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Independent System Operator

# Installed Capacity Manual Revisions


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## ICAPWG Meeting

November 16, 2020

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# Agenda

- Background
- Incremental Revisions for the Expanding Capacity Eligibility and Tailored Availability Metric rulesets
  - Includes revisions to the ICAP Manual and respective Attachments
- Proposed Revisions for Initial Wind UCAP %
  - Includes revisions to the ICAP Manual
- Next Steps
- Appendix

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# Background

# Background

- **The Expanding Capacity Eligibility rules value resources in the Capacity market based on the reliability benefit that the resource provides to the system**
  - The rules will allow resources with short durations that currently cannot participate in the Capacity market to be eligible for Capacity market participation
  - The Expanding Capacity Eligibility rules will become effective March 1, 2021 for implementation beginning with the Day-Ahead Market run for the operating day May 1, 2021
- **The Tailored Availability Metric rules enhance the methodology used to calculate the derating factors to better align with reliability of the system**
  - The Tailored Availability Metric rules were accepted by FERC on September 3, 2020, and will become effective March 1, 2021 for implementation beginning with the Day-Ahead Market run for the operating day May 1, 2021

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# Purpose of Today's meeting

- Review incremental changes to the ICAP Manual and appropriate Attachments that are necessary to administer the proposed tariff revisions for Expanding Capacity Eligibility (ECE) and Tailored Availability Metric (TAM) rulesets
  - The rule changes proposed in this presentation will be implemented coincident with the ECE and TAM tariff revisions
- Review proposed changes to the initial UCAP % for wind resources
- A redlined version of the proposed changes to the ICAP Manual and appropriate Attachments are posted with today's meeting materials

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# Previous Presentations

- **October 16, 2020 – Installed Capacity Manual Revisions**
  - https://www.nyiso.com/documents/20142/16124862/3%20Proposed%20ICAP%20Manual%20Revisions%20101620.pdf/

# Incremental Revisions for the ECE and TAM rulesets

# Proposed Revisions to ICAP Manual

# Proposed Revisions to ICAP Manual

- The following sections of the ICAP Manual include incremental revisions to accommodate the Expanding Capacity Eligibility ruleset:
  - Sections 4.1.1, 4.2, 4.5, 4.8
- The following sections of the ICAP Manual include incremental revisions to accommodate the Tailored Availability Metric ruleset:
  - Sections 4.4.10, 4.5

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# Proposed Revisions to ICAP Manual

- **Section 4.1.1 – Energy Duration Limitations and Duration Adjustment Factors for Installed Capacity Suppliers**
  - Additional detail has been added to describe the notification process of adjusting the Peak Load Window for a given day
    - The ISO will publish an alert to the NYISO public website and send an email to the appropriate contact for each Installed Capacity Supplier with an Energy Duration Limitation
  - Added a reference to the Bidding, Scheduling, and Notification requirements as further described in Section 4.8 of the ICAP Manual

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# Proposed Revisions to ICAP Manual

- **Section 4.2 – DMNC and DMGC Procedures**
  - Section 4.2.1 includes the following revisions:
    - Added references to the Peak Load Window as further described in Section 4.1.1 of the ICAP Manual
    - Language to address the "out-of-period" DMNC test rules for resources with an Energy Duration Limitation
  - Section 4.2.2 includes the following revisions:
    - Added references to the Peak Load Window as further described in Section 4.1.1 of the ICAP Manual
    - Added an example of an electrochemical technology in the Energy Storage Resource specific test conditions
    - Revisions have been made to section 4.2.2.2 to clarify the DMNC testing procedures for Installed Capacity Suppliers with an Energy Duration Limitation
      - References have been made to Attachment M of the ICAP Manual as applicable to registration requirements
      - Formatting changes have been made for consistency with earlier sections

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# Proposed Revisions to ICAP Manual

- **Section 4.4.10 – Resources not in Operation for the Past Two Like-Capability Periods**
  - Revisions have been made to reflect the use of the default derating factor for new Resources

# Proposed Revisions to ICAP Manual

- **Section 4.5 – Calculation of the Amount of Unforced Capacity each Resource may Supply to the NYCA**
  - Revisions have been made to align a resource's Unforced Capacity with its Adjusted Installed Capacity value
    - The corresponding equations have been moved to Attachment J of the ICAP Manual
  - Section 4.5.1 has been removed
    - All of the language from 4.5.1 is reflected in Attachment J of the ICAP Manual

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# Proposed Revisions to ICAP Manual

- **Section 4.8 – Bidding, Scheduling, and Notification Requirements**
  - Added a reference to the Peak Load Window as further described in Section 4.1.1 of the ICAP Manual

# Proposed Revisions to ICAP Manual Attachments

# Proposed Revisions to ICAP Manual Attachments

- ICAP Manual Attachment J includes incremental revisions to accommodate the Expanding Capacity Eligibility and Tailored Availability Metric rulesets
- ICAP Manual Attachment M includes incremental revisions to accommodate the Expanding Capacity Eligibility ruleset

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# Proposed Revisions to ICAP Manual Attachment J

- **Attachment J – Unforced Capacity for Installed Capacity Suppliers**
  - Section 1. Fundamental Formulae
    - Includes equations for Adjusted Installed Capacity and UCAP, as described in section 4.5 of the ICAP Manual
    - The "Note" describing UCAP calculations has been removed as these concepts are described in further detail in Section 3 of Attachment J
  - Section 2. Definitions
    - References the Tariff definitions for Adjusted Installed Capacity and Duration Adjustment Factor

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# Proposed Revisions to ICAP Manual Attachment J

- **Attachment J – Unforced Capacity for Installed Capacity Suppliers includes the following revisions throughout Section 3. Calculations:**
  - The term “Duration Adjustment Factor” has been added throughout the subsections as applicable to the resource specific UCAP calculations
  - The derating factor term has been changed to average derating factor as applicable to the resource specific UCAP calculations
    - For example, Section 3.1.1(b) contains revisions to “$EFORd_{gm}$” to “$AEFORd_{gm}$” to mirror the language in Section 3.1.1(a)

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# Proposed Revisions to ICAP Manual Attachment J

- **Attachment J – Unforced Capacity for Installed Capacity Suppliers**
  - Section 3.4 contains revisions to the Production Factor equation for Wind and Solar resources

# Proposed Revisions to ICAP Manual Attachment M

- **Attachment M – Procedure to Apply for a Capacity Limited Resource (CLR), Energy Limited Resource (ELR) or Ambient Condition-Dependent Classification**
  - Revisions have been made throughout Attachment M to reflect the rules for resources with an Energy Duration Limitation
    - This extends to Registration requirements for Installed Capacity Suppliers that qualify for an Energy Duration Limitation and annual notifications to the NYISO (e.g. ELR designations, election of Energy Duration Limitations, etc.)

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# Proposed Revisions for Initial Wind UCAP %

# Proposed Revision to ICAP Manual

- **Revisions to the ICAP Manual Section 4.5 (b) are required to reflect the update to the initial wind UCAP percentages**
  - The description of how the initial wind UCAP percentages are calculated is updated
    - The revision includes the description for the land-based wind initial UCAP %, as well as the description for the off-shore wind initial UCAP %
  - The initial UCAP percentages for the land-based wind are updated
  - The initial UCAP percentages for the off-shore wind are pending updated wind profiles from the NREL and are expected to be updated early 2021

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# Updated Tables for Wind Initial UCAP %

| Unforced Capacity Percentage – Land-Based Wind | | |
|---|---|---|
| | 6-Hour Peak Load Window | 8-Hour Peak Load Window |
| Summer | 16% | 16% |
| Winter | 34% | 34% |

| Unforced Capacity Percentage – Off-shore Wind (Zone J and K)* | | |
|---|---|---|
| | 6-Hour Peak Load Window | 8-Hour Peak Load Window |
| Summer | TBD | TBD |
| Winter | TBD | TBD |

*The specific Unforced Capacity Percentages are pending the National Renewable Energy Laboratory release of updated wind profiles, which is expected to be available early 2021.

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# Next Steps

# Next Steps

- The NYISO is seeking stakeholder feedback on the proposed ICAP Manual and Attachment revisions discussed today
- The NYISO will return to an upcoming ICAPWG to continue discussions on the topics discussed today
- The NYISO is aiming to bring the proposed revisions to the ICAP Manual and Attachments to the BIC in early 2021

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# Feedback/Questions?

Email additional feedback to: deckels@nyiso.com

# Questions?

# Appendix

# MST 2 – Definitions

- **Adjusted Installed Capacity**
  - The amount of Installed Capacity a Resource may offer taking into account the Resource's applicable Duration Adjustment Factor
- **Duration Adjustment Factor**
  - The value of Installed Capacity, expressed as a percentage, for a Resource as specified in Section 5.12.14 of the ISO Services Tariff
- **Energy Duration Limitation**
  - For a Resource that is not capable of providing Energy for twenty-four hours each day, the number of consecutive hours per day that a Resource elects and is obligated, pursuant to Services Tariff Sections 5.12.1 and 5.12.7, to (i) schedule a Bilateral Transaction; (ii) Bid Energy in the Day-Ahead Market; or (iii) notify the ISO of any outages in the Day-Ahead Market as an Installed Capacity Supplier for the ICAP Equivalent of UCAP sold, as identified in Section 5.12.14 of the ISO Services Tariff
- **Peak Load Window**
  - The time period during which a Resource with Energy Duration Limitations must offer Energy in the Day-Ahead Market as specified in Section 5.12.14 of the ISO's Services Tariff

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# Counting MWs

- Every year, the NYISO will post the MW count of incremental Resources with Energy Duration Limitations so that all Market Participants are aware which set of Duration Adjustment Factors (i.e. capacity values) will be used in the following Capability Year
  - The incremental MW count will be posted by July 15th to provide time for resources to elect their durations by August 1st
  - This timing also supports the IRM study process
- The MW count will start for incremental penetration of resources with Energy Duration Limitations above the existing MW in service as of January 1st, 2019
- Once the MW penetration threshold has been met, the effective date of new Duration Adjustment Factors will be May 1st of the following Capability Year
  - These values will continue to be effective notwithstanding the future MW count of incremental penetration of Resources with Energy Duration Limitations

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# Counting MWs (cont.)

- **The objective of the MW Count is to capture the resources with Energy Duration Limitations that are eligible for capacity and are incremental to the As Found 2019 System**
- **The incremental MW count will include the following resources as of July 1:**
  - CRIS of additional Resources with Duration Limitations above the existing fleet in service by July Gen Status – CRIS of Resources with Duration Limitations Retired by July Gen Status + Demand Response (SCR and Capacity DR in DER Aggregations) July MW Sold – Existing SCRs (1309.1 MW)
  - Existing resources as of January 1, 2019 are reflected in the studies that form the basis of the values included in this market design

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# Counting MWs (cont.)

| Resources included in MW count | Resources included that do not impact MW count | Resources not included in MW count |
|---|---|---|
| CRIS of additional Resources that went into service after January 1, 2019 and have participated with an Energy Duration Limitation of 6 hours and less<br>*This includes CRIS of units with an Offer Floor | SCR MW participating in the ISO Markets prior to January 1, 2019 that switch to the DER Participation Model | Existing CRIS of Resources in service and participating in the ISO Markets prior to January 1, 2019 |
| CRIS of Resources with Duration Limitations Retired by July Gen Status | | Resources participating with an Energy Duration Limitation longer than 6 hours<br>**For purposes of counting toward the 1000 MW level. The NYISO is open to tracking additional information for future studies |
| Demand Response (SCR and Capacity DR in DER Aggregations) July MW Sold | | |
| Existing SCRs (1309.1 MW) | | |

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# Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

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