

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Navigating the Evolving Power Grid

Industrial Energy Consumers of America Annual Meeting

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RELIABILITY | RESILIENCE | SECURITY

Hyper Complex Risk Environment Results in Increased BPS Reliability Risk



Resource Adequacy Challenges

- Retirements of traditional generation
- IBR growth/integration
- Natural gas interdependencies
- DER performance and visibility
- Load growth



Extreme Weather Complexities

- Extreme not infrequent
- Broader deeper longer



Toxic Soup Threat Landscape

- S/W vulnerabilities
- Supply chain
- Ransomware
- Physical attacks



Energy & Environmental Policy

- Electrification
- Emissions
- Siting and Permitting



Increasing concentration of risk

- Common mode failure
- Declining fuel diversity
- SAAS/Cloud applications
- GETS deployment

Appropriate level of investment for hardening & resilience

- Extreme weather
- Coordinated Physical attack
- Interregional transfer capacity augmentation

Loss of key “Essential Reliability Services”

- Inertia/frequency response
- Reactive Power/voltage support
- Dispatchability

Expanding cyber attack surface

- Industry Control Systems (ICSs)
- IBRs/DERs/EV Charging/Large Loads

Rapidly evolving security needs

- Supply chain protections
- “One to many” attacks
- Low impact protections

Key External Focus Areas



Oversight Modernization

- Standards Initiation, Drafting, and Affirmation processes
- Registration expansion
- CMEP efficiencies



Gas-Electric Coordination

- Planning
- Operational Planning
- Operations



Large Load Enablement

- Event Analysis
- Modeling
- Operational integration
- Registration/Standards



“Heavy Lift” Standards

- INSM
- Supply Chain Risk Management
- IBRs
- Energy Adequacy
- Roadmap



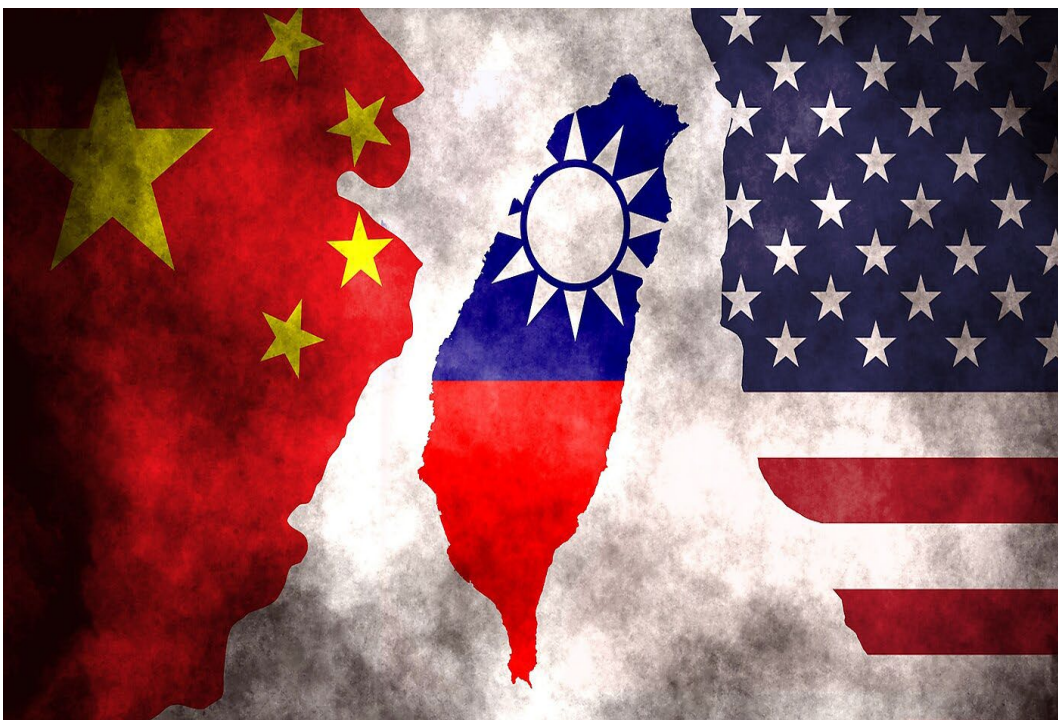
Reliability Assessments

- Regional consistency
- Wide area energy
- Design basis/accreditation
- Reliability Services
- Large/small signal stability



Strategic Engagement

- New players
- Policy Community (State, Provincial, Federal)



Cyber and Physical Security Preparedness

- Developing Industry Playbook for Global Conflict
 - Industry Actions and ESCC Leadership
 - Government Collaboration
 - E-ISAC Support
- Exercises – Taking Action on Lessons Learned
 - GridEx VII (2023) - Resilient communications
 - Grid Ex VIII (Nov 2025) – Challenge our response during global conflict and identify opportunities to improve
- Advancing Member Support and Engagement
 - Driven by member feedback mechanisms
 - Improving overall stakeholder experience
 - Revamping the portal for ease of use



Questions and Answers