## Resilience

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Dr. Mayer Sasson



### Background

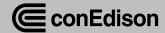
- April 2017
  - Rick Perry issues memorandum
- August 2017
  - DOE: Electric Markets and Reliability Report
- September 2017
  - DOE: RM17-3 Grid Resiliency Pricing Rule
  - FERC: initiated consideration of Rule in RM18-1
- January 2018
  - FERC closed RM18-1, opened AD18-7
- AD18-7 Grid Resilience in RTOs and ISOs
  - Includes a definition of resilience
  - RTO/ISO comments: March 2018
  - Reply comments: May 2018



## Resiliency Definition

FERC-proposed definition of Resiliency:

"The ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such an event."



#### **NYISO Comments**

- FERC already recognized regional differences
- Its markets already address various elements of resilience
- New York does not face imminent resilience concerns
- On-going grid transformation is being addressed through:
  - Enhancements to planning process
  - Changes in the amount and location of operating reserves
  - Evaluating Ancillary Services shortage pricing levels
  - Evaluating the need to implement a flexible ramping product
  - Distributed energy resource integration
  - Energy storage resource integration and optimization



#### **NERC Comments**

- Resilience is an inherent component of reliability
- Adequate level of reliability (ALR) defined as state that design, planning, and operation of the Bulk Electric System ("BES") will achieve when
  - The BES does not experience instability, uncontrolled separation, voltage collapse
  - Frequency and voltages are maintained under normal and contingency conditions
  - Adverse reliability impacts following low probability disturbances are managed
  - Restoration of the BES after a blackout performed in a controlled manner
- NERC's Reliability Standards, Reliability Assessments, Event Analysis, Situational Awareness, and other activities address resilience
  - Resilience depends on the operating characteristics of the evolving resource mix and the capability of such resources to provide ERS
  - Fuel assurance and diversity are critical elements of a reliable and resilient system
  - Dual-fuel capability
  - Market rules that would provide assurances that generators will perform in normal and extreme circumstances.



#### NYPSC Comments

- Technical conference to share best practices on resilience
- Standards, operating and system planning requirements, and security and infrastructure protection requirements established by FERC, NERC, NPCC and NYSRC promote NYCA system resilience
- FERC should find that NYISO is addressing resilience
- NYPSC oversees a variety of distribution-level initiatives that supplement the NYISO's work on bulk system resilience
- RTOs/ISOs are well-suited to understand the needs of their respective regions and develop mechanisms tailored to those unique geographic needs
- FERC's continued attention will be adequate to ensure that the NYCA system is resilient and reliable
- NYISO to remain the lead entity that assesses and develops market enhancements that address NYCA system resilience and reliability



#### **EEI Comments**

- Concept of resilience is broad and impacts issues within and beyond FERC jurisdiction
  - FERC to consider input from and work with other federal agencies and retail regulators as it develops recommendations or proposals
  - There are natural risks to resilience, such as wildfires, earthquakes, hurricanes, droughts, heat waves
  - Entities should not be subject to conflicting, duplicative, or overly burdensome requirements from their regulators
- Electric transmission will continue to play an important role in maintaining system reliability and resilience
- Reliability Standards already address resilience from many manmade and natural threats to ensure the reliable operation of the BPS
- Issues and solutions are regional
- Limits will need to be in place to ensure that sensitive, grid-security information (e.g., grid vulnerabilities) is not widely disseminated
  - FERC, RTOs/ISOs, state commissions, and applicable grid-infrastructure owners need this information to develop and implement solutions



# Is there a Role for the NYSRC in the National and Regional Resilience Debate?

 EC to consider if new resilience-based reliability rules are required for the NYCA

