

TECHNICAL PROGRAM

Objective. Resilience Week convenes government, academia, national laboratories, and industry stakeholders to transform the resilience of critical infrastructure systems and communities across sectors.

Background. Resilience Week was founded in 2008 and has focused on research and innovation for cyber-physical infrastructure protection. Resilience Week is a two-and-a-half-day annual learning and networking event to engage with strategies, tools, and cutting-edge research for implementing state-of-the-art resilience solutions.

Resilience Week 2023. Resilience Week 2023 is being held in partnership with the Defense TechConnect Summit & Expo and the Smart Cities Connect Conference and Expo. Resilience Week 2023 includes keynote panels on Tuesday and Wednesday morning and 18 technical sessions over two tracks and six focus areas.

- *When.* November 27–30, 2023
- *Where.* Gaylord National Resort & Convention Center in National Harbor, MD

[Website Resilience Week](#) | [Twitter @ResilienceWeek](#) | [LinkedIn Resilience Week](#)

Resilience Week 2023 is organized across six focus areas:

| TUESDAY 28 NOVEMBER 2023 | WEDNESDAY 29 NOVEMBER 2023 | THURSDAY 30 NOVEMBER 2023 |
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| FOCUS AREA 1 <u>The Critical Infrastructure Threat Landscape</u> | FOCUS AREA 2 <u>Understanding Critical Infrastructure Systems and Interdependencies</u> | FOCUS AREA 3 <u>Building Critical Infrastructure Resilience Through Distributed Energy Resources</u> |
| FOCUS AREA 4 <u>Energy Equity and Community Resilience</u> | FOCUS AREA 5 <u>Cyber Resilience for Operational Technology</u> | FOCUS AREA 6 <u>Commercializing R&D for Resilience</u> |

Figure 1. Resilience Week 2023 Focus Areas

FOCUS AREA 1. The Critical Infrastructure Threat Landscape

SESSION 1. Understanding the Evolving Climate, Cyber, and Physical Threat and Vulnerability Landscape for Infrastructure Systems

28 NOVEMBER 2023, 10:30 AM –12:00 PM ET – Room TBA

Our critical infrastructure systems are becoming more complex and, in many cases, more essential for meeting our basic needs. With this comes the potential for growing vulnerabilities due to both the evolving nature of threats and our increased dependence on these systems. In this session, we highlight some of these evolving threats related to climate change (and climate-induced extreme weather), cyber threats, and the roles that humans can play in compounding or mitigating such threats.

SESSION 2. Training and Exercises to Strengthen Infrastructure Resilience

28 NOVEMBER 2023, 1:30 PM –2:30 PM ET – Room TBA

Preparation through training and exercises are the lifeblood of infrastructure resilience. By regularly training and performing exercises, we can identify and mitigate risks, improve coordination and communication, and test our response plans. This gives us the best chance of weathering any threat, natural or man-made. This session will explore: training using virtual and augmented realities, at scale training and exercises, resources available to help, and bridging response efforts between local and regional response units.

SESSION 3. Policy-Driven Resilience Enhancements of Critical Electric Infrastructure

28 NOVEMBER 2023, 3:00 PM –4:00 PM ET – Room TBA

This session is focused on federal, state, and local policymakers' role in guiding resilience enhancements of critical electric infrastructure. Policymakers play an essential role in understanding the threat landscape and encouraging utilities and government facilities to develop strategies and goals, weigh investment options, and prioritize resilience cost-effectively and equitably. Many decision-makers do not understand where to start, what process to follow, or how to build a business case for action. This session will discuss the latest research on resilience enhancements of critical electric infrastructure and best practices for implementing and valuing these enhancements. The session will also allow participants to learn about the tools and resources available to help them assess and address the risks to critical electric infrastructure from climate change and other hazards.

FOCUS AREA 2. Understanding Critical Infrastructure Systems and Interdependencies

SESSION 4. Operationalizing Resilience Frameworks: Watershed Resilience for Low-Capacity Communities

29 NOVEMBER 2023, 10:30 AM – 12:00 PM ET – Room TBA

Part 1. The White House Subcommittee on Resilience Science and Technology (SRST) has developed a Grand Pathways Framework for community resilience capacity building. USACE is building a watershed resilience framework that draws from previous efforts and prioritizes application in low-capacity communities. This session will define watershed resilience from a systems perspective and discuss potential applications for building community resilience.

Part 2. All-hazard disruptions and cascading effects on interdependent critical infrastructure in a region can have a significant impact on jurisdictions and US Army Corps of Engineers (USACE) projects in the impacted region. The Disaster Resilience 3.0 Pilot (DSR3P) is a pilot project that was initiated in January 2023 to develop replicable processes that can be used by USACE, universities, non-profits, and jurisdictions to identify regional critical infrastructure vulnerabilities and potential disruptions. The project is also working to assist jurisdictions to understand and self-identify vulnerabilities to critical infrastructure and inform the community on resilience.

SESSION 5. Calling All Engineers : the US Government and the Private Sector Need Your Skills to Understand Climate Vulnerabilities and Harden Critical Infrastructure Assets

29 NOVEMBER 2023, 1:30 PM – 2:30 PM ET – Room TBA

Executive Order 14008 directed all Federal agencies and departments to conduct physical climate risk vulnerability assessments on their key assets. Similarly, FERC has ordered NERC to engage investor-owned electric utilities in evaluating the preparedness of their electricity assets, and the SEC is laying the groundwork that will require similar reporting from all publicly traded companies in the United States. Once the risks are illuminated, every type of organization will look to engineering companies to swing into action. Engineering, procurement and construction companies, otherwise known as EPCs, and other engineering and construction firms, are on the front lines of the climate resilience battle. They know better than anyone the impacts climate change-induced stressors are putting on their clients' assets, and because of that, are best positioned to recommend and often implement

candidate resilience and adaptation options. This session will introduce mini-case studies from the US Department of Energy as well as private sector power utilities and reveal the role of engineering in providing practical solutions to some incredibly daunting challenges.vulnerabilities and potential disruptions. The project is also working to assist jurisdictions to understand and self-identify vulnerabilities to critical infrastructure and inform the community on resilience.

SESSION 6. Understanding Critical Infrastructure Systems and Interdependencies - Lighting Talks

29 NOVEMBER 2023, 3:00 PM – 4:00 PM ET – Room TBA

Are you interested in learning more about critical infrastructure systems and interdependencies? Do you want to hear from experts in the field? Do you want to network with other professionals? If so, then you should attend the Understanding Critical Infrastructure Systems and Interdependencies - Lighting Talks!

This event will feature short presentations by experts on a variety of topics related to critical infrastructure systems and their interdependencies. You will learn about the different types of critical infrastructure, the threats they face, and the strategies for protecting them. You will also have the opportunity to network with other professionals who are interested in critical infrastructure. This is a great opportunity to learn from others, share your own ideas, and build relationships.

FOCUS AREA 3. Building Critical Infrastructure Resilience Through Distributed Energy Resources

SESSION 7. Innovative DERs Applications for Extreme Weather Events

30 NOVEMBER 2023, 8:30 AM – 9:30 AM ET – Room TBA

Extreme weather events are increasing in frequency and severity, resulting in outsized impacts on the electric grid. Distributed energy resources (DERs) are a critical tool for strengthening energy resilience in this volatile operating environment due to their flexibility and wide-ranging applications. This session will explore how innovative DER technologies are being deployed to improve disaster response capabilities and decrease outage time during extreme weather events. Attendees will hear from both DER technology solution providers and community end-users responsible for implementing these innovative tools.

SESSION 8. Strategies for Distributed Energy Resources Operations and Grid Integration

30 NOVEMBER 2023, 9:45 AM – 10:45 AM ET – Room TBA

Distributed Energy Resources (DERs) are most effective when their operations are fully optimized and integrated with the electric grid. This session will review strategies for operating DERs that maximize their resilience potential by integrating them with the electric grid. Attendees will learn about specific strategies for DER operation and integration, including DER dispatch control and protection.

SESSION 9. Utility Planning and Design for Distributed Energy Resources

30 NOVEMBER 2023, 11:00 AM – 12:00 PM ET – Room TBA

The widespread adoption of Distributed Energy Resources (DERs) by electric utilities has the ability to unlock a flexible clean energy resource for both grid resilience and the resilience of critical infrastructure. However, utility planning for and designing of DER solutions faces market and regulatory barriers and remains patchwork across the United States. In this session, attendees will hear from the utilities themselves about how they are utilizing DERs for resilience, including how they plan and design for these valuable, flexible resources.

FOCUS AREA 4. Energy Equity and Community Resilience

SESSION 1. Community Benefits Plans and Metrics: Energy Improvements in Rural and Remote Areas (ERA)

28 NOVEMBER 2023, 10:30 AM – 12:00 PM ET – Room TBA

The Department of Energy Energy Improvements in Rural and Remote Areas (ERA) program is a new program in the Bipartisan Infrastructure Law (BIL) that provides funding for infrastructure projects that improve energy efficiency, resilience, and affordability in rural and remote communities. Applications are competitive and require strong Community Benefits Plans (CBPs) in order to win funding. Topics in this session include lessons learned from 2023 ERA applicants, a discussion of how to capture energy and environmental equity and justice metrics in applications, and Technical assistance and resources available for helping future ERA applicants to create meaningful and actionable CBPs.

SESSION 2. Nuclear Infrastructure Siting: Tribal Perspectives

28 NOVEMBER 2023, 1:30 PM – 2:30 PM ET – Room TBA

The siting of nuclear infrastructure, such as power plants and waste disposal sites, has a significant impact on the communities in which it is located. This session will explore the perspectives of tribal nations on nuclear infrastructure siting. It will discuss the historical and cultural factors that influence tribal views on nuclear energy, as well as the specific concerns that tribal nations have about the siting of nuclear facilities.

SESSION 3. Building Equity and Justice into Resilience Planning

28 NOVEMBER 2023, 3:00 PM – 4:00 PM ET – Room TBA

Resilience planning is the process of developing strategies to prepare for, respond to, and recover from disasters. Historically marginalized and disadvantaged communities often receive the least investment in resilience planning efforts. With historic investments in resilience planning for these communities from the Bipartisan Infrastructure Law and other federal funding priorities, it is vital that communities and their advisors are able to hold equity and justice as first principles in resilience planning in order to secure real dollars for infrastructure investment. Topics this session will cover include: R&D challenges around quantifying equitable resilience outcomes, how to include principles like equity in resilience

planning efforts, and a discussion of sourcing the definition of resilience directly from communities (i.e., effective community engagement).

FOCUS AREA 5. Cyber Resilience for Operational Technology

SESSION 4. National Level Unity of Effort: Protecting the Heart of our Critical Infrastructure

29 NOVEMBER 2023, 10:30 AM – 12:00 PM ET – Room TBA

Part 1. This session will explore the lessons learned from protecting our DoD information systems from cyber threats. Topics will include evaluating, improving, and enforcing a culture of cybersecurity warfighting and accountability for cybersecurity and cyberspace operations.

Part 2. This session will explore the lessons learned from protecting our national security systems from cyber threats. Topics will include the latest cyber threats, the challenges of protecting national security systems, and the latest strategies for mitigating cyber risks.

SESSION 5. Architectures Architectures Architectures: Paths to Better Security & Resilience

29 NOVEMBER 2023, 1:30 PM – 2:30 PM ET – Room TBA

This session will discuss four different architecture efforts to improve ICS/OT security and resilience, supported by industry and the federal government. The goal is to highlight what these architectures do (and don't do) to accelerate improvements in the security and resilience of critical infrastructure and to understand how these architectures are evolving and are being applied to ICS/OT-intensive critical systems.

SESSION 7. Cyber Resilience for Operational Technology: A Pitch Event

30 NOVEMBER 2023, 08:30 AM – 09:30 AM ET – Room TBA

This pitch event will showcase the latest innovations in cyber resilience for operational technology (OT). OT systems are critical to the operation of our nation's critical infrastructure, and they are increasingly under attack from cyber adversaries. This event will provide a platform for researchers, practitioners, and policymakers to share their ideas on how to improve the cyber resilience of OT systems. The event will consist of a series of 6-8 short pitches (5-7 minutes each) followed by a Q&A session. The pitches will be judged by a panel of experts, and the winner will be announced at the end of the event. The winner will be published in a peer-reviewed journal.

FOCUS AREA 6. Commercializing R&D for Resilience

SESSION 6. RISE Consortium: Catalyzing Resilience with the DoD R&D Community

29 NOVEMBER 2023, 03:00 PM–04:00 PM ET – Room TBA

Join RISE Executive Director, Michael Wu, for a moderated panel discussion with leaders from the Department of Defense's energy R&D programs. Together, these organizations are responsible for promoting the transfer of innovative technologies to the field and use/accelerate the adoption of leading commercial technology throughout DoD and the federal government. Attendees will hear first-hand from DoD R&D leaders about the latest energy, climate, and cyber resilience initiatives and opportunities for collaboration.

SESSION 8. Accelerating the Clean Energy Transformation: How Incubators and Accelerators Fuel Innovation

30 NOVEMBER 2023, 9:45–10:45 ET – Room TBA

Turning a great idea into a thriving business is hard, especially in the competitive and dynamic cleantech sector. Gaining access to capital, hiring and retaining talent, and building business systems and processes are just a few of the innumerable challenges facing entrepreneurs. Luckily, there's a network of incubators and accelerators dedicated to advancing clean and sustainable technologies on their paths to market. Learn from experts, leaders, and entrepreneurs who are making a difference in the clean energy transformation and how you can plug in.

SESSION 9. From Lab to Launch: National Laboratories and Commercializing R&D

30 NOVEMBER 2023, 11:00–12:00 ET – Room TBA

National Laboratories are playing an increasingly important role in the commercialization of new energy technologies, with world class facilities and expertise. Technologies coming from the National Laboratories have proven fundamental to the clean energy transition, and National Laboratories are collaborating with private sector innovators like never before. Learn how you can get involved from laboratory leaders and private sector partners.