

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2014-0206]**

**Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Draft NUREG; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a draft NUREG, NUREG-1824 (EPRI 3002002182), "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications, Supplement 1."

**DATES:** Please submit comments by March 31, 2015. Comments received after this date will be considered if it is practical to do so, but the NRC staff is able to ensure consideration only for comments received on or before this date.

**ADDRESSES:** You may submit comment 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-2014-0206**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: 3WFN, 06-A44M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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

**FOR FURTHER INFORMATION CONTACT:** David Stroup, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-251-7609, e-mail: [David.Stroup@nrc.gov](mailto:David.Stroup@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Obtaining Information and Submitting Comments.**

**A. Obtaining Information.**

Please refer to Docket ID **NRC-2014-0206** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2014-0206**.

- **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](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced (if it available in ADAMS) is provided the first time that a document is referenced. Draft NUREG-1824 (EPRI 3002002182), “Verification and Validation of Selected

Fire Models for Nuclear Power Plant Applications, Supplement 1” is available in ADAMS under Accession No. **ML14338A237**.

- **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-2014-0206** in the subject line of your comment submission, in order to ensure that the NRC is able to make your comment submission available to the public in this docket.

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. Further Information.**

In 2007, the NRC’s Office of Nuclear Regulatory Research and the Electric Power Research Institute (EPRI) under a joint Memorandum of Understanding, together with the

National Institute of Standards and Technology, conducted a research project to verify and validate five fire models that have been used for nuclear power plant applications. The results of that effort were documented in a seven-volume report, NUREG-1824 (EPRI 1011999), *Verification & Validation of Selected Fire Models for Nuclear Power Plant Applications*.

Technical review of fire models is necessary to ensure that analysts can judge the adequacy of the scientific and technical basis for the models, select models appropriate for a desired use, and understand the levels of confidence that can be placed in the results predicted by the models. The work was performed using state of the art fire dynamics calculation methods/models and the most applicable fire test data. The NUREG-1824 (EPRI 3002002182), *Verification & Validation of Selected Fire Models for Nuclear Power Plant Applications, Supplement 1*, expands on the previous verification and validation effort and evaluates the latest versions of the five fire models including additional test data for validation of the models. As with the previous effort, the results are reported in the form of ranges of accuracies for the fire model predictions and, the project was performed in accordance with the guidelines that the American Society for Testing and Materials (ASTM) set forth in ASTM E 1355-12, *Standard Guide for Evaluating the Predictive Capability of Deterministic Fire Models* (2012).

Dated at Rockville, Maryland, this 15 day of January, 2015.

For the Nuclear Regulatory Commission.

Mark H. Salley, Chief **/RA/**  
Fire Research Branch  
Division of Risk Analysis,  
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