[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2011-0256]

Aging Management of Stainless Steel Structures and Components in Treated Borated Water

AGENCY: Nuclear Regulatory Commission.

ACTION: Interim staff guidance; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing License Renewal Interim Staff Guidance (LR-ISG), LR-ISG-2011-01, "Aging Management of Stainless Steel Structures and Components in Treated Borated Water." This LR-ISG revises the guidance in the Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants (SRP-LR) and Generic Aging Lessons Learned (GALL) Report for the aging management of stainless steel structures and components exposed to treated borated water. The NRC published Revision 2 of the SRP-LR and GALL Report in December 2010, and they are available in the NRC's Agencywide Documents Access and Management System (ADAMS) under Accession Nos. ML103490041 and ML103490036, respectively.

ADDRESSES: You can access publicly available documents related to this document using the following methods:

- **NRC's Public Document Room (PDR):** The public may examine and have copied, for a fee, publicly available documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

- **ADAMS:** Publicly available documents created or received at the NRC are available online in the NRC Library at *http://www.nrc.gov/reading-rm/adams.html*. From this page, the public can gain entry into ADAMS, which provides text and image files of the NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to *pdr.resource@nrc.gov*. The LR-ISG-2011-01 is available under ADAMS Accession No. ML12034A047.

- **Federal Rulemaking Web Site:** Public comments and supporting materials related to this final rule can be found at *http://www.regulations.gov* by searching on Docket ID NRC-2011-0256. Address questions about NRC dockets to Carol Gallagher, telephone: 301-492-3668; e-mail: *Carol.Gallagher@nrc.gov*.

- **NRC's Interim Staff Guidance Web Site:** LR-ISG documents are also available online under the "License Renewal" heading at *http://www.nrc.gov/reading-rm/doc-collections/#int*.

FOR FURTHER INFORMATION CONTACT: Dr. John Wise, Division of License Renewal, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-8489, or e-mail: *John.Wise@nrc.gov*, or Ms. Evelyn Gettys, Division of License Renewal, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-001; telephone: 301-415-4029, or e-mail: *Evelyn.Gettys@nrc.gov*.

SUPPLEMENTARY INFORMATION:

Background Information

The NRC issues LR-ISGs to communicate insights and lessons learned and to address emergent issues not covered in license renewal guidance documents, such as the GALL Report and SRP-LR. In this way, the NRC staff and stakeholders may use the guidance in an LR-ISG document before it is incorporated into a formal license renewal guidance document revision. The NRC staff issues LR-ISGs in accordance with the LR-ISG Process, Revision 2 (ADAMS Accession No. ML100920158), for which a notice of availability was published in the *Federal Register* on June 22, 2010 (75 FR 35510).

The NRC staff has determined that existing guidance in the SRP-LR and GALL Report may not adequately address aging management of stainless steel structures and components exposed to treated borated water. Specifically, for pressurized water reactors, the guidance inappropriately credits boron as a corrosion inhibitor in place of other aging management activities. As a result, aging effects such as loss of material, cracking, and reduction of heat transfer may not be adequately managed. The staff has revised the guidance in the SRP-LR and GALL Report to align the guidance for treated borated water with that for treated (non-borated) water. The revisions include adding the One-Time Inspection program to verify the effectiveness of the Water Chemistry program to manage loss of material and cracking of stainless steel structures and components exposed to treated borated water and adding reduction of heat transfer due to fouling as an aging effect requiring management for stainless steel heat exchanger tubes exposed to treated borated water.

On November 8, 2011, the NRC staff issued a *Federal Register* notice (76 FR 69292) to request public comments on draft LR-ISG-2011-01 (ADAMS Accession No. ML 112360626). In response, the NRC received comments from the Nuclear Energy Institute by letter dated December 13, 2011 (ADAMS Accession No. ML11350A112) and Exelon Generation Company, LLC by letter dated December 14, 2011 (ADAMS Accession No. ML11353A424). The Nuclear Energy Institute and Exelon provided similar comments suggesting the expansion of the new guidance to additional components for aging management of loss of material and cracking, but also suggesting the withdrawal or revision of the new guidance for management of reduction of heat transfer in heat exchangers.

The staff incorporated the comments regarding the expansion of the new guidance to additional components for management of loss of material and cracking, because the staff considered these changes as providing important clarity to license renewal applicants. However, the staff did not incorporate the comments regarding the withdrawal or revision of the new guidance for heat exchangers. The comments regarding the heat exchanger guidance were that the proposed one-time inspection was either not necessary due to lack of operating experience with fouling of heat exchangers in the chemical and volume control system, or not an appropriate aging management method due to the potential for inspection personnel to be exposed to significant radiation. The staff considers the one-time inspection approach as appropriate for components with limited operating experience of age-related degradation. If age-related degradation were known, the GALL Report One-Time Inspection program recommends a periodic inspection approach. Also, the one-time inspection guidance does not preclude a license renewal applicant from proposing and justifying other aging management

approaches that minimize dosage. For these reasons, the staff chose not to eliminate the new guidance for heat exchangers.

The final LR-ISG-2011-01 is approved for NRC staff and stakeholder use and will be incorporated into the NRC's next formal license renewal guidance document revision.

Backfitting and Issue Finality

Issuance of this final LR-ISG does not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and is not otherwise inconsistent with the issue finality provisions in Part 52, ''Licenses, Certifications, and Approvals for Nuclear Power Plants,'' of 10 CFR. As discussed in the ''Backfitting Discussion'' section of final LR-ISG-2011-01, the LR-ISG is directed to holders of operating licenses or combined licenses who are currently in the license renewal process. The LR-ISG is not directed to holders of operating licenses or combined licenses until they apply for license renewal. The LR-ISG is also not directed to licensees who already hold renewed operating or combined licenses.

Dated at Rockville, Maryland, this 3rd day of May, 2012.

For the Nuclear Regulatory Commission.

/RA/

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Division of License Renewal
Office of Nuclear Reactor Regulation

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