Resilience in System Planning

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• NERC Planning Standards
  – Currently plan to critical “stressed” conditions so that Operations may manage the system given the actual conditions on any given day.

  – NERC TPL Extreme Events (i.e. Maximum Credible Disturbances)
    • Historically considered extremely low probability event
    • Only require a system assessment and exploration of potential solutions
    • Introduction of “worst offenders”
Resilience - Planning

• Resilience Criteria – Range of Possibilities
  – Do “no harm” (i.e. don’t make an existing problem worse)
  – Opportunistic – incorporate resilience as a factor in RTEP proposal selections
  – Standalone - address resilience as a stand-alone driver

• Resilience Criteria would require new analytical procedures and tools
  – Assess Vulnerabilities
  – Develop Resilience Indices
Resilience - Planning

• Fuel Security in Ops / Markets – Resource Adequacy in Planning
  – IRM implications for resource type issues (e.g. elimination of all of a certain type or resource – RTO wide)
  – Fuel disruption scenarios more plausible with introduction of more gas resources
    • Impact of gas system failures on bulk electric system
    • Localized risks
    • Risk management
• Resilience Challenges

  – Transparency & Stakeholder Communication

  – Siting given States historic preferences

  – Cost and cost allocation