



[6450-01-P]

DEPARTMENT OF ENERGY

Codes, Standards, Specifications, and Other Guidance for Enhancing the Resilience of Electric Infrastructure Systems Against Severe Weather Events

AGENCY: Office of Electricity, Department of Energy (DOE).

ACTION: Notice of request for information (RFI).

SUMMARY: Many investor- and consumer-owned electric utilities, as well as the state and local government agencies or boards that oversee or regulate them, are seeking cost-effective ways to make electric infrastructure systems more resilient against severe weather events, e.g., windstorms, floods, wildfires, etc. The purpose of this RFI is to gather “relevant consensus-based codes, specifications, and standards,”¹ state and industry best practices, and other pertinent materials to provide guidance for enhancing the physical and operational resilience of electric grid systems and their components, e.g. generation, transmission, control centers, and distribution facilities, against these events. Gathering this information will enable existing requirements and expert knowledge on this subject to be synthesized and made broadly available to interested policy officials and other decision-makers. In addition, this information may aid the Federal Emergency Management Agency in its implementation of the Disaster Recovery Reform Act of 2018, as well as other federal efforts to enhance resilience. Organizing existing knowledge in this way will also help identify important information gaps that can then be addressed through targeted research and development activities and through emergency preparedness actions by government agencies and the private sector.

¹ The Disaster Recovery Reform Act, which was signed into law on October 5, 2018 as part of the FAA Reauthorization Act of 2018 (Pub. L. 115-254), includes several references “to relevant consensus-based codes, specifications, and standards,” including in sections 1234 and 1235.

The U.S. Department of Energy also supports actions to enhance the weather-related resilience of other domestic forms of energy infrastructure, particularly oil and natural gas systems. A parallel RFI will be issued to gather analogous resilience information pertinent to those sectors.

DATES: Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES:

Email: Interested persons are encouraged to submit comments electronically, to *grid.resilience@hq.doe.gov*, with “Grid Resilience” in the subject line. Comments, data, and other information submitted to DOE electronically should be provided in PDF, Microsoft Word, Microsoft Excel, WordPerfect, or text (ASCII) file format. The information received in response to this RFI may be used to structure future DOE programs and will be available to the public. Respondents are strongly advised not to include any document or information that might be considered commercially- or business-sensitive, proprietary, confidential, critical electric infrastructure information, or classified for reasons of national security. Submissions should be written in English, be free of any defects or viruses, and without special characters or any form of encryption.

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

FOR FURTHER INFORMATION CONTACT: David Meyer, U.S. Department of Energy, Office of Electricity, 1000 Independence Avenue, SW, Washington, DC 20585–0121.

Telephone: (202) 586–3876. E-mail: *David.Meyer@hq.doe.gov*.

SUPPLEMENTARY INFORMATION: Concern among government agencies, utilities, and the public about the risks presented by more frequent and more severe weather events has led to widespread discussion about how to make electric infrastructure systems more resilient against such hazards, and how to do so effectively and at reasonable cost. This is challenging to do, however, given the many uncertainties and variables associated with weather-related events.

The specific purpose of this RFI is to gather available information on current consensus-based codes, specifications, standards, and other forms of guidance for improving the resilience of electric infrastructure systems against severe weather events, with respect to both the design and operation of these systems. The information of interest ranges from (1) specific technical design standards or requirements for physical system components, e.g., “transmission towers sited in areas subject to winds between 125 mph and 150 mph should be built to withstand wind stress of XYZ mph, using xxx-grade steel or yyy-grade concrete or both”; (2) relevant corporate business practices, e.g., “companies should designate a senior corporate officer responsible for the development, implementation, and ongoing maintenance of a company-wide resilience strategy”; and (3) analytic methods and tools for estimating the possible economic benefits from strategies, investments, or initiatives to enhance power system resilience.

DOE anticipates using this information to catalogue and synthesize a body of existing expert knowledge about how best to enhance the weather-related resilience of the grid, cost-effectively. Accordingly, it is important for respondents to supplement specific standards,

requirements, or practices with the rationale(s) relied upon in developing them and justifying their use.

DOE also notes that some of the existing electric reliability standards developed by the North American Electric Reliability Corporation and adopted by the Federal Energy Regulatory Commission, and those developed by the Institute of Electrical and Electronics Engineers, have weather-related resilience implications and benefits. These standards are generally well-documented, and DOE suggests that respondents cite them where appropriate by reference only; submission of more detailed information is not needed.

Regarding state- or locally- adopted codes and standards that have resilience implications, or for less well-documented requirements or practices, DOE has the following questions:

- a) Scope and applicability – for any given requirement or practice, what hazard (or hazards) is the measure intended to mitigate or make the system less vulnerable against, and for which sector(s) or component(s) of the system is the practice relevant? Does the requirement establish a design threshold, e.g., “design to withstand 150 mph wind stress”, or identify appropriate hazard maps, e.g., flood plain maps, or maps of wind zones?
- b) Origins – how or by whom was the requirement or practice developed, and did the process provide for consensus, openness, transparency, balanced decision-making, due process, or an appeal process? Could the chosen development method be applied to unmet needs in other grid resilience contexts?
- c) Validation – has the requirement or practice been widely tested? Note: DOE recognizes that worthwhile practices for improving resilience may exist that are not presently consensus-based, and therefore asks respondents to include information about

such practices, and whether further testing or refinements would make them more broadly applicable.

d) Are there other important caveats, not mentioned earlier, about the requirement or practice that should be considered?

Interested parties are encouraged to submit comments and information on matters discussed in this **SUPPLEMENTARY** section, in writing and by the date specified in the **DATES** section of this notice. All comments received will be posted without change to <http://www.regulations.gov>.

Please do not submit to the RFI information for which disclosure is restricted by statute, such as trade secrets and confidential commercial or financial information (Confidential Business Information (CBI)). Comments submitted to the RFI email address cannot be claimed as CBI, and submission waives any such claims. DOE plans to make all information received in response to this RFI available to the public.

Signed in Washington, DC on June 28, 2019.

Bruce J. Walker,
Assistant Secretary,
Office of Electricity,
U.S. Department of Energy.
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