

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

July 14, 1993

NRC INFORMATION NOTICE 93-52: DRAFT NUREG-1477, "VOLTAGE-BASED INTERIM
PLUGGING CRITERIA FOR STEAM GENERATOR TUBES"

Addressees

All holders of operating licenses or construction permits for pressurized water reactors (PWRs).

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees that draft NUREG-1477, "Voltage-Based Interim Plugging Criteria for Steam Generator Tubes," is available for review and comment. The draft report will be the basis for a final NUREG-1477 to be issued on the use of voltage-based interim plugging criteria to address outer diameter stress corrosion cracking (ODSCC) at the tube-to-tube support plate intersections in steam generators. This information notice contains no NRC requirements, and no specific action or written response is required.

Discussion

On July 2, 1993, the NRC published in the Federal Register (58 FR 35985) a notice that the above draft report on interim tube plugging criteria was available for public comment. The conclusions and recommendations of the draft report are preliminary and comments received will be incorporated as applicable. The draft report was prepared by an NRC task group established to review the technical bases for interim approval of voltage-based plugging criteria for application to ODSCC, to review the outstanding issues associated with those criteria, and to prepare conclusions and recommendations for implementing those criteria. The report indicates that the NRC considers most of these issues to be relevant to the long-term approval of voltage-based plugging criteria. The task group was composed of NRC staff from the Offices of Nuclear Reactor Regulation and Nuclear Regulatory Research, and consultants from NRC contractors. The task group reviewed and evaluated tube integrity issues, including the potential for tube rupture or leakage under postulated accident conditions and their effect on safety. The task group also assessed outstanding technical issues and concerns that NRC staff members raised regarding voltage-based plugging criteria for ODSCC.

The task group assessed tube integrity issues including (1) the ODSCC mechanism, (2) methods for evaluating margins against tube rupture and estimating potential primary-to-secondary leakage, (3) operational primary-to-secondary leakage limits, and (4) inservice inspection methods and scope. In

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performing the assessment for item (2), the task group evaluated an NRC model and an industry model. The NRC model used a traditional mechanistic approach for assessing tube integrity, while the industry model used an empirical approach based on the voltage amplitude of eddy current measurements. Analyses performed using these models predicted significantly different primary-to-secondary leakage rates for postulated accident conditions. Understanding and resolving this difference was important for the task group to assess the safety implications with regard to offsite radiological doses and core integrity.

To determine the safety implications of the interim plugging criteria, the task group performed calculations to assess the effect of a range of assumed primary-to-secondary leak rates on radiological doses and the potential for core damage associated with them. The task group also performed a risk assessment to determine the safety significance of ODSCC of steam generator tubes.

The draft report documents the results of the task group effort including preliminary conclusions and recommendations for implementing voltage-based interim plugging criteria. The draft report has been assigned NRC accession number 9306030163 and is available in the NRC public document rooms. The Federal Register notes that the NRC staff will consider all public comments on the draft report received within 45 days of the date of the Federal Register notice and will revise the draft report as appropriate. The final report will be the technical basis for a forthcoming NRC staff generic position on the use of voltage-based plugging criteria to address ODSCC at the tube-to-tube support plate intersections. The NRC staff will prepare this generic position in accordance with applicable NRC procedures.

If you wish to comment on the draft report, address your comments to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555. Comments should be provided within 45 days of the date of the Federal Register notice to be considered in the revision to the report.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

orig /s/'d by BKGrimes

Brian K. Grimes, Director
Division of Operating Reactor Support
Office of Nuclear Reactor Regulation

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(301) 504-2795

Richard Lobel, NRR
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DATE	06/18/93	06/25/93	07/01/93	07/01/93	06/24/93

OFFICE	D:DE*	OGCB:DORS*	OGCB:DORS	D:DORS
NAME	JRichardson	JLBirmingham	GMarcus*	BGrimes
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OFFICE	D:DE	OGCB:DORS	OGCB:DORS	D:DORS
NAME	<i>J</i> Richardson	JLBirmingham	GMarcus	BGrimes
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Attachments:

1. Draft NUREG-1477, "Voltage-Based Interim Plugging Criteria for Steam Generator Tubes"
2. List of Recently Issued NRC Information Notices

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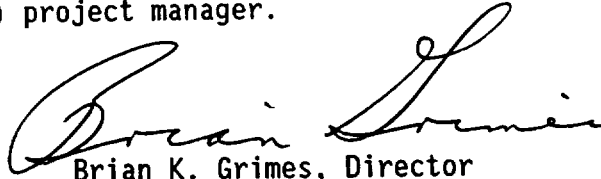
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 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
93-51	Repetitive Overspeed Tripping of Turbine-Driven Auxiliary Feed-water Pumps	07/09/93	All holders of OLs or CPs for nuclear power reactors.
93-50	Extended Storage of Sealed Sources	07/08/93	All licensees authorized to possess sealed sources.
93-49	Improper Integration of Software into Operating Practices	07/08/93	All holders of OLs or CPs for nuclear power reactors.
93-48	Failure of Turbine-Driven Main Feedwater Pump to Trip Because of Contaminated Oil	7/6/93	All holders of OLs or CPs for nuclear power reactors.
92-06, Supp. 1	Reliability of ATWS Mitigation Systems and Other NRC-Required Equipment not Controlled by Plant Technical Specification	07/01/93	All holders of OLs or CPs for nuclear power reactors.
93-47	Unrecognized Loss of Control Room Annunciators	06/18/93	All holders of OLs or CPs for nuclear power reactors.
93-46	Potential Problem with Westinghouse Rod Control System and Inadvertent Withdrawal of A Single Rod Control Cluster Assembly	6/10/93	All holders of OLs or CPs for Westinghouse (W)-designed nuclear power reactors.
93-45	Degradation of Shutdown Cooling System Performance	06/16/93	All holders of OLs or CPs for nuclear power reactors.
93-44	Operational Challenges During A Dual-Unit Transient	06/15/93	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
 CP = Construction Permit