | 4 | 8 |
| NYC | 29 | 5 | 24 | 25 | 4 | 21 | 4 | 4 | 0 | 7 | 6 | 1 | 12 | 4 | 8 |
| LI | 25 | 7 | 18 | 12 | 7 | 5 | 13 | 13 | 0 | 11 | 10 | 1 | 21 | 11 | 10 |

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# Percentage of multi-day peak load events (2018-2022)

- Indicates percentage of peak load events, for which all units in a load zone or group of load zones are required to commit start with no more than 24 hours notice, which lasted for more than one day out of the total number of peak load events during the year in a load zone or a group of load zones.

| LOAD ZONES | 2018 | 2019 | 2020 | 2021 | 2022 | AVERAGE |
|---|---|---|---|---|---|---|
| ROS | 86% | 50% | 50% | 50% | 22% | **52%** |
| G-I | 96% | 65% | 50% | 71% | 33% | **63%** |
| NYC | 97% | 76% | 50% | 71% | 33% | **65%** |
| LI | 96% | 67% | 85% | 73% | 57% | **75%** |

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# Proposal

# Proposal

- Beginning with Capability Year beginning May 1, 2025, require all ICAP suppliers (including External ICAP suppliers) to commit to reach lower operating limit (LOL)/min. generation with no more than 24 hours notice during forecasted peak load events i.e., days when demand* is equal to or greater than 90% of forecasted seasonal ICAP peak in the capacity zone(s) the supplier is located in or providing to.
- This needs to be done in response to Day-ahead market and/or a NYISO SRE call made anytime before midnight on the day before the forecasted peak load day

*according to 2-day ahead baseline (50-50) forecast

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# Proposal

- **Exception to the proposed rule:**

**During the winter capability period, the Generators described in 5.12.1.11.2 are exempted from this rule on days when they are actively providing steam for purposes defined in 5.12.1.11.2.**

[i.e., Existing topping turbine Generators and extraction turbine Generators producing Energy resulting from the supply of steam to the district steam system located in New York City (LBMP Zone J) in operation on or before November 18, 1999 and/or Generators used in replacing or repowering steam supplies from such units (in accordance with good engineering and economic design) that cannot follow schedules, up to a maximum total of 533 MW of such units]

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# Draft Capacity Tariff Revisions

# Draft Capacity Tariff Revisions

- **MST 5.12.1.10 (Changes from 09/18 ICAPWG presentation highlighted in blue)**
  - Added External ICAP supplier requirement:
    - Beginning with the Capability Year beginning May 1, 2025, if an External Installed Capacity Supplier utilizes an External Generator it shall be able to reach lower operating limit (LOL)/minimum generation with no more than 24 hours' notice, for any and all days for which the 2-day ahead forecast of those days is equal to or exceeds 90% of the baseline seasonal peak demand forecast for the NYCA, or in the case of an External Generator(s) combined with an External UDR, the specific Locality or Localities associated with the External UDRs. The baseline seasonal peak demand forecasts are published annually in Section I of the NYISO's Load and Capacity Report ("Gold Book") just prior to the upcoming Capability Year. The reference baseline forecast for each Locality is specified in 5.12.7. This startup capability shall be reflected in the External ICAP Suppliers' offer parameters as part of its bidding obligations in the neighboring region's energy markets, and in response to a NYISO SRE call, whenever this 2-day ahead demand forecast threshold is met.

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# Draft Capacity Tariff Revisions

- **MST 5.12.7 (Changes from 09/18 ICAPWG presentation highlighted in blue)**
  - Added ICAP supplier requirement:
    - Beginning with the Capability Year beginning May 1, 2025, each Installed Capacity Supplier shall, except as noted in Section 5.12.11 of this Tariff, be able to reach lower operating limit (LOL)/minimum generation with no more than 24 hours' notice, for any and all days for which the 2-day ahead forecast of those days is equal to or exceeds 90% of the baseline seasonal peak demand forecast for NYCA if the ICAP Supplier is located in Zones A-F, or the baseline seasonal peak forecast for the Locality or Localities in which the ICAP Supplier is located. During the winter capability period, the Generators described in 5.12.1.11.2 are exempted from this rule on days when they are actively providing steam for purposes defined in 5.12.1.11.2. The baseline seasonal peak demand forecasts are published annually in Section I of the NYISO's Load and Capacity Report ("Gold Book") just prior to the upcoming Capability Year. This startup capability shall be reflected in the ICAP Suppliers' DAM offer parameters as part of its bidding obligations, and in response to a NYISO SRE call, when this threshold is met.

    - The baseline seasonal peak forecast for the G-J Locality refers to the non-coincident G-to-J locality's forecasted baseline seasonal peak (Gold Book: Baseline Peak Demand in G-to-J Locality, Historical & Forecast). The baseline seasonal peak forecast for Zones J and K refer to forecasted baseline seasonal non-coincident zonal peaks for each of these zones (For Summer: Gold Book: Baseline Summer Non-Coincident Peak Demand, Historical & Forecast; For Winter: Gold Book: Baseline Winter Non-Coincident Peak Demand, Historical & Forecast). NYCA peak refers to NYCA baseline seasonal coincident peak (Gold Book: NYCA Baseline Energy and Demand Forecasts). All these peaks during the summer capability period are equivalent to their corresponding ICAP peak forecast.

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# Draft Capacity Tariff Revisions

- **MST 5.12**
  - Added ‘External’ and ‘Internal’ before UDRs to clarify and distinguish between Internal UDRs and External UDRs, which is being driven by the ICL project.

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# Next Steps

# Next Steps

- Return to ICAPWG/MIWG meeting in November to continue discussions with stakeholders.
- Q4 Market Design Complete

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# Questions?

# Appendix

# Forecasted Seasonal Peak load

Seasonal peak load (2018-2022)

| Locality | Capability Period | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Winter 2017-18 | Summer 2018 | Winter 2018-19 | Summer 2019 | Winter 2019-20 | Summer 2020 | Winter 2020-21 | Summer 2021 | Winter 2021-22 | Summer 2022 | Winter 2022-23 |
| NYCA | 24,365 | 32,903 | 24,269 | 32,383 | 24,123 | 32,296 | 24,130 | 32,330 | 24,025 | 31,766 | 23,893 |
| G-J | 10,662 | 15,918 | 10,427 | 15,883 | 10,464 | 15,695 | 10,503 | 15,411 | 10,494 | 15,125 | 10,251 |
| NYC | 7,704 | 11,539 | 7,526 | 11,607 | 7,606 | 11,477 | 7,621 | 11,199 | 7,610 | 10,906 | 7,422 |
| LI | 3,440 | 5,376 | 3,362 | 5,240 | 3,365 | 5,228 | 3,393 | 5,249 | 3,270 | 5,138 | 3,180 |

90% of Seasonal peak load (2018-2022)

| Locality | Capability Period | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Winter 2017-18 | Summer 2018 | Winter 2018-19 | Summer 2019 | Winter 2019-20 | Summer 2020 | Winter 2020-21 | Summer 2021 | Winter 2021-22 | Summer 2022 | Winter 2022-23 |
| NYCA | 21,929 | 29,612 | 21,842 | 29,145 | 21,711 | 29,066 | 21,717 | 29,097 | 21,623 | 28,589 | 21,504 |
| G-J | 9,596 | 14,326 | 9,384 | 14,295 | 9,418 | 14,126 | 9,453 | 13,870 | 9,445 | 13,613 | 9,226 |
| NYC | 6,934 | 10,385 | 6,773 | 10,446 | 6,845 | 10,329 | 6,859 | 10,079 | 6,849 | 9,815 | 6,680 |
| LI | 3,096 | 4,838 | 3,026 | 4,716 | 3,029 | 4,705 | 3,054 | 4,724 | 2,943 | 4,624 | 2,862 |

# 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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