

Fuel Security Senior Task Force Update

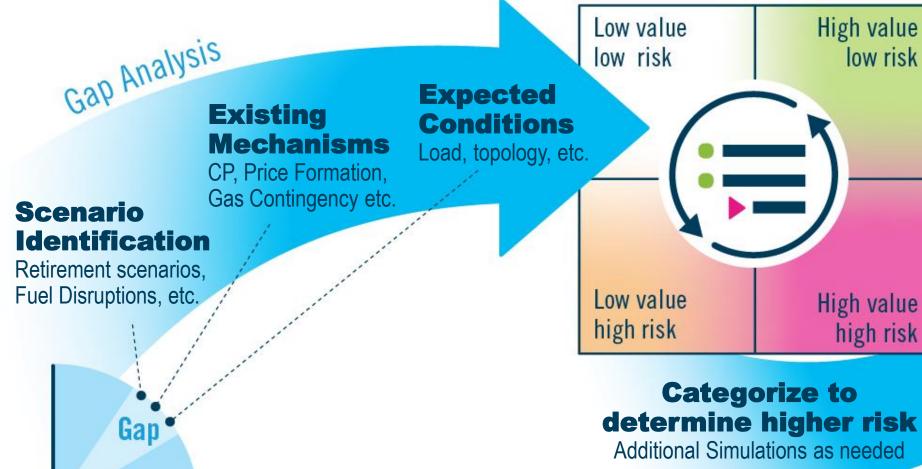
Tim Horger Director Energy Market Operations August 12, 2019

www.pjm.com PJM©2019



How to Use Gap and Risk Analysis: Conceptual

low risk



Solution **Mechanism**



- Markets/Planning/Operations?
- Resource/System level?
- Locational?
- Supply/Demand side?
- Existing/Modified/New?
- Assessments?

Categorize to determine higher risk

Additional Simulations as needed

Risk drives solution type



Summary and Status

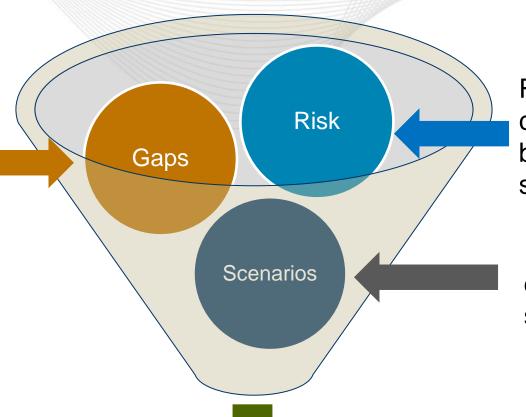
Gaps in Existing Mechanisms



 Modeling of uncertainties



 Compensation (August-September)



Relevant period & credible risks informed by historical data and stakeholder feedback



Relevant risks determine focused scenarios



(August-November)



What scenarios result in loss of load and what is threshold?

Inform stakeholder recommendation

(Are changes necessary?)



 MRC Recommendation (December)





Expected Overall Duration of Work (From Charter)

The activities of the group will begin in April 2019. By the end of the 3rd quarter 2019 the group will complete key work activities #1 - #4, and expected deliverable #1, and will report to the MRC their recommendations. The remainder of the key work activities and deliverables will be completed by the deadline to be set by the MRC at the September 2019 meeting.

Expected Deliverable #1

- A recommendation to the MRC on whether market, operational, or planning changes are needed to ensure current or future fuel/energy/resource security.
- PJM proposes to delay until December MRC to provide stakeholders with more informed data



Status: Key Work Activities

KWA	Description	Status
1	 Provide education, at a minimum, on the following: a. Fuel security study recently completed by PJM. b. Work other ISO/RTOs are doing relative to fuel/energy/resource security. c. PJM mechanisms and products from both the supply side and demand side that contribute to fuel/energy/resource security. d. NERC Assessments that may support this initiative. e. The primary risks to fuel/energy/resource security in PJM and the impact and likelihood of such risks. 	 Reviewed Phase 1 ISO-NE and MISO provided status Mechanisms identified NERC provided status Risks identified Relevant period identified
2	Quantify the risk of occurrence of selected scenarios that might present a risk of fuel/energy/resource insecurity.	Risks identifiedScenarios in progress

www.pjm.com 5 PJM©2019



Status: Key Work Activities (cont.)

KWA	Description	Status
3	Determine what it means from a PJM system and/or resource level to be fuel/energy/resource secure. This determination should include all aspects of fuel supply characteristics, resource type characteristics, location of the fuel supply, roles of demand response and demand side management, location and characteristics of non-fuel generation (e.g., renewable and energy storage resources), and other alternative options that can ensure fuel/energy/resource security in the coming years.	 Reviewed impact of existing mechanisms Identified Gaps Scenarios in progress
4	Determine whether there is a quantifiable and/or locational requirement for fuel/energy/resource security in PJM.	 Risk assessment incorporated locational aspect Scenarios results will determine additional locational and threshold values