[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2018-0040]

Aluminum High Energy Arc Fault (HEAF) Particle Size Characterization

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed draft test plan; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is making the proposed draft test plan, "Aluminum High Energy Arc Fault (HEAF) Particle Size Characterization Test Plan – Draft Test Plan," available for public comment.

DATES: Submit comments by **[INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2018-0040**. Address questions about NRC dockets to Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.
- **Mail comments to:** May Ma, Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION, CONTACT: Gabriel Taylor, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-0781; e-mail: Gabriel.Taylor@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information.

Please refer to Docket ID **NRC-2018-0040** when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2018-0040**.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The proposed draft test plan, "Aluminum High Energy Arc Fault (HEAF) Particle Size Characterization Test Plan – Draft Test Plan" is available electronically under ADAMS Accession No. ML18036A448.
- **NRC's PDR:** You may examine and purchase copies of public documents at

the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments.

Please include Docket ID **NRC-2018-0040** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at http://www.regulations.gov as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Discussion

The NRC has identified a potential generic issue associated with electrical equipment containing component made of aluminum. If the identified equipment were to experience a HEAF the presence of aluminum may cause greater damage to structures, systems, and components than previous analyses indicated. This generic issue has met all seven screening criteria of the generic issues program and is currently in the assessment phase (ADAMS Accession No. ML16349A027). To better understand the impact of aluminum, the NRC is sponsoring large- and small-scale testing. The large-scale testing will be undertaken as part of an international effort and the draft test plan for that program is publicly available (ADAMS Accession No. ML17201Q551).

The purpose of this draft test program is characterize aluminum particle size distribution, rates of production and morphology (agglomeration) of HEAFs involving aluminum conductors. The measurements from these experiments will be used to support development of a HEAF/Aluminum combustion energy balance model to better characterize the aluminum HEAF hazard. This modeling effort will support advancements to quantify hazards HEAF pose to nuclear power plant risk. The small-scale testing is expected to be performed prior to any full-scale testing. The results from the small-scale work is expected to help inform to the large-scale test results and to support evaluation of the numerical method predictive capability. Model development is outside the scope of this test plan and is expected to be completed by a third party. This draft test plan has been developed by Sandia National Laboratories.

The NRC is seeking public comment in order to receive feedback from the widest range of interested parties and to ensure that all information relevant to developing this document is available to the NRC staff. This document is issued for comment only and is not intended for interim use. The NRC will review public comments received on the documents, incorporate suggested changes as necessary, and make the final test plan available.

Dated at Rockville, Maryland, this 26th day of February, 2018.

For the Nuclear Regulatory Commission.

Mark Henry Salley, Chief,
Fire and External Hazard Analysis Branch,
Division of Risk Analysis,
Office of Nuclear Regulatory Research.

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