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U.S. Department of Energy
1000 Independence Ave. SW
Mailstop OE-20
Washington, DC 20585
Attn: Office of Electricity, Guidance for Enhancing Grid Resilience
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SUBJECT: Grid Resilience

The North American Transmission Forum, Inc (the NATF) appreciates the opportunity to respond to the Department of Energy (DOE), Office of Electricity (OE) request for information (RFI) on Codes, Standards, Specifications, and Other Guidance for Enhancing the Resilience of Electric Infrastructure Systems Against Severe Weather Events.

Background

The NATF is a voluntary membership of transmission owners and operators, with a mission to *promote excellence* in the reliable, secure, and resilient operation of North America's electric transmission system. The NATF was modelled after the Institute of Nuclear Power Operations (INPO), which has a analogous mission for the commercial nuclear power industry. The NATF's 89 members, representing a total of 162 transmission owning and/or operating companies across North America, include investor-owned, municipal, cooperative, U.S. federal, and Canadian provincial utilities, as well as ISOs and RTOs, and together represent over 80% of the peak electrical load in the U.S. and Canada. The NATF is built on the principle that timely sharing of detailed information—best practices, operating experience, lessons learned, and areas for improvement—among its members is key to advancing transmission system performance beyond mandatory levels, especially during times of rapid industry change¹.

Response to RFI

The NATF is providing four of its practices and reference documents to the DOE in response to the RFI. Resilience has become an increasingly important industry topic and continues to be a key aspect of NATF work. We recognize that our materials being submitted here are not directly on point with the severe weather events focus of the RFI, but we believe the information is relevant in that it reflects (1) operational aspects that could come into play in an extreme event and (2) assessments and actions to protect key transmission stations and substations from physical security threats. Each document provided is summarized below and attached to this submittal.

While the majority of NATF documents, tools, and reference materials are available only to the membership, several practices and references – including the four in this submittal – have been approved by the NATF board for open distribution and are posted on our public website (www.natf.net) for use by industry and the public.

¹ For more information, please visit www.natf.net

Open Distribution

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Documents Submitted:

1. NATF BES Monitoring and Control – An Overview of Backup Capabilities
[NATF BES Monitoring and Controls - Overview of Backup Capabilities.pdf](#)

This document is intended to provide an overview of the key capabilities for the reliable operation of the BES, along with a description of the various approaches used within the industry to ensure redundancy for critical capabilities so that System Operators are able to continuously monitor and control the BES in the event of the loss of the primary control center capabilities.

2. NATF BES Operations absent EMS and SCADA Capabilities – a Spare Tire Approach
[NATF BES Operations Absent EMS and SCADA Capabilities A Spare Tire Approach.pdf](#)

This NATF Reference document, representing research performed by industry personnel who have in excess of 200 years of cumulative experience, is in response to a question originally raised by the Electric Subsector Coordinating Council (ESCC) regarding how electric utilities would continue to operate during an event causing loss of both primary and backup control systems (i.e., total loss of the Energy Management System (EMS)/Supervisory Control and Data Acquisition (SCADA)). This concept was subsequently characterized as a “Spare Tire” approach to ensure continued system operations following the loss of critical applications.

3. NATF Practices Document for CIP-014-2 R4 – Physical Security Vulnerability Assessments
[NATF Practices for CIP-014-2 R4 - Physical Security Vulnerability Assessments.pdf](#)

The purpose of this document is to provide a NERC Reliability Standard CIP-014-2 Requirement R4 practices guide containing an approach, common practices, and understanding for conducting evaluations of the potential threats and vulnerabilities of a physical security attack against a *Transmission station, Transmission substation, and/or a primary control center.*

4. NATF Practices Document for CIP-014-2 R5 – Physical Security Plans
[NATF Practices for CIP-014-2 R5 - Physical Security Plans.pdf](#)

The purpose of this document is to provide a NERC Reliability Standard CIP-014-2 Requirement 5 Practices Guide containing an agreed upon approach, common practices, and understanding for the development and implementation of Physical Security Plans.

We hope the DOE will find value in the attached documents and thank you again for the opportunity to respond to the RFI. Please direct any questions or follow-up to me.



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