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TEXAS RE

GridEx VII Report

**Jesse Sythe – E-ISAC
GridEx Program Manager**

April 2, 2024

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Notice of this meeting was posted on the Texas RE website and this meeting is being held in public. Participants should keep in mind that the listening audience may include members of the press, representatives from various governmental authorities, and industry stakeholders.



Upcoming Texas RE Events



April 10, 2024

Coordinated Oversight



April 15, 2024

Natural Gas & Power Industry
Reliability Alliance



April 24, 2024

Spring Standards, Security, &
Reliability Workshop



Upcoming ERO Enterprise Events



April 3, 2024

Reliability in the West:
Inverter-Based Resources



April 15, 2024

Technical Talk with RF



April 22-26, 2024

Electromagnetic Transient
(EMT) Training Course



#TXRE

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TLP:CLEAR – Disclosure is not limited

GridEx VII Lessons Learned Report

Jesse Sythe, GridEx Program Manager

TLP:CLEAR

RELIABILITY | RESILIENCE | SECURITY



Date: November 14-15, 2023

Audience: E-ISAC Members and Partners

- Real-time, decentralized, operational exercise in response to a coordinated cyber and physical attack by a nation-state adversary
- 252 Organizations participated across U.S, Canada, and Mexico
 - All 17 Reliability Coordinators
 - All 6 Regional Entities
- 15,000 individual participants



GridEx VII





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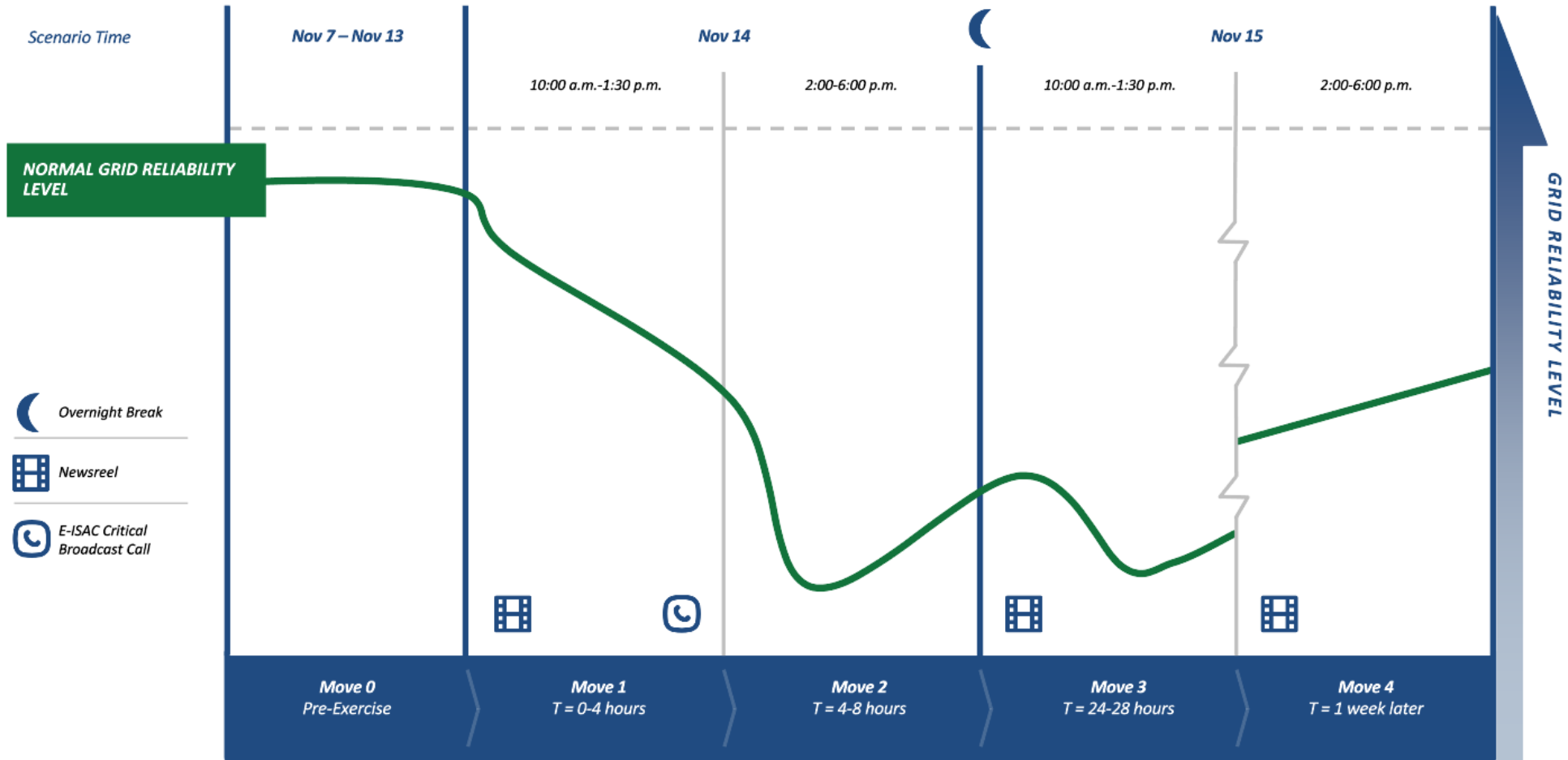


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Public

GridEx VII Scenario





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1. Non-federal government partners and electric utilities should advance coordination efforts

- Electric utilities should engage regional government partners in grid security response planning and exercises (and vice versa)
- RCs and large utility operators should brief state/provincial leadership and emergency management directors on emergency response plans
- E-ISAC should continue supporting this engagement, and will explore participation tracking improvements



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2. Communications and response in a hybrid work environment should be further refined

- Identify and establish interoperable communication methods that can be used internally and externally during an incident
- Identify and articulate clear plan for primary and secondary in-person response locations
- E-ISAC should continue providing scenarios that exercise these existing environments



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3. Response planning should be augmented to ensure comprehension of technical information across functional teams and external response partners

- Share emergency operations plans between relevant organizations
- AOOs should consider developing training for non-technical personnel to provide base understanding of critical information
- Develop or review existing standards for communicating critical response information across work functions



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4. E-ISAC should continue to evolve its support for planners from organizations of varying sizes and with different levels of experience

- Explore approaches to packaging materials to increase usability for organizations with fewer resources
- Continue improving on other exercise aspects (webinars, exercise structure, participation tracking)



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5. Cyber and technical components of the GridEx scenario should continue to be developed and expanded for future iterations of GridEx

- Continue development of complex cyber injects
- Provide more detailed guidance on cyber injects and inject supporting materials

Date: November 16, 2023

Audience: Government and industry executives

- Hybrid tabletop exercise held at NERC's DC Office
- 200+ industry executives and senior government officials across 80 organizations
- Complex scenario featured:
 - Inter-control center telemetry outages
 - Long-term energy market disruption
 - ONG/LNG facilities without offsite power due to substation attacks



GridEx VII





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1. **Industry should evaluate technologies and processes that could be used to increase the resilience of ICCC telemetry exchange between control centers.**
 - a) Industry should evaluate the impact of a complete loss of ICCC functionality
 - b) Industry should review alternate technologies to exchange data
 - c) Industry should evaluate options to maintain basic grid operation using minimal data and manual methods



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- 2. Industry should evaluate opportunities to employ alternate technologies for operator voice (i.e., interpersonal) communications essential to operate the grid.**
 - a) Industry should evaluate what aspects of operator-to-operator voice communications may be improved to increase resilience beyond the redundant backups currently in place
 - b) Industry should leverage past efforts related to resilient communications and continue to collaborate with the communications sector
 - c) NERC to implement enhancements to the RC Hotline
 - d) The E-ISAC to consider development of a satellite phone directory for ESCC members



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3. **Industry and government should continue discussing how to consider government priorities during a complex and prolonged power outage scenario that may conflict with the electric industry's established restoration procedures.**
 - a) Industry and government should continue to discuss the need to develop an improved restoration framework
 - b) Industry and government should continue to discuss how to leverage past supply chain efforts and improve processes to address equipment and supply chain shortfalls during a large-scale crisis



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4. **Industry should evaluate options to manage the grid reliability impacts of market system or data unavailability over an extended period.**
 - a) Market operators and participants should review their market rules to ensure a common understanding of the conditions that would render market operators unable to use market prices and systems
 - b) Industry should coordinate to develop best practices to manage long-term electricity market system or data unavailability with a focus on maintaining reliable grid operations
 - c) FERC should consider how its authority over regulatory waivers and emergency tariffs may help support the industry's development and operation of alternate market mechanisms needed over a prolonged period of market suspension



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- **August 2024** – Kickoff and formation of Design and Development Teams
- **October 2024** – Initial Planning Meeting
- **February 2025** – Midterm Planning Meeting
- **May 2025** – Final Planning Meeting
- **November 18-19, 2025** – GridEx VIII Distributed Play





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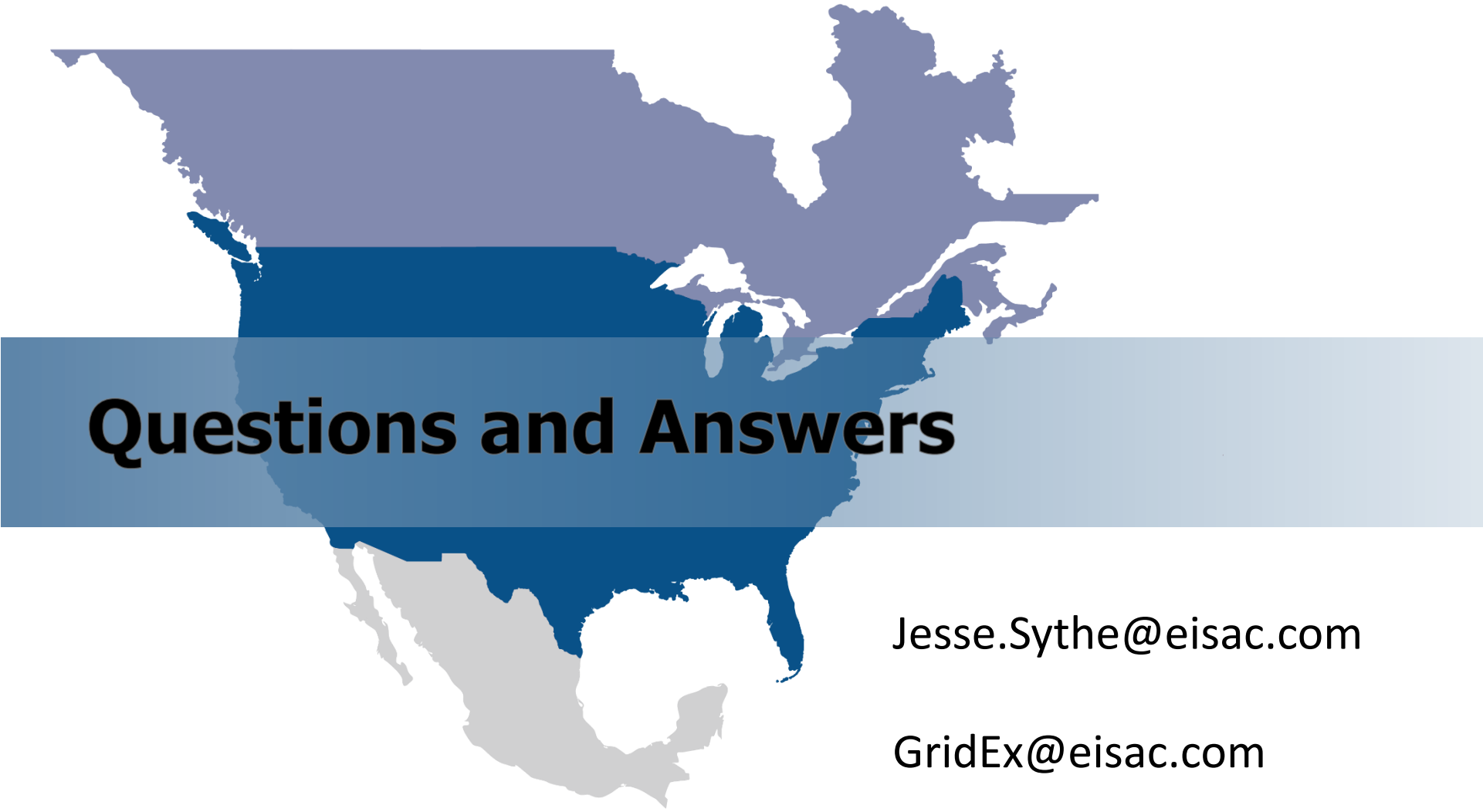


- Engagement with state/local/provincial governments
- Broaden electricity industry participation
- Accessibility and packaging for small/medium utilities
- Cyber inject refinement
- Availability of support





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Questions and Answers

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