[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-120; NRC-2019-0180]

Alternative Method for Calculating Embrittlement for Steel Reactor Vessels

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; notice of docketing, and request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has received a petition for rulemaking from Thomas A. Bergman, on behalf of NuScale Power, LLC, dated August 19, 2019, requesting that the NRC revise its regulations to alleviate a requirement for calculating the embrittlement for advanced reactor designs and to add the embrittlement trend curve formula for calculating the mean value of the transition temperature shift described in American Society for Testing and Materials E900-152 to the NRC's regulations and guidance documents. The petition was docketed by the NRC on September 11, 2019, and has been assigned Docket No. PRM-50-120. The NRC is examining the issues raised in PRM-50-120 to determine whether these issues should be considered in rulemaking. The NRC is requesting public comment on this petition at this time.

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

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

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2019-0180. Address questions about NRC dockets to Carol

Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **E-mail comments to:** Rulemaking.Comments@nrc.gov. If you do not receive an automatic e-mail reply confirming receipt, then contact us at 301-415-1677.
- **Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.
- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
- **Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. (Eastern Time) Federal workdays; telephone: 301-415-1677.

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: Yanely Malave-Velez, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-1519; e-mail Yanely.Malave-Velez@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2019-0180 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 https://www.regulations.gov and

search for Docket ID NRC-2019-0180.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, 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 ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.
- **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-2019-0180 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 https://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. The Petitioner and the Petition

The petition was submitted by Thomas A. Bergman on behalf of NuScale Power, LLC. Thomas A. Bergman is the Vice President of Regulatory Affairs. The petitioner requests that the NRC amend part 50 of title 10 of the *Code of Federal Regulations* (10 CFR) to alleviate an unnecessarily burdensome requirement on advanced reactor designs by adding an alternative formula for calculating the mean value of the transition temperature shift. The petition can be found in ADAMS at Accession No. ML19254B848.

III. Discussion of the Petition

The provisions in 10 CFR 50.61 and Regulatory Guide 1.99 were first published in 1988 and focus on determining embrittlement inside the surface of the reactor pressure vessel. Additional irradiation embrittlement data has been collected since the time 10 CFR 50.61 and Regulatory Guide 1.99 were developed. The petitioner states that small modular reactor design is unnecessarily burdened with an excessively conservative methodology for determining radiation embrittlement based on outdated information. The petitioner requests that the NRC amend 10 CFR part 50 to alleviate a requirement for calculating the embrittlement for advanced reactor designs and add the embrittlement trend curve formula for calculating the mean value of the transition temperature shift described in American Society for Testing and Materials (ASTM) E900-15 to the NRC's regulations and guidance documents. The petitioner states that ASTM E900-15 represents the latest industry consensus embrittlement trend correlation and is derived from a much larger database than was available when Regulatory Guide 1.99 was issued and last revised.

IV. Conclusion

The NRC has determined that the petition meets the threshold sufficiency requirements for docketing a petition for rulemaking under 10 CFR 2.803. The NRC is examining the issues raised in PRM-50-120 to determine whether these issues should be considered in rulemaking and is requesting public comment on this petition at this time.

Dated at Rockville, Maryland this 13th day of November, 2019.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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