



Catastrophic Power Outage Scoping Study Quarterly Business Meeting

June 14, 2018

NIAC The President's National
Infrastructure Advisory Council

Working Group Members

Jan Allman, President, CEO, and General Manager, Marinette Marine Corporation, **Co-Chair**

Ben Fowke, Chairman, President, and CEO, Xcel Energy, **Co-Chair**

William Terry Boston, Former CEO, PJM Interconnection

George Hawkins, Former CEO and General Manager, District of Columbia Water and Sewer Authority

Joan McDonald, Principal, JMM Strategic Solutions

Beverly Scott, Ph.D., CEO, Beverly Scott Associates, LLC

Agenda

- ▶ Scoping Study Overview
- ▶ Recommended Scope and Key Areas of Inquiry
- ▶ Discussion
- ▶ Next Steps

Scoping Study Overview

- ▶ Tasked to identify the gaps, challenges, or questions related to a catastrophic power outage
- ▶ Interviewed **21 senior leaders** and subject matter experts from federal/state government and industry
- ▶ Reviewed more than **350 resources**, including statutes, regulations, reports, articles, and prior studies

Scoping Study Overview

Three key pillars framed the study:

1. Infrastructure Needs
2. Cross-Sector and Community Resilience
3. Federal Role and Decision Processes

Recommended Scope

- ▶ Build on the information gathered through the scoping effort.
- ▶ Explore in further depth the 8 key areas of inquiry and develop actionable recommendations to address them.

Key Areas of Inquiry: Identifying and Assessing Infrastructure Impacts

- I. **Electricity supply chain interdependencies**, particularly the growing interdependence of electricity and natural gas production, are not fully understood and could severely delay restoration from a sustained outage.

Key Areas of Inquiry: Identifying and Assessing Infrastructure Impacts

2. Regional and **cross-sector modeling, planning, and exercises** are needed to reveal the cascading, cross-sector impacts and unforeseen interdependency risks of widespread, long-duration outages; and examine where traditional response plans, resources, and mutual aid are exhausted (particularly black start processes and communications requirements).

Key Areas of Inquiry: Mitigation and Response

3. A **federal design basis** for long-duration power outages is needed to provide the design criteria and requirements that can guide critical sectors, states, and agencies to develop plans, invest in resources, and devise policies to prepare for a catastrophic power outage that will have cascading consequences across the lifeline sectors.

Key Areas of Inquiry: Mitigation and Response

4. Response plans for complex catastrophes should **identify and prioritize the resources needed to re-energize the grid**, and address mounting obstacles to restarting electric service as traditional response resources become unavailable (including mutual aid, communication, and economic needs).

Key Areas of Inquiry: Mitigation and Response

5. A strategy is needed to scope and develop “community enclaves” that **co-locate multiple critical backup services** at the local level to sustain the local economy and infrastructure, support public health and safety, and prevent mass migrations.

Key Areas of Inquiry: Public-Private Collaboration

6. State and local efforts are needed to **build community and individual resilience**, including increased outreach and education for businesses and the general public on steps they can take to survive in place, improve personal preparedness, and support and sustain the local workforce, which will be critical to infrastructure restoration. Strategies for pandemic response preparation may provide a model.

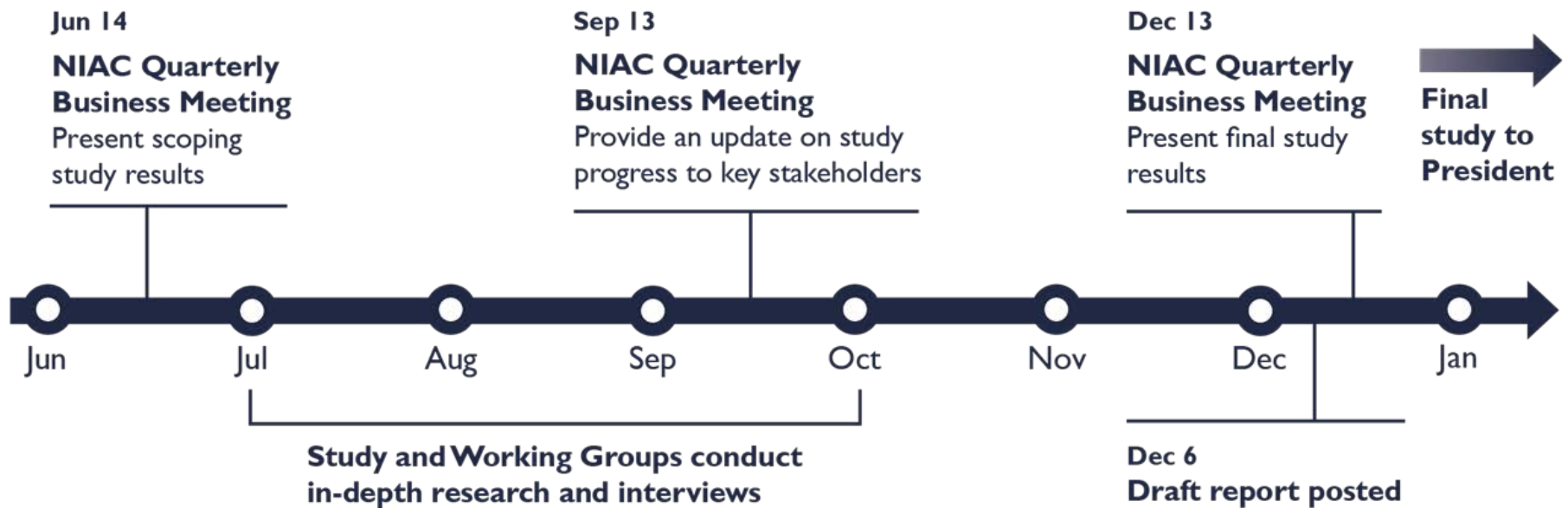
Key Areas of Inquiry: Government Role and Processes

7. Federal agencies need a clear coordinated plan for catastrophic power outages that provides **strong federal direction, oversight, and resource coordination throughout a sustained outage**, and allows for state and private sector partners to implement locally. Federal agencies require a greater understanding of how legal authorities (e.g., Stafford Act, FAST Act, Defense Production Act) will be used and a clear delineation of roles and responsibilities across all levels of government and the private sector.

Key Areas of Inquiry: Government Role and Processes

8. The federal government should **create a framework of incentives** designed to encourage state and local governments and infrastructure owners to make the investments necessary to implement the recommendations of the federal outage design basis and strategy for community enclaves. These incentives may include grants, tax incentives, or cost recovery.

Next Steps



Questions?

Appendix

Interviews

1. **Scott Aaronson**, Vice President, Security and Preparedness, Edison Electric Institute (EEI)
2. **Nick Akins**, Chairman, President and CEO, American Electric Power
3. **Charles “Ray” Alexander**, Chief, Interagency and International Services, USACE
4. **William Ball**, Executive Vice President and Chief Transmission Officer, Southern Company
5. **Kathryn Condello**, Director of National Security and Emergency Preparedness, CenturyLink
6. **Joshua Dozor**, Director, Planning Division, Response Directorate; Federal Emergency Management Agency (FEMA)
7. **Major General Donald Dunbar**, Adjutant General of Wisconsin, Wisconsin National Guard
8. **Greg Engle**, Director of Bureau of Planning and Preparedness, Wisconsin Emergency Management
9. **Doug Fears**, Special Assistant to the President for National Security Affairs, NSC
10. **Mark Fleming**, Director for Homeland Preparedness and Resilience Policy, NSC
11. **Deborah Fulk**, Senior Planner, Response Operations Division, FEMA Region V
12. **Sean Griffin**, Former Program Manager, Infrastructure Security and Energy Restoration, DOE
13. **Patricia A. Hoffman**, Principal Deputy Assistant Secretary and Acting Assistant Secretary, Office of Electricity Delivery and Energy Reliability, DOE
14. **Michael Isper**, Office of Security Policy and Industry Engagement (OSPIE), TSA
15. **Kenneth Mercado**, Senior Vice President of Electric Operations, CenterPoint Energy
16. **Charles Phillips**, Surface Transportation Division, TSA
17. **Paul Preusse**, Director, Response Operations Division, FEMA Region V
18. **Gil Quiniones**, President and CEO, New York Power Authority; Chair, Puerto Rico Energy Resiliency Working Group
19. **Avi Schnurr, CEO and President**, Electric Infrastructure Security (EIS) Council
20. **Dr. Paul Stockton**, Managing Director, Sonecon; former Assistant Secretary of Defense for Homeland Defense and America’s Security Affairs at the U.S. Department of Defense (DOD)
21. **Gus Wulfschuhle**, Operational Planner, Response Operations Division, FEMA Region V