

WHITE PAPER SCOPE

PROPOSED NYSRC RELIABILITY RULE: EXTREME WEATHER EVENT AND OTHER EXTREME SYSTEM CONDITION REQUIREMENTS

11/17/21--2nd draft

1. Purpose of White Paper

- One step of the extreme weather event development 2022 goal is for the NYSRC RRS to prepare a white paper proposing new NYSRC Reliability Rule(s) requiring assessment and mitigation of extreme weather events and other extreme system conditions.
- The white paper will show the *need* for the above NYSRC Reliability Rule, which will require the NYISO to conduct both extreme weather resource and transmission assessments.
- The white paper will provide proposed language for Requirements associated with the above extreme weather reliability assessment Rule that will be the subject of a new PRR.
- The white paper will also review rule needs covering other extreme system conditions, including recommendations to modify, as needed, existing rules that cover certain extreme system conditions.
- The NYISO staff will be consulted during preparation of the white paper.

2. Need for a New NYSRC Reliability Rule(s) for Addressing Extreme Weather Events

- Extreme weather events will be bringing new and unexpected challenges to NYCA power system planning and operation. Many types of extreme weather events are occurring more frequently.
- The white paper will provide more details of recent extreme weather examples and their economic impacts. Extreme weather events include extreme heat, high winds, wind lulls, floods, drought, wildfire, and ice.
- Systems with large amounts of renewable resources are more sensitive and vulnerable to extreme weather.
- Recent major loss of load disturbances in California and Texas caused by extreme weather have demonstrated that in the future weather will be the most important driver of resource adequacy, and highlights the need to plan for such events.
- The impacts of extreme weather on electric power systems has been recently expressed by NERC and FERC as a top issue.
- The NYSRC and NYISO need to anticipate and prepare for potential high impact events resulting from extreme weather.

- The winter capability period, with higher future peak and energy forecast loads, will become more vulnerable to extreme weather impacts, particularly with a NYCA system having high levels of renewable resource capacity.
- The white paper will provide more details on the above to support the need for rules requiring extreme weather assessments.

3. Possible Elements of Extreme Weather Rule Requirements to be Considered in the White Paper

- Assessment frequency and study year(s).
- NYSRC rules will recognize that the NYISO will need to develop new probabilistic models for extreme weather analyses, which will include both Resource and Transmission assessments.
- All three metrics should be calculated.
- The NYISO will need to collect historic NYS weather data.
- The NYISO shall identify the types of extreme weather events to be considered and modeled, including an estimate of the likelihood of occurrence.
- A Requirement for the NYISO to develop an *Extreme Weather Resilience Plan* for withstanding and recovering rapidly from disruptions. The plan will include measures or solutions for mitigating reliability impacts. These mitigating measures will cover both planning and operating measures.
- The white paper will consider whether there should be a criterion (such as the 1-in-10-year criterion) or other criterion for determining *Extreme Weather Resilience Plan* requirements or compensatory MW.
- The manner for which the *Extreme Weather Resilience Plan* will be implemented.
- Will increased interconnection capacity be considered as an option?
- Should NYSRC's system restoration rules be modified to address extreme weather events?
- Should NYSRC's Market Participant rules include new extreme weather mitigation requirements?

4. Other Extreme System Conditions

- Current NYSRC Reliability Rules require the NYISO to perform a transmission assessment assuming a 90th percentile load forecast, and an analysis of loss of gas supply. The white paper will recommend any modifications to these required assessments.
- The white paper will list other types of extreme system conditions and recommend how the NYSRC should deal with them.

5. Anticipated White Paper Completion Date

- July 2022.