DAY 1 | Monday, FEB. 5

TIME	TITLE	
8:30 a.m. - 5:00 p.m.	**Registration and Badge Pickup**	Arlington Foyer	
1:00 p.m.	Distributed Energy Resources and Clean Energy Cyber Threat Brief 1:00 - 2:00 p.m.	Salon 3 & 4	CyberStrike: STORMCLOUD Exercise 1:00 - 5:00 p.m.	Salon 5
2:00 p.m.	Cloud Adoption Profiles 2:00 - 3:00 p.m.	Salon 3 & 4	
3:00 p.m.	**Networking Break**	
	National Association of Regulatory Utility Commissioners; Cyber Baselines Engagement 3:30 - 4:00 p.m.	Salon 3 & 4	
4:00 p.m.	Rural and Municipal Utility Cybersecurity 4:00 - 4:30 p.m.	Salon 3 & 4	
	Workforce Development 4:30 - 5:30 p.m.	Salon 3 & 4	
5:00 p.m.		

DAY 2 | Tuesday, FEB. 6

TIME	TITLE			
8:00 a.m. - 5:00 p.m.	**Registration and Badge Pickup**	Arlington Foyer			
9:00 - 10:00 a.m.	**Opening Plenary**	Salon 3 & 4 Framing the Energy Transition: Challenges and Opportunities			
10:00 - 11:00 a.m.	DOE's Vision for a Modern Grid			
11:00 a.m. - 12:00 p.m.	Market Solutions to Advance the Grid Transition			
12:00 - 1:30 p.m.	**Lunch**			
2:00 p.m.	Grid Modernization Initiative (GMI) Devices and Integrated Systems 1:15 - 3:00 p.m.	Salon 1 & 2	Chief Information Security Officer Role in a Renewable and Distributed Future 1:30 - 3:00 p.m.	Salon 3 & 4	Cybersecurity for Inverter-Based Resources 1:30 - 3:00 p.m.	Salon 6	How Artificial Intelligence May Help and Hinder the Secure Energy Transition 1:30 - 3:30 p.m.	Salon 5
3:00 p.m.	**Networking Break**	Salon 1, 2, 3, 4 & 6			
4:00 p.m.	GMI: Flexible Generation and Load 3:30 - 5:15 p.m.	Salon 1 & 2	Secure Cloud Adoption for Future Energy Systems 3:30 - 5:00 p.m.	Salon 3 & 4	Cyber Incident Response, Reporting, and Restoration in a Clean Energy Future 3:30 - 5:00 p.m.	Salon 6	Principles for Cybersecurity Risk Management in the Energy Sector 3:30 - 4:30 p.m.	Salon 5
5:00 p.m.				Securing Solar for the Grid Overview 4:30 - 5:30 p.m.	Salon 5
5:30 - 6:30 p.m.	**Evening Reception**	Arlington Foyer *Appetizers will be provided*			

DAY 3 | Wednesday, FEB. 7

TIME	TITLE			
7:30 a.m. - 5:00 p.m.	**Registration and Badge Pickup** | Arlington Foyer			
8:00 a.m.	**GMI: Resilient and Secure Systems** 8:00 - 9:45 a.m. Salon 1 & 2	Clean Energy Cybersecurity Keynote 8:00 - 8:15 a.m. | Salon 3 & 4		
		Cybersecurity's Role in a Resilient Clean Energy Future 8:15 - 9:00 a.m. | Salon 3 & 4		
9:00 a.m.		Networking Break		
10:00 a.m.	**Networking Break**	Role of Cyber Regulations and Standards for the Energy Transition 9:30 - 11:00 a.m. | Salon 3 & 4	Engineering Cyber Defense Into the Clean Energy Transition 9:30 - 11:00 a.m. | Salon 6	ICScape: Solar, Wind, and Fire Cyber Escape Room 9:30 - 11:00 a.m. | Salon 5
11:00 a.m.	**GMI: Markets, Policies, and Regulations** 10:15 a.m. -12:00 p.m. Salon 1 & 2	Artificial Intelligence for the Energy Transition 11:00 a.m. - 12:30 p.m. Salon 3 & 4	Open Coordination and Information Sharing at Scale 11:00 a.m. - 12:30 p.m. Salon 6	ICScape: Solar, Wind, and Fire Cyber Escape Room 11:00 a.m. - 12:30 p.m. Salon 5
12:00 - 1:30 p.m.	**Lunch**			
2:00 p.m.	**GMI: Operations** 1:15 - 3:00 p.m. | Salon 1 & 2	Cybersecurity for Grid Edge Controllable Loads 1:30 - 3:00 p.m. | Salon 3 & 4	Balancing Cyber Risk With Clean Energy Rewards 1:30 - 3:00 p.m. | Salon 6	ICScape: Solar, Wind, and Fire Cyber Escape Room 1:30 - 3:00 p.m. | Salon 5
3:00 p.m.	**Networking Break** | Salon 1, 2, 3, 4 & 6			
4:00 p.m.	**GMI: Planning** 3:30 - 5:15 p.m. | Salon 1 & 2	Charging Ahead: Securing the Nation's Electric Vehicle Infrastructure 3:30 - 5:00 p.m. | Salon 3 & 4	Contracting and Legal Trends of Cybersecurity for the Energy Transition 3:30 - 5:00 p.m. | Salon 6	*—Executive Session—* ICScape: Solar, Wind, and Fire Cyber Escape Room 3:30 - 5:00 p.m. | Salon 5
5:00 p.m.				
5:30 - 6:30 p.m.	**Evening Reception** | Arlington Foyer *Appetizers will be provided*			

DAY 4 | Thursday, FEB. 8

TIME	TITLE				
7:30 - 8:00 a.m.	**Registration and Badge Pickup** | Arlington Foyer				
8:00 a.m.	All GMI Pillars Synergy Discussion 8:00 a.m. - 12:30 p.m. Salon 1 & 2	Scaling to Secure the Clean Energy Transition Through Cyber Defense Exercises 8:00 - 9:30 a.m. Salon 3	Fortifying Energy Storage: Cybersecurity, Supply Chain, and Incident Management in a Dynamic World 8:00 - 9:30 a.m. Salon 4	CyberStrike: STORMCLOUD Exercise 8:00 - 12:30 p.m. Salon 5	Cyber Situational Awareness for a More Interconnected Distributed Grid 8:00 - 9:30 a.m. Salon 6
9:00 a.m.					
10:00 a.m.		Clean Energy Security Coalition 9:30 - 11:00 a.m. Salon 3	Cybersecurity Approaches for a Converged Energy Future Deployment 9:30 - 11:00 a.m. Salon 4		Building the Bench: Preparing the Cyber Workforce 9:30 - 11:00 a.m. Salon 6
11:00 a.m.		Strategizing Responsible Cloud Integration in the Electric Grid: Frameworks, Testbed Infrastructure and Industrial Engagement 11:00 a.m. - 12:30 p.m. Salon 3	Role of Cyber Certifications and Labeling for the Energy Sector Deployment 11:00 a.m. - 12:30 p.m. Salon 4		Where Climate Policy and Cybersecurity Meet: Securing America's Growing Renewable Energy Technology Footprint 11:00 a.m. - 12:30 p.m. Salon 6
12:00 p.m.					
1:00 - 5:00 p.m.	Renewable Energy and Storage Cybersecurity Research (RESCue) - Annual Workshop | Salon 3				
5:00 p.m.	**Conference End**				

DAY 1 | Monday, FEB. 5

Distributed Energy Resources and Clean Energy Cyber Threat Brief
1 p.m.–2 p.m. | Salons 3 & 4

This briefing on emerging distributed energy resource threats is an introductory session to all programming on Monday, including the CyberStrike workshop.

Megan Culler, Idaho National Laboratory (INL); **Emma Stewart**, INL

Cloud Adoption Profiles
2 p.m.–3 p.m. | Salons 3 & 4

This briefing by the U.S. Department of Energy (DOE) Grid Deployment Office (GDO) discusses the Responsible Cloud Framework Project.

James Briones, DOE GDO; **Emma Stewart**, INL

CyberStrike: STORMCLOUD Exercise
1 p.m.–5 p.m. | Salon 5

This CyberStrike STORMCLOUD training was designed to enhance the ability of energy sector owners and operators to prepare for a cyber incident impacting control systems associated with renewable energy technologies. This offers participants a hands-on, simulated demonstration of cyberattacks directed at wind, solar, and electric vehicles.

Megan Culler, INL; **Dan Noyes**, INL; **Glenn Combe**, INL; **Will Vining**, Sandia

National Association of Regulatory Utility Commissioners; Cyber Baselines Engagement
3:30 p.m.–4 p.m. | Salons 3 & 4

This session provides an overview of the National Association of Regulatory Utility Commissioners cyber baselines efforts, including the ultimate objectives, the approach taken to develop the first iterations of the baselines, and the implementation strategy ahead.

Joe Quinn, DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER);
Lynn Costantini, National Association of Regulatory Utility Commissioners

Rural and Municipal Utility Cybersecurity
4 p.m.–4:30 p.m. | Salons 3 & 4

Hear about opportunities for the state, local, tribal, and territorial community to participate in DOE CESER's Rural and Municipal Utility Advanced Cybersecurity (RMUC) Grant and Technical Assistance Program, which is focused on enhancing the cybersecurity posture of cooperative, municipal/public power, and small investor-owned electric utilities.

Cynthia Hsu, DOE CESER

Workforce Development
4:30 p.m.–5:30 p.m. | Salons 3 & 4

Join DOE CESER and guests to discuss federal, state, and local approaches to meet industrial control system cybersecurity workforce development challenges in the energy sector.

Cynthia Hsu, DOE CESER; **Chris Fletcher**, National Governors Association; **Patrick Miller**, Ampere Industrial Security;
Erin Patrick Owens, Cyber Defense Center/Force Labs

February 5-8, 2024 | Arlington, VA

U.S. DEPARTMENT OF ENERGY

Led and hosted by the U.S. Department of Energy Grid Modernization Initiative and the Office of Cybersecurity, Energy Security, and Emergency Response.

OPENING PLENARY

Framing the Energy Transition: Challenges and Opportunities
9 a.m.–10 a.m. | Salons 3 & 4

This opening plenary session kicks off with keynote speakers from U.S. Congress, the White House Office of the National Cyber Director, the White House Office of Science and Technology Policy, and U.S. Department of Energy (DOE) leadership.

Deputy Secretary **David Turk**, DOE; Undersecretary **Geri Richmond**, DOE Science and Innovation; Congresswoman **Marilyn Strickland**; Congressman **Andrew Garbarino**; Deputy Director **Drenan Dudley**, Office of the National Cyber Director; Deputy Director **Justina Gallegos**, Office of Science and Technology Policy

DOE's Vision for a Modern Grid
10 a.m.–11 a.m. | Salons 3 & 4

Assistant secretaries and directors of key DOE program offices will provide their perspectives on the changing grid and clean energy cybersecurity landscape. These leaders will elucidate their office's specific roles in DOE's wider mission, identify opportunity areas for broader engagement with stakeholders, and solicit collaboration on efforts to drive rapid and resilient advancements in these critical sectors.

Susan Tierney, Analysis Group; **Gene Rodrigues**, DOE Office of Electricity; **Jeff Marootian**, DOE Office of Energy Efficiency and Renewable Energy; **Lili Colon**, DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER); **Brad Crabtree**, DOE Office of Fossil Energy and Carbon Management; **Maria Robinson**, DOE Grid Deployment Office (GDO)

Market Solutions to Advance the Grid Transition
11 a.m.–12 p.m. | Salons 3 & 4

Thought leaders from electric utilities, regulatory agencies, rural electric cooperatives, and other key stakeholder groups will present their perspectives and priorities on the rapidly evolving grid modernization and cybersecurity landscape. Discussions will center on the alignment of critical focus areas across diverse stakeholder groups, promoting crosscutting collaborations, maximizing returns on public investments, and other key topics to accelerate technical innovations and enhance public policy.

Shalanda Baker, DOE Office of Energy Justice and Equity; **Marissa Hummon**, Utilidata; **Frank Prager**, Xcel; **Lidija Sekaric**, National Rural Electric Cooperative Association; **Colette Honorable**, Exelon

Grid Modernization Initiative (GMI) Devices and Integrated Systems
1:15 p.m.–3 p.m. | Salons 1 & 2

This GMI pillar session discusses challenges and opportunities to accelerate the clean energy transition with novel power electronic devices, scalable architectures, and robust system integration approaches.

Teja Kuruganti, Oak Ridge National Laboratory; **Joe Hoagland**, Tennessee Valley Authority; **Jim LeBlanc**, General Electric; **Clifton Black**, Southern Company; **Venkat Banunarayanan**, National Rural Electric Cooperative Association

Chief Information Security Officer Role in a Renewable and Distributed Future
1:30 p.m.–3 p.m. | Salons 3 & 4

Chief information security officers from utilities and original equipment manufacturers will discuss how their role may change in a renewable and distributed energy future with nonutility-owned devices supporting grid reliability.

Brian Barrios, Southern California Edison; **Brian Harrell**, Avangrid; **Teza Mukkavilli**, ChargePoint; **Adam Lee**, Dominion

Cybersecurity for Inverter-Based Resources
1:30 p.m.–3 p.m. | Salon 6

The rapid and ubiquitous deployment of inverter-based resources (IBRs) is foundational to the energy transition across the major elements of solar, wind, and energy storage. This panel covers perspectives on IBR cybersecurity at the utility and distributed energy resource level.

Tom Tansy, SunSpec Alliance; **Marissa Morales-Rodriguez**, DOE Office of Energy Efficiency and Renewable Energy; **Dan Arnold**, Lawrence Berkeley National Laboratory; **Todd Chwialkowski**, EDF Renewables

How Artificial Intelligence May Help and Hinder the Secure Energy Transition
1:30 p.m.–3:30 p.m. | Salon 5

With climate mitigation and resilience driving the energy transition, participants in this workshop will explore the potential security risks, rewards, and wild cards of current and emerging machine learning and generative artificial intelligence use cases in the energy sector for utilities, suppliers, and integrators.

Andy Bochman, Idaho National Laboratory (INL); **Colin Ponce**, Lawrence Livermore National Laboratory; **Chris Lamb**, Sandia National Laboratories

GMI: Flexible Generation and Load
3:30 p.m.–5:15 p.m. | Salons 1 & 2

This Grid Modernization Initiative (GMI) pillar session discusses challenges and opportunities to flexible generation, load, and associated hybrid energy systems. A panel of industry leaders will explore a wide range of topics, from regulations to grid planning and operations. The session also includes a discussion to solicit participant feedback for the GMI flexible generation and load pillar.

Ning Kang, INL; **Debbie Lew**, Energy Systems Integration Group; **Aidan Tuohy**, Electric Power Research Institute; **Uuganbayar Otgonbaatar**, Constellation; **Clyde Loutan**, California Independent System Operator

Secure Cloud Adoption for Future Energy Systems
3:30 p.m.–5 p.m. | Salons 3 & 4

This session discusses future clean energy applications for the cloud and the technical and regulatory needs, standards, and best practices to ensure secure cloud adoption.

Samara Moore, Amazon Web Services; **Kal Ayoub**, Federal Energy Regulatory Commission; **James Briones**, DOE GDO; **Jonathan Tubb**, Siemens Energy; **Jason Christopher**, Energy Impact Partners

Cyber Incident Response, Reporting, and Restoration in a Clean Energy Future
3:30 p.m.–5 p.m. | Salon 6

As the energy sector evolves to become more interdependent, distributed, and complex, with potentially more stakeholders actively supporting grid reliability, cyber incident response and restoration must also evolve. This panel will discuss key questions on how cyber incident response, reporting, and restoration may change in a future with more distributed energy resources, maturity of aggregators, even greater diversity of original equipment manufacturers, and emerging managed security software providers in a clean energy future.

Gizelle Wray, Savion; **Keith Rose**, Operant Networks; **Matt Duncan**, North American Electric Reliability Corporation and Electricity Information Sharing and Analysis Center; **Matt Tarduogno**, DOE CESER; **Jeff Baumgartner**, Berkshire Hathaway Energy

Principles for Cybersecurity Risk Management in the Energy Sector
3:30 p.m.–4:30 p.m. | Salon 5

This panel addresses principles drafted by DOE CESER to guide the multiple, distinct partners that share risk in providing reliable power to the nation.

Brian Lyttle, INL; **Maggie Morganti**, Rockwell Automation; **Cassie Crossley**, Schneider Electric; **Krystel Castillo**, The Cybersecurity Manufacturing Innovation Institute (CyManII); **Caroline Trum**, North American Energy Standards Board

Securing Solar for the Grid Overview
4:30 p.m.–5:30 p.m. | Salon 5

The Securing Solar for the Grid (S2G) project brings together leading experts from national laboratories, industry, and academia to tackle a wide range of cybersecurity issues, including developing cybersecurity standards and certifications for distributed energy resources to ensure they meet minimum safety and security requirements, creating cyber-physical network monitoring tools to detect and respond to cyberattacks in real time, and conducting risk assessments and mitigation strategies to identify and address potential vulnerabilities in solar systems and the grid.

Jake Gentle, INL; **Marissa Morales-Rodriguez**, DOE Office of Energy Efficiency and Renewable Energy; **Audrey Adams**, Psymetis; **Mike Herzig**, Operant Networks; **Scott Mix**, Pacific Northwest National Laboratory; **Matthew Hartung**, EDP Renewables North America

Clean Energy Cybersecurity Keynote
8 a.m.–8:15 a.m. | Salons 3 & 4

Anne Neuberger, Deputy National Security Advisor for Cyber and Emerging Technology, National Security Council

Cybersecurity's Role in a Resilient Clean Energy Future
8:15 a.m.–9:00 a.m. | Salons 3, & 4

This cybersecurity leadership panel will explore the salient challenges and opportunities for cyber and the clean energy transition. With deliberate investment, planning, and coordination across existing and new energy system stakeholders, how can we transform the cybersecurity challenges of an evolving grid into opportunities that enable a more open, interconnected energy system that is more resilient than the one we have today?

Lili Colon, U.S. Department of Energy (DOE) Office of Cybersecurity, Energy Security, and Emergency Response (CESER);
Eric Goldstein, Cybersecurity and Infrastructure Security Agency; **Juan Torres**, National Renewable Energy Laboratory (NREL);
Zach Tudor, Idaho National Laboratory (INL); **John Franzino**, GridSecurity

GMI: Resilient and Secure Systems
8 a.m.–9:45 a.m. | Salons 1 & 2

This GMI pillar discusses the characterization of all-hazards risks within and external to the grid; the assessment of impacts and consequences; the development of mitigation approaches, including secure control design; and improved situational awareness/incident support during energy-related emergencies.

Bobby Jeffers, NREL; **Venkat Banunarayanan**, National Rural Electric Cooperative Association; **Elli Ntakou**, Eversource Energy;
Stephen Walls, Hawaii State Energy Office; **David White**, Axio

Role of Cyber Regulations and Standards for the Energy Transition
9:30 a.m.–11:00 a.m. | Salons 3 & 4

How must cybersecurity standards and regulations change to support the energy transition? Which cyber standards can be directly used, slightly modified, or significantly changed? What is the role of cyber regulations, and how can we strike the right balance between regulations and incentives? Answers to these questions are challenging, and they are only a few of the many non-technology issues that require attention to adequately address cyber risk. This panel will explore aspects of these important topics through perspectives from across the energy sector.

Patrick Miller, Ampere Industrial Security; **Natalie Thompson,** Berkshire Hathaway Energy; **Alan Herd**, Federal Energy Regulatory Commission;
Richard Dick Brooks, Reliable Energy Analytics; **Bridgette Bourge**, Bridgette Bourge Security LLC

Engineering Cyber Defense Into the Clean Energy Transition
9:30 a.m.–11:00 a.m. | Salon 6

Cyber-informed engineering offers the opportunity to build cyber protections into the design of clean energy systems to extend and complement current cybersecurity tools and processes. This panel offers insights on how cyber-informed engineering will help secure the clean energy transition through its application in education, tools and capabilities, and standards to both existing infrastructure and the future clean energy ecosystem.

Virginia Ginger Wright, INL; **Marc Sachs**, Auburn; **Steven Kunsman**, Hitachi; **Richard Macwan**, NREL;
Erik Hall, North Carolina Electric Membership Corporation

ICScape: Solar, Wind, and Fire Cyber Escape Room
9:30 a.m.–11:00 a.m. | Salon 5

Traditional escape room puzzles mixed with cybersecurity elements:

- *Remediate cyberattacks against control systems, programmable logic controllers, human-machine interfaces, and ladder logic.*
- *Solve puzzles using a mixed reality system, radio-frequency identification, Wi-Fi, Flipper Zero, and more.*
- *Restore critical operations to solar, wind, and power generation and natural gas systems.*

Jeff Hahn, INL; **Kelly Johnson**, INL; **Chris Johnson**, INL

GMI: Markets, Policies, and Regulations
10:15 a.m.–12 p.m. | Salons 1 & 2

This GMI pillar session explores market, policy, and regulation challenges in the energy transition and ways that DOE's research and partnerships with other organizations can address them.

Carl Pechman, KeyLogic; **Danielle Sass Byrnett**, National Association of Regulatory Utility Commissioners;
Janice Beecher, Michigan State University; **Tom Wilson**, Electric Power Research Institute

Artificial Intelligence for the Energy Transition
11:00 a.m.–12:30 p.m. | Salons 3 & 4

Artificial intelligence (AI) systems are having a broad and increasing impact on engineering processes today, including cybersecurity. This workshop explores the expected impacts of using AI in energy system cybersecurity during the transition to renewables, specifically addressing questions of engineering scale and responsible use. We seek to discuss questions such as: What role does AI play for the cybersecurity of the energy transition? Will it play an outsized role given the increase in the scale of connected devices? How do we ensure AI is used responsibly?

Helena Fu, DOE Office of Critical and Emerging Technology; **Harold Booth**, National Institute of Standards Technology; **Phil Trainor**, Nozomi; **Dan Arnold**, Lawrence Berkeley National Laboratory

Open Coordination and Information Sharing at Scale
11:00 a.m.–12:30 p.m. | Salon 6

How does information sharing need to change for a more distributed future in which nonutility devices are supporting grid reliability? The increase in the scale and complexity of the future system increases the volume and velocity of data from more stakeholders. What new coordination and information sharing is needed in a clean energy future?

Lauren Blank, Electricity Information Sharing and Analysis Center; **Leonard Baily**, U.S. Department of Justice; **Kyle Pfeiffer**, DOE CESER; **Brian Eschels**, Cybersecurity and Infrastructure Security Agency

ICScape: Solar, Wind, and Fire Cyber Escape Room
11:00 a.m.–12:30 p.m. | Salon 5

Traditional escape room puzzles mixed with cybersecurity elements:

- *Remediate cyberattacks against control systems, programmable logic controllers, human-machine interfaces, and ladder logic.*
- *Solve puzzles using a mixed reality system, radio-frequency identification, Wi-Fi, Flipper Zero, and more.*
- *Restore critical operations to solar, wind, and power generation and natural gas systems.*

Jeff Hahn, INL; **Kelly Johnson**, INL; **Chris Johnson**, INL

GMI: Operations
1:15 p.m.–3:00 p.m. | Salons 1 & 2

This panel session and facilitated discussion will provides input to the GMI technical roadmap.

Jeff Dagle, Pacific Northwest National Laboratory; **Mark Lauby**, North American Electric Reliability Corporation; **Tim Beach**, Reliability Coordinator West, California Independent System Operator; **Clay Koplin**, Cordova Electric; **Mary Ngo**, Pacific Science & Engineering

Cybersecurity for Grid Edge Controllable Loads
1:30 p.m.–3 p.m. | Salon 3 & 4

Many different scenarios exist in achieving national decarbonization objectives, but most involve significant buildout of transmission infrastructure, energy storage, and new technologies that enable flexible generation and controllable loads. This panel focuses on the cybersecurity challenges of the latter, where the nexus of electrification and digital technologies enables controllable loads at the grid edge to unlock new business models and drive new capabilities to help maintain future grid reliability.

Jon White, NREL; **Jeremiah Miller**; **Gary Kneeland**, Claroty; **Mike Toecker**, DOE CESER

Balancing Cyber Risk With Clean Energy Rewards
1:30 p.m.–3 p.m. | Salons 6

The U.S. electric grid in 2030 will be markedly different from today. The proliferation of renewable energy resources, the democratization of energy production, the advent of new business models such as energy aggregators, and other changes will result in a different cyber risk landscape. This panel discussion with audience participation will explore the new cyber risks that the 2030 grid will bring, identify metrics and other means to quantify those risks, and explore the distribution of such risks among traditional utilities, new players in the market, ratepayers, and insurers.

David White, Axio; **Kate Mabbet,** AEP; **Jens Christian Vedersø**, Vestas; **Cecilia Klauber**, Lawrence Livermore National Laboratory

ICScape: Solar, Wind, and Fire Cyber Escape Room
1:30 p.m.–3 p.m. | Salon 5

Traditional escape room puzzles mixed with cybersecurity elements:

- *Remediate cyberattacks against control systems, programmable logic controllers, human-machine interfaces, and ladder logic.*
- *Solve puzzles using a mixed reality system, radio-frequency identification, Wi-Fi, Flipper Zero, and more.*
- *Restore critical operations to solar, wind, and power generation and natural gas systems.*

Jeff Hahn, INL; **Kelly Johnson**, INL; **Chris Johnson**, INL

GMI: Planning
3:30 p.m.–5:15 p.m. | Salons 1 & 2

This GMI pillar session discusses next-generation system planning tools to support policy development, economic assessments, engineering design, and risk and vulnerability analysis. These support the larger GMI goals by informing billions of dollars of capital investments and operational tools.

Gareth Williams, NREL; **Jennifer Arrigo**, DOE; **Stephen Torres**, Southern California Edison; **Mark Ahlstrom**, Energy Systems Integration Group and NextEra; **Honghao Zheng**, ComEd

Charging Ahead: Securing the Nation's Electric Vehicle Infrastructure
3:30 p.m.–5 p.m. | Salons 3 & 4

Secure methods for the grid integration of vehicles, chargers, and charge network operators are needed to unlock the potential of electric vehicles behaving as both a load and a resource to support grid reliability. In this panel, participants will introduce cyber challenges of vehicle grid integration and perspectives on priority efforts needed across research, testing, and standardization that supports, not impedes, innovation.

Tim Weisenberger, SAE International; **Victor Calderon**, Southern California Edison; **Craig Rodine**, Sandia National Laboratories; **Cherylene Caddy**, DOE CESER

Contracting and Legal Trends of Cybersecurity for the Energy Transition
3:30 p.m.–5 p.m. | Salon 6

This panel discusses the procurement, performance contracting, and legal requirements for cybersecurity related to clean energy. What requirements and considerations should be included as part of the procurement of clean energy technologies? What privacy issues are there for distributed energy resources that may be different from traditional forms of energy?

Evan Wolff, Crowel & Moring LLP; **Sharla Artz**, Xcel Energy; **Andrew Wills**, Invenergy; **Shari Gribbin**, CNK Solutions

—Executive Session—
ICScape: Solar, Wind, and Fire Cyber Escape Room
3:30 p.m.–5 p.m. | Salon 5

Traditional escape room puzzles mixed with cybersecurity elements:

- *Remediate cyberattacks against control systems, programmable logic controllers, human-machine interfaces, and ladder logic.*
- *Solve puzzles using a mixed reality system, radio-frequency identification, Wi-Fi, Flipper Zero, and more.*
- *Restore critical operations to solar, wind, and power generation and natural gas systems.*

Jeff Hahn, INL; **Kelly Johnson**, INL; **Chris Johnson**, INL

All GMI Pillars Synergy Discussion

8 a.m.–12:30 p.m. | Salons 1 & 2

The GMI is organized around six primary pillars, but much of the innovation occurs at the boundaries of these areas and across multiple pillars. This session illuminates strategic crosscutting synergies and how to best manage them to capture the benefits of these overlaps. Synergies can include technologies (e.g., artificial intelligence/machine learning, power electronics) and/or external drivers (new market designs, emerging resilience threats) that affect multiple pillars. This session captures the perspectives of U.S. Department of Energy (DOE) leaders, industry panelists, and lab pillar leads, and it includes a facilitated session to capture the input of conference participants.

Gil Bindewald III, DOE Office of Electricity; **Kevin Lynn,** DOE Office of Energy Efficiency and Renewable Energy;
Molly Roy, DOE Grid Deployment Office; **Carl Imhoff**, Pacific Northwest National Laboratory;
Juan Torres, National Renewable Energy Laboratory (NREL)

Scaling to Secure the Clean Energy Transition Through Cyber Defense Exercises

8 a.m.–9:30 a.m. | Salon 3

This session will be a moderated panel discussing the need for and benefits of cyber defense exercises during the transition to the clean energy future. To provide context, panelists will define the role and application of various types of exercises including tabletop, full-scale, and hybrid, mixed-fidelity approaches.

Brian Marko, DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER); **Shane McFly**, NREL;
Jeremy Jones, Idaho National Laboratory (INL); **Alex Waitkus**, Southern Company; **Nikita S. Belikov**, U.S. Air Force

Fortifying Energy Storage: Cybersecurity, Supply Chain, and Incident Management in a Dynamic World

8 a.m.–9:30 a.m. | Salon 4

This panel session aims to dissect the multifaceted challenges and opportunities presented by energy storage, especially under the lens of cybersecurity, supply chain resilience, and consequence-driven frameworks.

Katherine Hutton, Fluence Energy; **Navroop Mitter,** ArmorText; **Brian Burnett**, North Carolina's Electric Cooperatives; **Dan Ricci**, INL;
Munish Walter-Puri, Exiger

CyberStrike: STORMCLOUD Exercise

8 a.m.–12:30 p.m. | Salon 5

This CyberStrike STORMCLOUD training was designed to enhance the ability of energy sector owners and operators to prepare for a cyber incident impacting control systems associated with renewable energy technologies. This offers participants a hands-on, simulated demonstration of cyberattacks directed at wind, solar, and electric vehicles.

Megan Culler, INL; **Dan Noyes**, INL; **Glenn Combe**, INL; **Will Vining**, Sandia

Cyber Situational Awareness for a More Interconnected Distributed Grid

8 a.m.–9:30 a.m. | Salon 6

The U.S. electric grid is rapidly changing. Distributed energy systems are increasing in number and diversity, which changes the nature of management and control, and there is a growing need to manage components and systems outside of the utility purview. This panel explores questions around the evolving needs and possibilities for the grid, what is different in this context that makes situational awareness unique, and what needs to change to improve situational awareness and manage cyber risk.

Marty Edwards, Tenable; **James Rimensnyder**, Xcel Energy; **David Manz**, Pacific Northwest National Laboratory;
Jacob Morris, Naval Facilities Engineering Systems Command

Clean Energy Security Coalition

9:30–11 a.m. | Salon 3

The founding members of a newly formed coalition, the Clean Energy Security Coalition, discuss why this coalition will be important as renewables begin representing large and important parts of the grid and how they intend to address the complexities of security and operations during the transformation of our electric grid.

Gizelle Wray, Savion

Cybersecurity Approaches for a Converged Energy Future Deployment

9:30–11:00 a.m. | Salon 4

The boundary between information technology (IT) and operational technology (OT) is becoming increasingly indistinct, with diverse stakeholders in the energy sector exchanging more information. This panel delves into the benefits and challenges arising from the accelerating IT/OT convergence. It also explores the technological, cybersecurity, and policy approaches essential for establishing a more secure and resilient energy system for the future.

Richard Macwan, NREL; **Jay Johnson**, DER Security Corp; **Young Ngo**, Survalent; **Tobias Whitney**, Fortress; **Matt Emerson**, Los Angeles Department of Water and Power

Building the Bench: Preparing the Cyber Workforce

9:30–11 a.m. | Salon 6

The rapidly evolving domains of cybersecurity, clean energy, and electric grid systems demand a robust and skilled workforce. This session delves into innovative strategies for workforce development, focusing on building a dynamic education pipeline and fostering rural workforce engagement.

Tom Van Norman, ICS Village; **Dan Harkness**, Argonne National Laboratory; **Lou Mcalister**, Forge Institute; **Patrick Miller**, Ampere Industrial Security; **Kylie McClanahan**, Bastazo

Strategizing Responsible Cloud Integration in the Electric Grid: Frameworks, Testbed Infrastructure and Industrial Engagement

11 a.m.–12:30 p.m. | Salon 3

The session explores how industry is evaluating the evolution and deployment of cloud technology applications across different grid scenarios, particularly in the context of future grid architectures before and after the energy transition.

Emma Stewart, INL; **James Briones**, DOE Grid Deployment Office; **Anthony Wallace**, NREL; **Liang Downey**, Microsoft

Role of Cyber Certifications and Labeling for the Energy Sector Deployment

11:00 a.m.–12:30 p.m. | Salon 4

This panel covers the current state of cyber certifications and labeling for the energy sector, how validations of baseline levels of security contribute to reducing cyber risk, and how certifications and labeling may need to evolve for utility-scale renewables, distributed energy resources, and other smart grid devices related to the energy transition.

Brian Lyttle, INL; **Peter Frøkjaer**, Vestas; **Stephanie Johnson**, DOE CESER; **Barbara Cuthill**, National Institute of Standards & Technology (NIST); **Nate Evans**, Oak Ridge National Laboratory

Where Climate Policy and Cybersecurity Meet: Securing America's Growing Renewable Energy Technology Footprint

11 a.m.–12:30 p.m. | Salon 6

Though there are many challenges ahead, there are also many opportunities. How can we change and align policy to turn the challenges into opportunities for a more secure and resilient energy future?

Steve Kelly, Institute for Security and Technology; **Sarah Powazek**, University of California, Berkeley; **Kate Marks**, Venn Strategies; **Ranjan Banerji**, Amazon Web Services; **Jens Christian Vedersø**, Vestas

Renewable Energy and Storage Cybersecurity Research (RESCue) - Annual Workshop

1 p.m.–5 p.m. | Salon 3

This session provides the latest information about research and development efforts on the Renewable Energy and Storage Cybersecurity Research (RESCue) project, led by DOE CESER and NREL. The meeting explores cybersecurity challenges and opportunities around the deployment of large-scale hybrid renewable energy systems, modular reference architectures and a cyber-resilient design framework for hybrid renewable energy systems, and industry engagement and collaboration to collectively improve the cyber defense posture of grid-connected hybrid renewable energy systems.

Jordan Henry, NREL; **Danish Saleem**, NREL; **Robert Morgus**, Berkshire Hathaway Energy; **Todd Davis**, Vestas; **Hans Hartung**, Siemens Gamesa; **Uri Sadot**, SolarEdge Technologies; **J Chanesman,** GridSecurity

Conference End
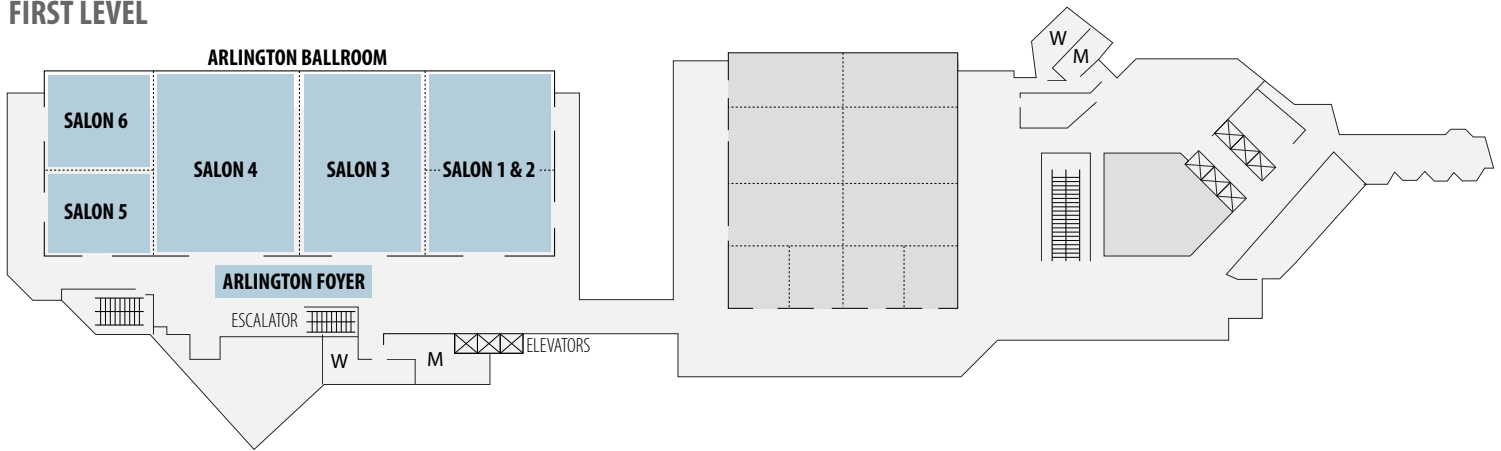
Speaker Affiliations

Amazon Web Services (AWS)

American Electric Power

Ampere Industry Security

Argonne National Laboratory

ArmorText

Auburn University

Avangrid

Axio

Bastazo

Berkshire Hathaway Energy (BHE)

Bridgette Bourge Security, LLC

California Independent System Operator (CAISO)

ChargePoint

Claroty

CNK Solution

ComEd

Constellation

Cordova Electric

Crowell & Moring

Cybersecurity and Infrastructure Security Agency (CISA)

Cybersecurity Manufacturing Innovation Institute (CyManII)

U.S. Department of Energy (DOE)

DER Security Corp

DOE Grid Deployment Office (GDO)

DOE Grid Modernization Initiative (GMI)

DOE Office of Critical and Emerging Technology

DOE Office of Cybersecurity, Energy Security and Emergency Response (CESER)

DOE Office of Electricity (OE)

DOE Office of Energy Efficiency and Renewable Energy (EERE)

DOE Office of Energy Justice and Equity (EJE)

DOE Office of Fossil Energy and Carbon Management (FECM)

Dominion Energy

EDF Renewables

EDP Renewables North America (EDPR NA)

Electric Power Research Institute (EPRI)

Electricity Information Sharing and Analysis Center (E-ISAC)

Energy Impact Partners (EIP)

Energy Systems Integration Group (ESIG)

Enphase Energy

Eversource Energy

Exelon

Exiger

Federal Energy Regulatory Commission (FERC)

Fluence Energy

Fortress

General Electric (GE)

GridSecurity

Hawaii State Energy Office

Hitachi Energy

ICS Village

Idaho National Laboratory (INL)

Institute for Security and Technology (IST)

Invenergy

KeyLogic

Lawrence Berkely National Laboratory (LBNL)

Lawrence Livermore National Laboratory (LLNL)

Los Angeles Department of Water and Power (LADWP)

Michigan State University

Microsoft

National Association of Regulatory Utility Commissioners (NARUC)

National Institute of Standards Technology (NIST)

National Renewable Energy Laboratory (NREL)

National Rural Electric Cooperative Association (NRECA)

National Security Council

Naval Facilities Engineering Systems Command

NextEra

North American Electric Reliability (NERC)

North American Energy Standards Board (NAESB)

North Carolina Electric Cooperatives

North Carolina Electric Membership Corporation (NCEMC)

Oak Ridge National Laboratory (ORNL)

Oak Ridge National Laboratory (ORNL)

Office of Science and Technology Policy (OSTP)

Office of the National Cyber Director (ONCD)

Operant Networks

Pacific Northwest National Laboratory (PNNL)

Pacific Science and Engineering

Psymetis

Reliable Energy Analytics

Rockwell Automation

SAE International

Sandia National Laboratories

Savion

Schneider Electric

Siemens Energy

Siemens Gamesa

SolarEdge Technologies

Southern California Edison (SCE)

Southern Company

SunSpec Alliance

Survalent

Tenable

Tennessee Valley Authority

U.S. Air Force

U.S. Department of Justice (DOJ)

University of California, Berkley

University of Texas at San Antonio (UTSA)

Utilidata

Venn Strategies

Vestas

Xcel Energy

Crystal Gateway Marriott

1700 Richmond Hwy
Arlington, VA 22202

FIRST LEVEL

ARLINGTON BALLROOM

- SALON 6
- SALON 5
- SALON 4
- SALON 3
- SALON 1 & 2
- ARLINGTON FOYER

ESCALATOR
W M ELEVATORS
W

LOBBY LEVEL

FRONT DESK

MAIN ENTRANCE

W M

COFFEE

LOUNGE

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