Draft Test Plan High Energy Arcing Faults Phase 2

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft test plan; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is requesting public comment on the draft test plan entitled, “High Energy Arcing Faults (HEAFs) in Electrical Equipment Phase 2,” 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.

DATES: Submit comments by September 1, 2017. 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 on or before this date.

ADDRESSES: You may submit comments by any of the following methods:

- **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 email to pdr.resource@nrc.gov. The draft test plan, “High Energy Arcing Faults (HEAFs) in Electrical Equipment Phase 2,” is available in ADAMS under Accession No. ML17201Q551.
- **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–2017–0168 in the subject line of 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 posts all comment submissions at http://www.regulations.gov as well as entering 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 submissions into ADAMS.

II. Discussion

The purpose of this test program is to better understand the fire risk presented by high energy arc fault phenomena and to characterize physical parameters such as the thermal conditions, pressure effects, and electrical conductive products of combustion created by HEAFs occurring primarily in electrical cabinets, and bus ducts. The experimental data will be used by the NRC to determine the adequacy of existing HEAF zone of influences (ZOIs) damage models and support revisions to those methods if necessary. Additionally, phase 2 of testing will focus on the HEAFs involving aluminum components as it pertains to both increased physical damage states and potential product of combustion electrical conductivity concerns. This research is also being proposed as an international nuclear safety research project.

Currently, there are two available methods to model HEAF damage.

Electrical enclosure guidance is contained in NUREG/CR–6850 (EPRI 1011989), “EPRI/NRC–RES Fire PRA Methodology for Nuclear Power Facilities Volume 2: Detailed Methodology,” Appendix M (ADAMS Accession No. ML15167A411). This model is limited because it was largely derived from empirical evidence from one single well-documented HEAF event that occurred at the San Onofre Nuclear Generating Station, Unit 3, on February 3, 2001. A second method that focuses on damage involving bus duct HEAF events can be found in NUREG/CR–6850 (EPRI 1019259) Supplement 1, “Fire Probabilistic Risk Assessment Methods Enhancements,” Section 7 “Bus Duct (Counting) Guidance for High-Energy Arcing Faults (FAQ 07–0035)” (ADAMS Accession No. ML15167A550).

Both methods employ a “one size fits all” ZOI methodology that prescribes a damage zone around an initiating component. These ZOIs prescribe damage to potentially vulnerable electrical or electromechanical components nearby such as cables, transformers, ventilation fans, other cabinets, etc. The International Organization for Economic Co-operation and Development (OECD)/Nuclear Energy Agency (NEA) experimental HEAF Project was created in an attempt to take an exploratory scientific approach to better understand the HEAF phenomena and produce data that could be used to better inform fire modeling techniques for postulating a realistic damage range of HEAF scenarios. The report can be downloaded here: https://www.oecd-nea.org/nsd/docs/2017/csnir-2017-7.pdf.

This draft test plan describes the NRC’s next phase of testing necessary to better understand the HEAF phenomena and to characterize the damage involving thermal conditions, pressure effects, and electrically conductive deposits on nearby surfaces created by HEAFs occurring in electrical cabinets and bus ducts. The results of this program will provide qualitative information on the impact of HEAFs on
typical fire probabilistic risk assessment targets such as electrical cable and nearby equipment. The experimental data will be used by the NRC to determine the adequacy of existing HEAF ZOs presented in NUREG/CR–6850, Appendix M and Supplement 1 and to adjust existing methodology as necessary. The phase 2 testing will also focus on the HEAF involving aluminum components as it pertains to both increased physical damage states and electrical conductive products of combustion concerns. This test program is also being proposed internationally through the OECD and the NEA as a collaborative international nuclear safety research program.

This document is not intended for interim use. The NRC will review public comments received on the document, incorporate suggested changes as appropriate, and make the final test plan available. Consistent with past experimental programs, the final test plan will be considered a living document.

Changes to the final test plan can, and likely will be made during the testing phase as insights and observations from the testing develop that would suggest changes are necessary to ensure valuable data from experiments is being obtained.

Dated at Rockville, Maryland, this 27th day of July, 2017.

For the Nuclear Regulatory Commission.

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

FOR FURTHER INFORMATION CONTACT:
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SUPPLEMENTARY INFORMATION: On June 30, 2017, the Postal Service filed a notice of market dominant price adjustment and classification changes in accordance with 39 U.S.C. 3622 and 39 CFR part 3010.1. On July 3, 2017, Order No. 3990 established the procedural schedule for this proceeding, including a comment deadline of July 20, 2017. By rule, the Commission determines, at a minimum, whether the planned adjustment is consistent with the price cap 14 days following the comment deadline. See 39 CFR 3010.11(d). These dates are predicated on complete information being available for parties to comment on and the Commission to review. See, e.g., 39 CFR 3010.12(b)(3). This case represents a series of changes relating to the Move Update assessment charge, where complete information regarding the potential price cap impacts of the changes was not available with the Postal Service’s initial filing, prompting several Chairman’s Information Requests.

United States Postal Service Notice of Market Dominant Price Adjustment and Classification Changes, June 30, 2017 (Notice).
Notice and Order on Price Adjustment for Move Update, July 3, 2017 (Order No. 3990). Comments for market dominant rate adjustments are due 20 days after the date of filing, pursuant to 39 CFR 3010.11(a)(5).

39 CFR 3010.12(b)(3) requires that the Postal Service include with its notice of rate adjustment “(1) the percentage change in rates for each class of mail calculated as required by § 3010.23.” It further requires that this information “be supported by workpapers in which all calculations are shown and all input values, including current rates, new rates, and billing determinants, are listed with citations to the original sources.” Id. 39 CFR 3010.23(d)(2) requires that the Postal Service “make reasonable adjustments to the billing determinants to account for the effects of classification changes such as the introduction, deletion, or redefinition of rate cells.” 39 CFR 3010.23(d)(2). In making those adjustments, the Postal Service is required to “identify and explain all adjustments” and provide “(a)ll information and calculations relied upon to develop the adjustments . . . with an explanation of why the adjustments are appropriate.” Id.

The Postal Service proposes an increase to the Move Update assessment charge, an updated enforcement method for the charge, and a change to the threshold for its tolerance of change of address (COA) errors. Notice at 1; id. n.1. There have been five Chairman’s Information Requests issued in this case: Chairman’s Information Request No. 1, July 5, 2017; Chairman’s Information Request No. 2, July 7, 2017 (CHIR No. 2); Chairman’s Information Request No. 3, July 13, 2017 (CHIR No. 3); Chairman’s Information Request No. 4, July 20, 2017.

Comments filed July 20, 2017, did not have the benefit of the Postal Service’s responses to CHIR No. 3 or CHIR No. 4 (and had only one day to review and consider the Postal Service’s response to CHIR No. 2). The Association for Postal Commerce notes that “a few elements in the Postal Service’s filing, and in its proposed Move Update assessment process generally . . . warrant further explanation.”

The Commission, due to the potential importance of this missing information to the issues of the proceeding (for both informed comments and the Commission’s review), finds that commenters and its own review would be prejudiced without equitably tolling the time of filing (and deadlines set by that time of filing). Therefore, the Commission finds it necessary to constructively adjust (toll) the filing date for Postal Service’s Notice to July 20, 2017, at which time the Postal Service had provided the bulk of the information necessary to evaluate the potential impacts of proposed changes in its Notice. As a result, commenters may file additional comments by August 9, 2017. Likewise, the date required by 39 CFR 3010.11(d) for the Commission’s determination shall be August 23, 2017. It is ordered:

1. Any additional comments are due by August 9, 2017.
2. The Commission’s determination, pursuant to 39 CFR 3010.11(d) shall be filed by August 23, 2017.
3. The Secretary shall arrange for publication of this order in the Federal Register.

By the Commission.

Ruth Ann Abrams,
Acting Secretary.

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