

# Evolving Resource Adequacy Models: Kick Off

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# Agenda

- **Background**
- **Scope**
- **Schedule**
- **Next steps**

# Today's Objective

- Today's objective is to discuss the scope, deliverables and high-level timeline for the Evolving Resource Adequacy Models project
- Discussions on specific topic areas related to this project will be reserved for future ICAPWG meetings

# Background

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- **Continuing the work started with the Improving Capacity Accreditation and Modeling Improvements for Capacity Accreditation projects, this project will research the need for other potential changes to the assumptions, inputs, and modeling used in the NYISO's current resource adequacy analysis software**
- **By identifying areas of potential enhancement and proposing any necessary recommendations, this project will help ensure the New York State installed reserve margins and Capacity Accreditation Factors (CAFs) accurately reflect the system reliability risks of the evolving grid**
- **Project Deliverable: Q4 Study Complete**
  - The completed study will be presented to the ICAPWG and NYSRC's Installed Capacity Subcommittee (ICS) for consideration of any recommendations

# Scope

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- **The NYISO will research three areas for potential enhancements as part of this project:**
  - Correlated outages
  - Min/max operating temperatures
  - Unit size

# Correlated Outages

- Individual unit outages are currently modeled as uncorrelated in the NYISO's resource adequacy model. However, there may be times when multiple outages can occur simultaneously, due to weather and/or common mode failures, which may not be captured by the current modeling of individual unit outages
- This track of the project will investigate the potential for correlated outages due to weather and/or common mode failures that were not addressed by the 2023 Modeling Improvements for Capacity Accreditation project
  - The NYISO will analyze historic outage data to identify any correlating factors and recommend modeling and/or accreditation changes, if necessary



# Min/Max Operating Temperature

- **In compliance with requirement R7.3 of NERC standard EOP-011-2 (effective April 1<sup>st</sup>, 2023), Generation Owners are required to submit cold weather data including the generating unit(s) minimum:**
  - Design temperature; or
  - Historical operating temperature; or
  - Temperature determined by an engineering analysis
- **Several units are reporting historical minimum operating temperatures that are not as low as the minimum temperatures reflected in the NYISO's resource adequacy model**

# Min/Max Operating Temperature

- **Additionally, the NYISO collects data on maximum design temperatures through the Generator Fuel and Emissions Reporting survey**
  - Some units are reporting maximum design temperatures that are not as high as the maximum temperatures reflected in the NYISO's resource adequacy model
- **Therefore, there may be insufficient data to support that these units can operate under certain conditions reflected in the NYISO's resource adequacy model**
- **The NYISO will explore solutions to this issue within the framework of our current resource adequacy modeling and capacity accreditation structure**

# Unit Size

- **Unit size may impact a resource's marginal reliability contribution due to the outages of large resources having a greater impact on system reliability compared to the outages of multiple small resources**
- **The NYISO plans to test the impact of unit size on marginal reliability contributions to determine if unit size should be considered in the determination of Capacity Accreditation Resource Classes (CARCs) and CAFs**

# Schedule

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- **Q1-Q2**
  - Evaluate identified areas of potential enhancement and discuss with stakeholders
  - Begin conducting modeling tests and data analysis
- **Q2-Q3**
  - Continue modeling tests and data analysis
  - Discuss results of modeling tests and data analysis with stakeholders
  - Develop preliminary recommendations
- **Q3-Q4**
  - Assess stakeholder feedback and finalize any recommendations

# Next Steps

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- **The NYISO is beginning data analysis for each area of potential enhancement and plans to further discuss the potential issues with stakeholders in late February/early March**

# 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



# Questions?