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Securing America's Future Energy

August 23, 2019

The Honorable Bruce Walker
Assistant Secretary, Office of Electricity
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: Comments on the Office of Electricity's Request for Information Pertaining to Guidance for Enhancing Grid Resilience

Dear Assistant Secretary Walker:

We are writing on behalf of Securing America's Future Energy (SAFE) and its Energy Security Leadership Council (ESLC) in response to the Request for Information (RFI) you recently issued seeking guidance for enhancing grid resilience of critical energy infrastructure, including working with the Federal Emergency Management Agency (FEMA) to help them enhance the resilience of such critical infrastructure. SAFE commends you for soliciting stakeholder input in this regard and is providing input regarding enhancing the resilience of the electric system and the importance of doing so for national security purposes.

I. Brief Introduction

SAFE views the reliability and resilience of the electric grid as critical to both the economic and national security of the United States. As our economy becomes increasingly digital, and our transportation system moves towards electrification, the importance of the electric grid, and its reliability and resilience, only grows, as you are aware.

In recent years, there has been a growing recognition of the need to address the resilience of the grid in addition to its reliability. SAFE views reliability and resilience as follows. Reliability is the ability of the grid to deliver to consumers the quantity and quality of power they demand. Resilience is a broad concept that can be simplified into a four-part framework, including the ability to: 1) avoid or absorb shocks to the system while maintaining operations; 2) manage disruptions as they occur; 3) recover from a shock and resume normal operations as quickly as possible; and, 4) adapt lessons from past events into practices that reduce risks from future

events.[1] While resilience and reliability are related, they are not identical.[2] For example, one might characterize a reliable grid as one in which lights stay on and a resilient grid as one in which service is restored promptly when the lights go off.[3]

A. Background on SAFE and its ESLC

Securing America's Future Energy (SAFE) is a nonpartisan, nonprofit organization committed to strengthening U.S. energy and national security, by uniting prominent military and business leaders to develop and advocate for policies in this realm. Agile, multi-disciplinary, and armed with a deep understanding of the issues and politics, SAFE has consistently demonstrated an ability to lead the conversation and advance its goal of bolstering America's energy and national security.

SAFE's Energy Security Leadership Council (ESLC) is co-chaired by General James T. Conway, 34th Commandant of the U.S. Marine Corps, and Frederick W. Smith, FedEx Founder, Chairman and CEO. The ESLC is comprised of over 20 four-star Admirals and Generals who are the most respected voices on U.S. national security.

B. Background on the Grid Security Project

SAFE recently launched its Grid Security Project (GSP), which is being led by 33rd Commandant of the U.S. Marine Corps, General Michael W. Hagee. The goal of the GSP is to encourage policy makers, utilities, grid operators, and stakeholders to recognize the connection between grid resilience and SAFE's core mission of energy security.

More specifically, the GSP is intended to focus discussions of grid resilience on the need for a holistic, system-wide, energy-secure approach that incorporates market-based principles. Utilizing competitive market constructs can result in incremental investments and innovation that truly enhance grid reliability, resilience, and security. The GSP promotes cost-effective, market-based solutions to benefit ratepayers and boost national security based on fact-based identification of threats to grid reliability and resilience; a fuel-neutral approach to policies and regulations; and, the promotion of competitive power markets and competitive electric transmission line development.

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[1] National Academies of Sciences, Engineering, and Medicine, "Enhancing the Resilience of the Nation's Electricity System," page 10 (2017), available at: www.doi.org/10.17226/24836.

[2] Federal Energy Regulatory Commission, "Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures," 162 FERC ¶ 61,012, page 12 (January 8, 2018).

[3] Clark-Ginsberg, Aaron, What's the Difference between Reliability and Resilience?," 10.13140/RG.2.2.20571.46885. Appeared in the Department of Homeland Security's (DHS) Industrial Control Systems Joint Working Group (ICS JWG) March 2016 Newsletter, available at: www.researchgate.net/publication/320456274_What's_the_Difference_between_Reliability_and_Resilience.

II. Substantive Issues to Consider to Enhance Electric Grid Resilience and Security

As the U.S. Department of Energy (DOE) and your Office of Electricity (OE), in particular, work with FEMA to help guide FEMA's implementation of the provisions of the Disaster Recovery Reform Act (DRRA) such as the Pre-Disaster Hazard Mitigation Grant Program, now known as the Building Resilient Infrastructure and Communities (BRIC) Program, and as you also work with other key stakeholders in this process, we encourage you to consider the following points, most or all of which will be quite familiar to you.

A. The Energy System is Critical Infrastructure and Must be Part of Resilience Planning, Recovery, and Restoration Efforts

Reliable, resilient, and secure energy systems power the U.S. economy and sustain other critical infrastructure systems. Thus, DOE should ensure energy-related projects, and electricity and grid modernization technologies and capabilities, more specifically, are incorporated into all relevant efforts to enhancing critical infrastructure resilience. DOE, OE, FEMA, and other relevant agencies and stakeholders should examine generation, transmission, and distribution together as well as their impacts on one another, rather than examining each in isolation. System resilience is often enhanced when certain parts of the system are challenged (e.g., hazards, threats) yet other parts of the system contribute to its ultimate recovery/restoration (i.e., the ability to "bounce back").

SAFE believes that state and local policy makers who have concerns about grid reliability or resilience should share their concerns with grid operators, who can undertake the appropriate analyses to identify and resolve specific system shortcomings. Such analyses should establish fuel-neutral performance criteria consistent with the same market-oriented approach that has guided the transformation of the electrical grid to meet the nation's evolving energy needs. If necessary, this approach also would include retiring inefficient, uneconomic plants, investing in cyber and physical security, and encouraging the innovation, investment, and flexibility needed to ensure a robust, efficient, secure, and reliable electric system. Ultimately, SAFE believes that grid operators should use market-oriented policies to enhance grid security and, as part of that process, should determine whether a particular generator is needed to maintain grid reliability and resilience.

For years, a bipartisan consensus has advanced a market-oriented approach to manage the bulk power markets with the goal of ensuring reliable electric service at rates that are just and reasonable. The success of this market-oriented approach is reflected by metrics that examine grid reliability, and electricity prices that have risen at relatively modest levels since 2000, even as the underlying resource portfolio has evolved.

B. Encourage and Work with FEMA so a Broad Range of Projects That Enhance Resilience are Considered for Grant Eligibility

SAFE encourages you and your Office to work with FEMA to help ensure that FEMA considers a range of infrastructure projects as it implements the DRRA and the related Pre-Disaster Hazard Mitigation or BRIC Grants. More specifically, these grants should be able to be used for system "hardening" and to enhance resilience using a broad range of "smart" technologies and capabilities. Along these lines, we encourage you, as you work with FEMA and, as you and they work with state and local decision makers, to consider opportunities to incorporate microgrids, energy storage, and other distributed energy resources (DERs), where it makes sense to do so to enhance electric system resilience.

We cannot expect that the electric system, no matter the upgrades, will withstand extreme weather events or human-caused threats 100 percent of the time. However, as severe weather patterns continue to grow in frequency and impact, and as the current hurricane season continues, more can and should be done to ensure cost-effective solutions going forward. It will be more practical and cost-effective, especially in the long run, as existing electric system infrastructure is replaced and rebuilt, to do so with greater resilience, that is, with system "hardening" (e.g., encasing or replacing wooden poles with concrete or steel) as well as with automated grid management technologies and capabilities that help remotely detect outages and restore power more rapidly when outages do occur.

Electric transmission infrastructure is an extremely critical part of overall grid resilience. Among the more challenging issues with developing transmission projects are permitting, siting, and, in some instances, managing inter-regional issues. It is important that your Office, in collaboration with FERC, as appropriate, encourage grid operators to use a competitive process to choose the most cost-effective solutions, to the greatest extent practicable, to meet transmission needs to ensure that consumers are not over-paying for their power, and to work with FEMA to understand the rationale behind such processes.

In terms of implementing the DRRA and helping Puerto Rico rebuild its electric system following Hurricane Maria, several unique challenges exist. As Puerto Rico's electric grid is being rebuilt, we encourage you to work with FEMA to consider a range of options that do not necessarily pre-determine the types of generation sources and that also examine transmission and distribution-level options – including microgrids and other DERs. SAFE and its ESLC also encourage DOE-OE and FEMA to build on opportunities to leverage cross-sectoral approaches, e.g., rights-of-way for highways, and telecommunications, where it makes sense to do so.

C. Encourage Public-Private Partnerships

Where appropriate, projects should utilize a public-private approach that engages state and local government officials and private sector experts to provide communities with technical assistance, input, and ideas on a peer-exchange basis to learn from and leverage innovative technologies and approaches used in other states.

III. Conclusion

SAFE and its ESLC urge you and your Office to work with FEMA, so FEMA implements these grant programs and issues grants, such that relevant electric system infrastructure can be rebuilt, reinstalled, or redesigned in a manner that increases system resilience, reliability, and security to mitigate future power outages, continue delivery of vital services, and maintain the flow of power to facilities critical to public health, safety and welfare. Future planning should be conducted with these objectives in mind. SAFE and its ESLC stand ready to be a resource to you and your colleagues and look forward to continuing to work to enhance the future resilience of critical electric system infrastructure. If you have any questions, please contact Robbie Diamond, President and CEO of SAFE, at rdiamond@secureenergy.org or (202) 746-4611.

Sincerely,

General Carlton D. Everhart II, U.S. Air Force (Ret.)
Former Commander, Air Mobility Command

General John W. Handy, U.S. Air Force (Ret.)
Former Commander, U.S. Transportation Command