January 13, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: PROPOSED AMENDMENT TO 10 CFR 50.55a

PURPOSE

This Commission paper presents a revised schedule and approach for completing the proposed amendment to 10 CFR 50.55a to revise the requirements for inservice inspection (ISI) and inservice testing (IST) of nuclear power plant components. This Commission paper discusses the NRC staff's proposal to postpone issuance of the final rule in order to consider elimination of the regulatory requirement that licensees periodically update their ISI and IST programs to the latest endorsed edition and addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code. This schedule change results from an effort to eliminate unnecessary burden on nuclear power plant licensees.

SUMMARY

In late 1997, NRC issued for public comment a proposed amendment to 10 CFR 50.55a to revise the requirements for ISI and IST of nuclear power plant components. The NRC staff reviewed the public comments and has been preparing the proposed final amendment to 10 CFR 50.55a. As a result of a staff decision to reassess its approach in order to eliminate unnecessary burden on licensees, the NRC staff proposes (as part of this rule change) to consider elimination of the regulatory requirement for licensees to update their ISI and IST programs every 120 months. If that requirement is eliminated, reactor licensees would be offered the option to continue using ISI and IST programs that have been baselined to the 1989 Edition of the ASME BPV Code (with the exception of incorporating those provisions of more recent editions of the Code that are justified by backfit analysis) or to voluntarily update those programs to later NRC-endorsed editions and addenda of the ASME Code. (Subsections IWE and IWL of Section XI of the ASME BPV Code would continue to be baselined to 1992 in accordance with current regulations.) Although not required, the staff has decided to request public comment specifically on the proposed elimination of the 120-month update requirement. The staff estimates completion of this 10 CFR 50.55a amendment, including consideration of elimination of the 120-month update requirement, by late December 1999.

BACKGROUND

NRC regulations in Section 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR 50.55a) require that nuclear power plant owners construct Class 1, 2, and 3 components in accordance with the rules presented in Section III, Division 1, "Requirements for Construction of Nuclear Power Plant Components," of the ASME BPV Code; inspect Class 1, 2, and 3 components (including supports), metal containment components, and concrete containment components in accordance with the rules presented in Section XI, Division 1, "Requirements for Inservice Inspection of Nuclear Power Plant Components," of the ASME BPV Code; and test Class 1, 2 and 3 pumps and valves in accordance with the rules provided in Section XI, Division 1, of the ASME BPV Code. The current regulation (10 CFR 50.55a) incorporates by reference the 1989 Edition of Sections III and XI of the ASME BPV Code into NRC regulations.

The regulations allow licensees to request approval from the NRC for use of alternatives to their Code of record where the proposed alternative provides an acceptable level of quality and safety. In addition, the regulations allow licensees to request relief from provisions of their applicable Code edition and addenda where conformance is impractical for the specific facility, or compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality or safety. Through these regulatory provisions, licensees typically develop customized ISI and IST programs for their individual plants. These provisions would not be changed under the staff's proposed approach.

When endorsing the ASME BPV Code in 1971, the NRC recognized that the Code would be upgraded as experience was obtained with its application. In particular, the NRC stated that a significant improvement in the level of design, fabrication, and testing of systems and components important to safety would be afforded by compliance with provisions of more recent versions of the ASME BPV Code (36 FR 11424). The NRC's consideration of the improvement in the ASME BPV Code that would occur as it matured resulted in the establishment of a requirement for licensees to update their ISI and IST programs periodically. The current regulations require licensees to update their ISI and IST programs every 120 months to meet the edition and addenda of Section XI of the ASME BPV Code incorporated by reference into 10 CFR 50.55a and in effect 12 months before the start of a new 120-month interval.

At this time, it is estimated that approximately 80 reactor units have updated their ISI and IST programs to the 1989 Edition of the ASME BPV Code. The staff expectation is that the remaining reactor units would also update their ISI and IST programs to the 1989 Edition of the ASME BPV Code.

On December 3, 1997, NRC issued for public comment a proposed amendment to 10 CFR 50.55a to revise the requirements for construction, ISI, and IST of nuclear power plant components. A few significant and relevant provisions of the amendment to 10 CFR 50.55a, as was proposed in the *Federal Register* notice (62 FR 63892), are summarized below:

For ISI, the proposed amendment would require licensees (through the updating provisions) to implement Section XI, Division 1, of the ASME BPV Code, 1995 Edition with the 1996 Addenda, for Class 1, 2, and 3 components with specific limitations. The proposed amendment would permit licensees to implement certain ASME Code cases. The proposed amendment also would expedite the implementation of Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," to Section XI, Division 1, with specific modifications.

For IST, the proposed amendment would require licensees (through the updating provisions) to implement the 1995 Edition with the 1996 Addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code) for Class 1, 2, and 3 pumps and valves with certain limitations. (The OM Code is the successor to portions of Section XI of the BPV Code.) The proposed amendment would permit licensees to implement on a voluntary basis several additional provisions developed through the Code process.

NRC received comments on the proposed amendment to 10 CFR 50.55a from 63 separate sources. These sources consisted of 27 utilities and service organizations, the Nuclear Energy Institute (NEI), the Nuclear Utility Backfitting and Reform Group, the ASME Board on Nuclear Codes and Standards, the Electric Power Research Institute, the Performance Demonstration Initiative, the Nuclear Industry Check Valve Group, the State of Illinois Department of Nuclear Safety, Oak Ridge National Laboratory, the Southwest Research Institute, three consulting firms, and 24 individuals. The NRC staff reviewed the public comments received on the proposed amendment to 10 CFR 50.55a and revised the proposed amendment in response to many of those comments. At this time, the rule package is essentially complete with the exception of consideration of a proposal to eliminate the current requirement that licensees update their ISI and IST programs every 120 months. Absent this proposal, remaining action by management, internal oversight review, and various administrative steps would have led to publishing the final rule in April 1999.

DISCUSSION

The statement of considerations (dated December 3, 1997) for the proposed amendment to 10 CFR 50.55a contained a discussion of several items under consideration relative to the Commission's endorsement of ASME codes. One item involved Direction Setting Issue (DSI) 13, "Role of Industry," which is part of the Commission's Strategic Assessment and Rebaselining Initiative. In DSI-13, the Commission directed the NRC staff to address how industry initiatives should be considered and to evaluate several issues related to NRC endorsement of industry codes and standards. Details of recommended staff actions relating to DSI-13 are presented in other Commission papers.

The statement of considerations indicated that the proposed 10 CFR 50.55a amendment did not change the 120-month update requirement, but noted that this position might be modified before publication of the final rule. Several public comments were received on this issue. Some commenters recommended that NRC consider eliminating the 120-month update requirement in the final rule. Other commenters did not recommend eliminating the required update, but emphasized the importance of NRC endorsing the latest edition and addenda of the ASME Code in a more timely manner. In addition, the staff obtained comments at the DSI-13 stakeholders' meeting on September 1, 1998, in Chicago, which reflected this wide range of opinions on the issue of eliminating the 120-month update requirement. For example, an NEI representative recommended at the stakeholders' meeting that 10 CFR 50.55a be modified to provide a performance-based requirement for ISI and IST programs with the ASME Code endorsed by NRC through a regulatory guide.

The staff has determined that the overall level of safety achieved by adherence to the currently applicable ASME Code, and the burden on licensees caused by updating ISI and IST programs every 120 months, warrant reconsideration of the 120-month update requirement at this time. The staff recognizes that a delay will result in completing this rulemaking as a result of consideration of elimination of the 120-month update requirement. (Section III of the ASME BPV Code for design and construction are unaffected. Existing licensees would be permitted to use Section III with limitations through the 1996 Addenda. Applicants for a construction permit would be required to implement the latest endorsed edition of Section III.)

The ASME Code has been revised on a continuing basis over the years to provide updated requirements for inspecting pressure boundary components and testing pumps and valves in nuclear power plants. Certain provisions for the IST of pumps and valves originally contained in Section XI of the ASME BPV Code are now contained in the ASME OM Code. Although some Code revisions have increased requirements and others have decreased requirements, the NRC staff has generally considered the evolution of the ASME Code to result in a net improvement in the measures for inspecting piping and components and testing pumps and valves. However, neither the NRC staff nor ASME has performed a detailed quantified cost/benefit analysis of the general evolutionary changes to the ASME Code. As discussed in the statement of considerations, the NRC position has been that 10 CFR 50.109 does not require a backfit analysis for the routine 120-month update. The basis for the NRC position is that "(1) Section III, Division 1, update applies only to new construction (i.e., the edition and addenda to be used in the construction of a plant are selected based upon the date of the construction permit and are not changed thereafter, except voluntarily by the licensee), (2) licensees understand that 50.55a requires that they update their inservice inspection program every 10 years to the latest edition and addenda of Section XI that were incorporated by reference in 50.55a and in effect 12 months before the start of the next inspection interval, and (3) endorsing and updating references to the ASME Code, a national consensus standard developed by the participants (including the NRC) with broad and varied interests, is consistent with both the intent and spirit of the backfit rule (i.e., NRC provides for the protection of the public health and safety, and does not unilaterally impose undue burden on applicants or licensees)." The statement of considerations also states that "to ensure that any interested member of the public that may not have had an opportunity to participate in the national consensus standard process is able to communicate with the NRC, proposed rules are published in the *Federal Register*." (62 FR 63905-06, December 3,1997) Although the NRC staff maintains that this position on the backfit justification for the 120-month update requirement remains valid, the staff considers the safety significance of periodic revisions to the ASME Code to be declining as the Code matures, and the staff is questioning the justification for requiring updates to the latest Code edition. On the basis of this maturation process of the ASME Code, the staff proposes to modify 10 CFR 50.55a to remove the requirement to update ISI and IST programs beyond the currently endorsed 1989 Edition of the ASME Code. (Subsections IWE and IWL of Section XI of the ASME Code would continue to be baselined to 1992 in accordance with current regulations.) At this time, the staff believes that use of the 1989 Edition of the ASME Code by all licensees will provide an adequate baseline (i.e., ensure adequate protection).

The Office of the General Counsel has determined that the requirement for licensees to update their ISI and IST programs every 120 months could be eliminated from the current rule without publishing the proposal for public comment because the NRC noted this issue in the statement of considerations of the proposed rule. However, in light of the significance and complexity of this issue, the staff considers it prudent to obtain public comment specifically on eliminating the 120-month update requirement. Therefore, the staff plans to prepare a supplementary notice of proposed rulemaking to be

published in the *Federal Register* requesting focused public comment on this issue. Some of the major considerations to be addressed regarding the potential benefits and impact of the proposal to eliminate the 120-month update requirement are summarized in the following paragraphs.

One important consideration in the elimination of the requirement for licensees to update their ISI and IST programs every 120 months involves the future voluntary use by licensees of individual provisions of future NRC-endorsed editions and addenda of the ASME Code by licensees. The NRC staff's view is that, if the 120-month update requirement is eliminated, the rule would specify that licensees, which voluntarily choose to adopt a later Code edition or addenda, would be required to implement *all* provisions of that edition or addenda. If they wish to deviate from this approach, these licensees will be allowed to follow existing provisions in 10 CFR 50.55a to request NRC approval for use of alternatives to, or relief from, specific provisions of applicable ASME Code editions and addenda.

The cost savings to nuclear power plant licensees from removal of the regulatory requirement for updating their ISI and IST programs every 120 months are difficult to quantify. In the past, the NRC staff has been told, anecdotally, that a typical ISI or IST program update may cost a licensee $200,000 to $300,000 every 10 years; however, in the *Federal Register* notice, the staff will specifically solicit input from licensees on the savings that would result from eliminating the 120-month update requirement. Since newer editions of the ASME Code tend to relax certain requirements of previous editions, some licensees may conclude that implementing a newer edition of the ASME Code will result in cost savings that outweigh the implementation costs and, thus, will update their programs to implement more recent ASME Code editions and addenda.

The benefit to the NRC staff in terms of resource savings resulting from an elimination of the requirement for licensees to update their ISI and IST programs every 120 months is not apparent. For example, the staff would not receive for review those relief requests that would have been submitted by licensees as part of their 120-month program updates. On the other hand, the staff would continue to review future Code revisions and Code cases for acceptability and endorsement for voluntary use in later revisions of rules or regulatory guides. The staff would determine whether any specific safety-related Code provisions warrant mandatory implementation in accordance with 10 CFR 50.109 backfit provisions and determine whether or not any Code provisions may be unacceptable. The staff would continue to review requests submitted by licensees for relief from the Code edition and addenda to which they are committed in accordance with regulatory requirements.

The elimination of the requirement for licensees to update their ISI and IST programs every 120 months might affect license amendments, inspections, and enforcement actions related to ISI and IST programs. For example, the current requirements of 10 CFR 50.55a determine the ASME Code edition and addenda in effect during each 120-month interval for a given plant. When a licensee voluntarily adopts an approved later version of the ASME Code that commitment may be documented in a periodic update of the licensee's Final Safety Analysis Report. However, if a licensee seeks to adopt something less than the entire Code, as approved by the NRC, a licensing action or a staff evaluation of the proposed alternative will be necessary. With respect to inspection activity, elimination of the 120-month update requirement would likely result in NRC inspectors having to inspect a wider range of Code editions and addenda.

Various stakeholders may have views on the proposal to eliminate the requirement for licensees to update their ISI and IST programs every 120 months. For example, nuclear utilities that contribute important technical expertise and practical experience to the ASME Code committees might have less incentive to participate on ASME committees responsible for maintaining and improving the ASME Code. The staff intends to solicit information from stakeholders in the request for public comment on the proposed elimination of the 120-month update requirement. Finally, the staff plans to consider the implications of eliminating the 120-month update requirement with respect to the impact on the staff's process for preparation of regulatory guides for endorsement of ASME Code cases, and current initiatives by the staff and industry on risk-informed ISI and IST programs.

As evident from the preceding discussion, the NRC staff recognizes the importance of evaluating the impact of eliminating the requirement for licensees to update their ISI and IST programs every 120 months. The staff believes that public review is appropriate for this significant change to the regulatory approach in endorsing the ASME BPV Code. The staff intends to provide the proposed rule language in the *Federal Register* notice requesting public comment with a discussion of several specific areas of consideration. Upon request, the staff would allow licensees scheduled to update their ISI and IST programs in the near term to delay submittal of their updates while the staff completes consideration of the elimination of the 120-month update requirement.

SCHEDULE AND RESOURCE IMPLICATIONS

The decision to accelerate the consideration of the elimination of the regulatory requirement for licensees to update their ISI and IST programs every 120 months has delayed issuance of the proposed 10 CFR 50.55a amendment. The attachment to this paper indicates a schedule for completing the rule package with a focused public comment period of 30 days on the proposal to eliminate the 120-month update requirement. Staff activities will include modifying the rule package, requesting public comment, preparing responses to public comments, resolving comments from NRC offices on public comment responses and the revised rule, and completing internal oversight review, such as by the Committee to Review Generic Requirements (CRGR) and the Advisory Committee on Reactor Safeguards (ACRS). The schedule provides for completing the 10 CFR 50.55a amendment by late December 1999, assuming prompt internal oversight review and processing following revision of the rule. NRC staff resources of about 0.5 FTE will be diverted from other codes and standards activities and from other staff efforts to prepare the revised rule package and respond to public comments.

COORDINATION

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer reviewed this paper for matters involving the budget or financial management or having resource impacts and has no objections. The Office of the Chief Information Officer has reviewed this paper for information technology and information management implications and concurs in it.

RECOMMENDATION

That the Commission note that:

The NRC staff will continue the preparation of a proposed amendment to 10 CFR 50.55a to revise the requirements for construction, ISI, and IST of nuclear power plant components. In particular, the staff will revise the rule to include the proposed elimination of the regulatory requirement for licensees to update their ISI and IST programs every 120 months. The staff will publish the revised proposed rule for public comment, review and resolve public comments, and prepare the final rule according to the schedule described in the attachment.

Staff requests action within 10 days. Action will not be taken until the SRM is received. We consider this action to be within the delegated authority of the Director of NRR.

William D. Travers
Executive Director for Operations

CONTACT: T. G. Scarbrough, NRR
(301) 415-2794

Attachment: As stated

ATTACHMENT

REVISED SCHEDULE COMPLETION OF 10 CFR 50.55a AMENDMENT

MILESTONE	COMPLETION DATE
1. Commission/EDO Approval	1/29/99
2. Request Public Comment on Proposed Revised Rule	4/5/99
3. Public Comment Period Closes	5/5/99
4. Revise Rulemaking Package	8/9/99
5. Office Concurrences	9/14/99
6. ACRS and CRGR Review	10/12/99
7. EDO Concurrence	11/15/99
8. Commission Approval	12/1/99
9. Publish Final Rule	12/30/99