New York ISO
Independent System Operator

SCR Sensitivity Case

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ICS Meeting

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Purpose and Agenda

- **This presentation will walk through the NYISO's methodology for the SCR sensitivity case and to seek approval from the ICS to proceed under the 2021-22 Capability Year IRM**
- **The following slides will cover**
  - The current modeling of the SCRs in the IRM study and the limitations of that modeling
  - The NYISO's proposal
  - Next steps

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Current Modelling of SCRs

- Currently, SCRs are modeled as part of the Emergency Operating Procedure ("EOP") steps that can be called up to **15 times** throughout the year
- Once called, the model assumes the SCRs are available if needed (full **24-hour** effective)
- The capability ratings of the SCRs can be changed on a monthly basis; in the current model, the monthly SCR capability ratings are different based on the actual enrollment
- In aggregate, the UCAP of SCRs is ~ **70%** of ICAP
  - The calculation approach is determined by NYSRC, based on Performance Factor and ACL-CBL Translation Factor*
- A sensitivity case without SCRs is conducted on the IRM Preliminary Base Case

*This is a factor that accounts for differences between the Average Coincident Load baseline to Customer Base Load baseline

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Available Functions for Improvement

- **With SCRs being modelled with full 24-hour effective performance, the current modeling does not fully account for the duration limitation of SCRs**
  - The SCR program requires a minimum of four-hour availability; longer performance (~6 hours) was observed in the past
- **At this time, additional functionalities are available in MARS under the EOP steps that can potentially improve the SCR modeling:**
  - A limit can be placed on total daily energy output and the number of hours the SCRs may be called on a daily basis
  - Once the limitations are in place, SCRs will be available to meet the required system need during the first hour(s)
  - But specific time period for resources to be called upon cannot be specified

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Proposal for 2021 IRM

- **To better capture the impact of SCR duration limitations on the IRM, the NYISO plans to test the new modeling functionalities in the EOP steps through a sensitivity case for 2021 IRM**
- **This new SCR sensitivity case will be constructed as follows:**
  - The SCR ICAP is derated using the same factors as in the PBC (~70% of ICAP)
  - The SCR can be called up to 15 times per year, unchanged from the PBC
  - A new 6-hour daily duration limit will be implemented
  - The case will also include a new daily energy limit, which will be lower than the sum of full output for the entire 6-hour window, reflecting the potential performance reduction beyond the initial 4 hours
- **When the system shortage occurs, SCR resource will be dispatched to meet the shortage, up to its full capacity; the total output from the SCR during the 6-hour window will also be capped at the daily energy limit**

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Next Steps

- The NYISO plans to conduct the proposed SCR sensitivity case as part of the 2021-2022 Capability Year IRM sensitivity analysis and have the result available for ICS review at the September 28th meeting
- If the result of this sensitivity case is satisfactory, the NYISO plans to discuss adopting this model enhancement when developing the assumptions for the 2022-2023 Capability Year IRM study
- The NYISO also plans to recommend modeling adjustments for future IRM studies, based on the monitoring of the study performance and the available improvements in the MARS tools

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Questions?

Roles of the NYISO

- **Reliable operation of the bulk electricity grid**
  - Managing the flow of power on 11,000 circuit-miles of transmission lines from hundreds of generating units
- **Administration of open and competitive wholesale electricity markets**
  - Bringing together buyers and sellers of energy and related products and services
- **Planning for New York's energy future**
  - Assessing needs over a 10-year horizon and evaluating projects proposed to meet those needs
- **Advancing the technological infrastructure of the electric system**
  - Developing and deploying information technology and tools to make the grid smarter

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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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