



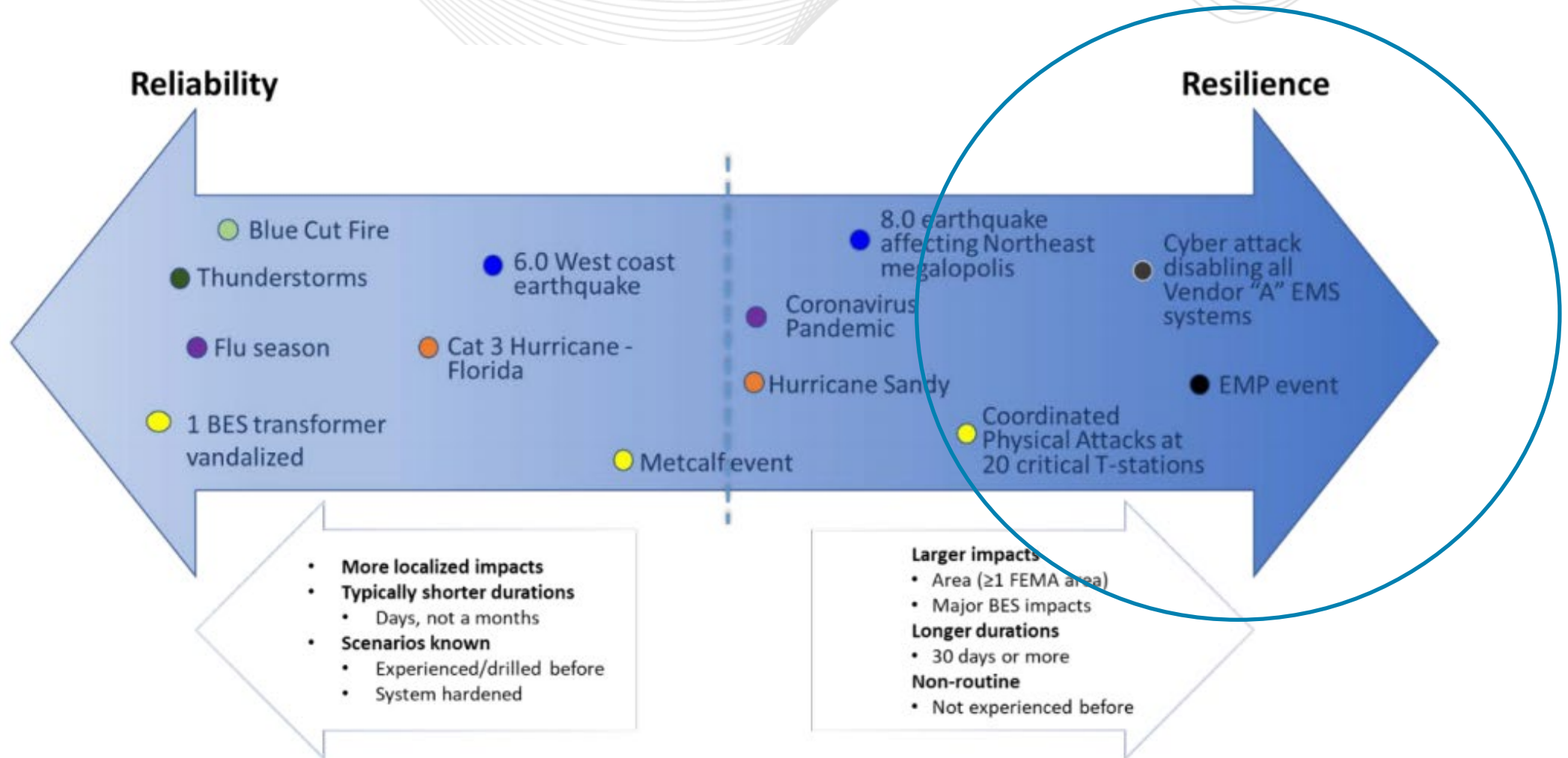
PJM Resilience Update

Chris Piong
Director, Operations Planning
Operating Committee
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- Gauging Resilience Maturity
 - NATF model
- 2021 Resilience Activities

- “How resilient is PJM?”
 - This is a difficult question to answer, given there are many different ways to answer the question:
 - How resilient is PJM to a pandemic? Severe weather? Physical threats?
 - What aspect of PJM?
 - Operations, Markets, Planning, ITS?
- The entire industry has been wrestling what how to answer these questions

- October 2020, NATF released version 1.0 of the Transmission Resilience Maturity Model (TRMM):
 - Developed by a team of over 20 experts from NATF, DOE, PNNL, EPRI and the electric industry
 - Builds upon, and ties together, existing industry best practices
 - Utilizes a systematic approach of topical areas (Domains) and questions designed at various levels of maturity to assess an organization's current maturity



TRMM Model

Domain

Model contains 9 domains (aka high level topical areas)

Approach Objectives

One or more per domain,
Unique to each domain

Practices at MIL1

Practices at MIL2

Practices at MIL3

Approach objectives are supported by a progression of practices and Maturity Index Levels (MILs) that are unique to the domain

Key takeaways:

- Methodical approach
- Over 300 practices

- Benefits to using the TRMM and accompanying assessment:
 - The industry is moving in this direction
 - Standardized approach
 - Complementary to existing PJM Business Continuity programs
- PJM is intending to undertake the TRMM assessment

2021 Resilience Activities

- Winter follow-up items
- Pandemic Lessons Learned
- Industry engagement
 - NERC: Grid Security Emergency (GSE) communications
 - NERC GridEx VI
 - DOD, DOE, EIS activities

Key takeaway:

- Tactical resilience activities and industry engagement continue