Improving Capacity Accreditation: Project Kick Off

Zach T. Smith, Manager, Capacity Market Design
Maddy Mohrman, Associate Market Design Specialist

ICAPWG/MIWG

February 24, 2022

Agenda

- Background

- Project Tasks

- Modeling Considerations

- Schedule

- Next Steps

New York ISO

Background

New York ISO

Background

- Capacity accreditation that reflects resources' contribution to resource adequacy is crucial to just and reasonable ICAP Market outcomes. Therefore, the Improving Capacity Accreditation project was coupled with the CMR proposal filed with FERC on January 5th, 2022

- The NYISO has entered Phase 2 of this project and will begin stakeholder discussions to 1) develop the implementation details and technical specifications for establishing Capacity Accreditation Factors (CAFs) and Capacity Accreditation Resource Classes and 2) propose necessary ICAP Manual revisions

- The 2022 Improving Capacity Accreditation project deliverable is a Q3 Market Design Complete

New York ISO

CMR Deficiency Letter

- The NYISO received a FERC deficiency letter regarding the CMR filing on February 9th. The deficiency letter requests additional explanation of terminology, processes, and rationale related to the marginal capacity accreditation proposal

- The NYISO will file a response to the deficiency letter by March 11th

New York ISO

Project Tasks

New York ISO

Project Tasks

- **Determine the process for establishing Capacity Accreditation Resource Classes**

  - A Capacity Accreditation Resource Class is a " defined set of Resources and/or Aggregations, as identified in accordance with ISO Procedures, with similar technologies and/or operating characteristics which are expected to have similar marginal reliability contributions toward meeting NYSRC resource adequacy requirements for the upcoming Capability Year."

  - All ICAP Suppliers will be assigned a Capacity Accreditation Resource Class

  - The NYISO will evaluate resources with different technologies and operating characteristics to determine the process for establishing Capacity Accreditation Resource Classes and will determine the procedural steps for assigning ICAP Suppliers to Capacity Accreditation Resource Classes

New York ISO

Project Tasks

- **Determine modeling characteristics of incremental units for each class**
  - Characteristics include:
    - Size
    - Location in multizonal CAF regions
    - Generation/availability profiles
    - Operating characteristics

New York ISO

Project Tasks

- **Review and recommend the technique for calculating CAFs and establish implementation procedures**

  - Utilizing GE MARS, the NYISO will evaluate ELCC and Marginal Reliability Improvement (MRI) techniques for calculating CAFs of Capacity Accreditation Resource Classes

    - Utilizing GE MARS will ensure consistency between the LOLPs used to determine the NYSRC resource adequacy requirements and CAFs

    - Additionally, the short time window between the finalization of the LCR database and the start of a new Capability Year may make it infeasible to transfer the LCR database from GE MARS to another software to calculate CAFs

New York ISO

Project Tasks

- **Review and recommend a methodology to annually assess the Peak Load Window**

  - As part of the annual CAF review, the Peak Load Window, and associated bidding requirements, will be assessed and modified if necessary

  - This project will determine the methodology for this annual assessment of the Peak Load Window

New York ISO

Project Tasks

- **Conduct sensitivity analyses to calculate CAFs under possible future system conditions**
  - The ELCC and/or MRI technique will be used in calculating CAFs in the sensitivity analyses

New York ISO

Project Tasks

- **Assessment of possible conforming changes**
  - Conforming changes will be needed to accommodate the use of CAFs. These changes include updates to resource specific derating factor calculations as well as the translation of ICAP requirements to UCAP requirements
  - Additional conforming changes will be evaluated related to deliverability studies, B/S/N, interaction with Demand Curve Reset study etc.

New York ISO

Project Tasks

- **Finalize documentation of all implementation details**
  - The NYISO will update the ICAP Manual to reflect the:
    - Selected technique for calculating CAFs
    - CAF implementation procedures
    - Process for establishing Capacity Accreditation Resource Classes
    - Procedural steps for assigning ICAP Suppliers to Capacity Accreditation Resource Classes
    - Annual assessment of the Peak Load Window
    - Necessary conforming changes
  - The NYISO will also evaluate all ISO procedures for clarifying and conforming changes

New York ISO

Modeling Considerations

New York ISO

Modeling Considerations

- **Considerations**
  - Resource classes
    - How to treat resources with different attributes not captured in the MARS model?
      - Examples: Common fuel limitations, startup lead times, etc.
  - Incremental resource characteristics
    - Where to model resources in multizonal CAF regions?
    - Storage availability as a fixed shape or dynamic?
  - MARS LOLE Precision
    - Questions regarding the LOLE tolerance needed to accurately estimate CAFs
- **The NYISO and GE Energy Consulting will run cases early in the project to help resolve some of these modeling challenges**

DRAFT – FOR DISCUSSION PURPOSES ONLY

New York ISO

Schedule

DRAFT – FOR DISCUSSION PURPOSES ONLY

New York ISO

Project Schedule

- **March**
  - Discuss Capacity Accreditation Resource Class techniques and modeling characteristics of incremental units
  - Review existing resource specific derating factor calculations

- **April**
  - Continued discussion of Capacity Accreditation Resource Class techniques and modeling characteristics of incremental units
  - Discuss initial subset of capacity accreditation results
  - Discuss adjusted resource specific derating factor calculations

- **May**
  - Continued discussion of initial capacity accreditation results
  - Review robustness of the MRI technique for calculating CAFs

New York ISO

Project Schedule

- **June**
  - Discuss results of the MRI technique for calculating CAFs
  - Continued discussion of adjusted resource specific derating factor calculations
  - Discuss other possible conforming changes
- **July**
  - Run sensitivities to estimate future CAFs
  - Conduct consumer impact analysis
  - Continued discussion of conforming changes
- **August**
  - Discuss results of sensitivities to estimate future CAFs
  - Review documentation of all implementation details
- **September**
  - Stakeholder approval of all implementation details and documentation

New York ISO

Next Steps

New York ISO

Next Steps

- The NYISO will return to the March 15th ICAPWG to follow up on study techniques and discuss modeling characteristics of the incremental units

New York ISO

Questions?

DRAFT – FOR DISCUSSION PURPOSES ONLY

New York ISO

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

New York ISO