

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

December 10, 1998

**NRC INFORMATION NOTICE 98-44: TEN-YEAR INSERVICE INSPECTION (ISI) PROGRAM
UPDATE FOR LICENSEES THAT INTEND TO
IMPLEMENT RISK-INFORMED ISI OF PIPING**

Addressees

All holders of operating licenses for nuclear power reactors, except those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees that for those licensees that intend to implement a risk-informed inservice inspection (RI-ISI) program for piping and do not have a pilot plant application currently being reviewed by the staff, the staff will consider authorizing a delay of up to 2 years in implementing the next 10-year ISI program for piping only in order for the licensee to develop and obtain approval for the RI-ISI program for piping.

It is expected that recipients will review this information for applicability to their facilities and consider actions, as appropriate. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On August 16, 1995, the NRC published a policy statement (60 FR 42622) on the use of probabilistic risk assessment (PRA) methods in nuclear regulatory activities. In the statement, the Commission stated its belief that the use of PRA technology in NRC regulatory activities should be increased to the extent supported by the state of the art in PRA methods and data and in a manner that complements the NRC's deterministic approach. To implement this policy, the staff developed a PRA implementation plan, together with a timetable for developing regulatory guides (RGs) and standard review plans (SRPs), which describes an acceptable approach for assessing the nature and impact of changes by considering engineering issues and applying risk insights. A part of this effort involves developing an RG and the corresponding SRP to provide guidance to power reactor licensees and the NRC staff on an acceptable approach for utilizing risk information to support requests for changes in the plant's

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ISI program for piping. The draft documents were available for public comment through January 13, 1998, and the staff revised the draft documents to incorporate public comments. The RG and the SRP were issued for trial use on October 13, 1998.

The nuclear industry has submitted two topical reports describing methodologies for implementing RI-ISI. One methodology has been jointly developed by the American Society of Mechanical Engineers (ASME) and the Westinghouse Owners Group (WOG). The other methodology is being sponsored by the Electric Power Research Institute (EPRI).

In addition, ASME is working on three ASME Code cases for alternate examination requirements to ASME Section XI, Division 1, for piping welds. ASME Code Case N-577 is based on the WOG methodology and ASME Code Case N-578 is based on the EPRI methodology. ASME Code Case N-560 is based on the EPRI methodology for Class 1 B-J welds and is being revised to encompass both methodologies.

The NRC has encouraged licensees to submit pilot plant applications for demonstrating risk-informed methodologies to be used for piping segment and piping structural element selection in systems scheduled for ISI. The NRC has completed its review of the pilot plant submittal for Vermont Yankee and is currently reviewing the submittals for Surry Unit 1 and Arkansas Nuclear One, Units 1 and 2, focusing on the licensees' characterization of the proposed changes, including identification of the particular piping systems and welds that are affected by the changes, the performance of engineering evaluations, the performance of PRAs to provide risk insight to support the selection of welds for inspection, the performance of traditional engineering analyses to verify that the proposed changes do not compromise the existing regulations and the licensing basis of the plant, the development of implementation and monitoring programs to ensure that the reliability of piping can be maintained, and the documentation of the analyses for NRC's review and approval. The staff will use the alternative provision of 10 CFR 50.55a (a)(3)(I) to approve technically acceptable pilot plant applications.

Discussion

For non-pilot plant licensees that intend to implement RI-ISI beginning with their next 10-year interval, the staff will consider authorizing a delay of up to 2 years in the implementation of the next 10-year ISI program for piping only to allow licensees to develop and obtain approval for their RI-ISI program at the next available opportunity using the staff-approved topical reports. For those licensees that are authorized such a delay, the approved RI-ISI program would have to be completed within the remaining part of the 10-year interval, for example, programs would be shortened to 8 years for a 2-year delay. The duration of the delay needed may vary according to individual cases. Therefore, the request for delay must provide adequate justification, along with a clear indication of the inspection that will continue before the implementation of the RI-ISI program. During the delay period, licensees would be required to continue augmented inspection programs, such as inspections for intergranular stress-corrosion cracking and erosion-corrosion, inspections required for flaws dispositioned by analysis, system pressure tests, and inspection of components other than piping.

The staff plans to perform in-depth reviews of pilot plant submittals during 1998 and 1999 to ensure that the RI-ISI programs are consistent with the staff RG and SRP. For RI-ISI programs submitted after the approval of the pilot plant programs and topical reports, but before the endorsement of ASME Code cases, it is expected that licensees will utilize the approved WOG or EPRI topical report as guidance for developing RI-ISI programs. The review and approval process is expected to be minimal when the submittal follows the guidelines in the approved topical report, NRC Regulatory Guide 1.178, "An Approach for Plant-Specific Risk-Informed Decisionmaking Inservice Inspection of Piping"; Standard Review Plan 3.9.8, "Standard Review Plan for the Review of Risk-Informed Inservice Inspection of Piping"; and the safety evaluation reports for the applicable topical report.

It is anticipated that subsequent to the issuance of safety evaluation reports (SERs) for the pilot plants and the topical reports, the ASME Code cases will be revised to incorporate lessons learned from pilot plants and topical report reviews. The ASME Code cases will be reviewed in accordance with RG 1.147, "Inservice Inspection Code Case Acceptability - ASME Section XI, Division 1," for possible incorporation into the ASME Code. In the long term, the staff will proceed with rulemaking so that other licensees can voluntarily adopt risk-informed ISI programs without specific review and approval by NRC. For the RI-ISI programs developed after the an RI-ISI methodology has been endorsed in RG 1.147, the staff anticipates that the licensee will develop an RI-ISI program using the approved ASME Code cases and will submit the program to NRC for information with no formal NRC approval.

If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate NRR project manager.


for Jack W. Roe, Acting Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical Contacts: S. Ali, NRR
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LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
98-43	Leaks in the Emergency Diesel Generator Lubricating Oil and Jacket Cooling Water Piping	12/04/98	All holder of operating licenses for nuclear power reactors, except those licensees that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel
98-42	Implementation of 10 CFR 50.55a (g) Inservice Inspection Requirements	12/01/98	All holders of operating licenses for nuclear power reactors
98-41	Spurious Shutdown of Emergency Diesel Generators from Design Oversight	11/20/98	All holders of operating licenses for nuclear power reactors, except for those who have ceased operations and have certified that fuel has been permanently removed from the reactor vessel
98-40	Design Deficiencies Can Lead Reduced ECCS Pump Net Positive Suction Head During Design-Basis Accidents	10/26/98	All holders of operating licenses for nuclear power reactors, except those licensees who have permanently ceased operations and have certified that fuel has been permanently removed from the vessel
98-39	Summary of Fitness-for-Duty Program Performance Reports for Calendar Years 1996 and 1997	10/24/98	All holders of operating licenses for nuclear power reactors
98-38	Metal-Clad Circuit Breaker Maintenance Issued Identified By NRC Inspections	10/15/98	All holders of operating licenses for nuclear power reactors.

OL = Operating License
CP = Construction Permit

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[original signed by D.B. Matthews]
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OFFICE	PECB	ECGB	(A)D:DE	C:ECGB	OGC	C:PECB	(A)D:RPM
NAME	W.Burton*	S.Ali*	GLainas*	G.Bagchi*	J.Moore*	J.Stolz*	J.Roe
DATE	9/17/98	9/17/98	9/29/98	9/17/98	11/26/98	12/04/98	12/1/98

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This information notice requires no specific action or written response. However, recipients are reminded that they are required by 10 CFR 50.65 to take industry-wide operating experience (including information presented in NRC information notices) into consideration when setting goals and performing periodic evaluations. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate NRR project manager.

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