



~~**OFFICIAL USE ONLY**~~
~~SENSITIVE INTERNAL INFORMATION~~
~~LIMITED TO THE NRC UNLESS THE~~
~~COMMISSION DETERMINES OTHERWISE~~

POLICY ISSUE (Notation Vote)

March 15, 2021

SECY-21-0029

FOR: The Commissioners

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: RULEMAKING PLAN ON REVISION OF INSERVICE TESTING AND
INSERVICE INSPECTION PROGRAM UPDATE FREQUENCIES REQUIRED IN
10 CFR 50.55a

PURPOSE:

The purpose of this paper is to request Commission approval to initiate a rulemaking that would amend the regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a, "Codes and standards," to extend the interval of inservice testing (IST) and inservice inspection (ISI) program updates.

SUMMARY:

This paper provides the U.S. Nuclear Regulatory Commission (NRC) staff's request to initiate a rulemaking to revise the frequency of the IST and ISI program updates required in 10 CFR 50.55a. The rulemaking would revise the acceptable interval for program updates from the current 120-month interval to a 240-month interval. This extension of the IST and ISI program update interval is not likely to have any impact on safety, but could have a minimal impact due to the possibility of delaying a change that is not necessary for reasonable assurance of safety or which could not be justified under the backfit test. To be clear, it will remain possible to incorporate and require through rulemaking, any significant changes that

CONTACTS: Victoria Huckabay, NMSS/REFS
301-415-5183

David Rudland, NRR/DNRL
301-415-1896

The enclosure transmitted herewith contains Official Use Only - Sensitive Internal Information. When separated from the enclosure this transmittal document is decontrolled.

~~**OFFICIAL USE ONLY**~~
~~SENSITIVE INTERNAL INFORMATION~~
~~LIMITED TO THE NRC UNLESS THE~~
~~COMMISSION DETERMINES OTHERWISE~~

occur to the Code editions during the update interval. For less significant changes, licensees will be required to incorporate those changes during the next update of the IST and ISI programs, or they could voluntarily update at an earlier time, upon approval by the NRC staff.

The staff also requests that the Commission delegate signature authority for this rulemaking to the Executive Director for Operations (EDO). Further, the staff requests Commission approval and delegation to conduct a possible subsequent rulemaking to extend the interval for program updates from 240 months to 288 months, if the American Society of Mechanical Engineers (ASME) revises the ISI interval to 144 months. If the Commission approves the rulemaking activity described in this rulemaking plan, the staff will consider combining this rulemaking activity with a routine ASME Code Editions or Code Case proposed rule instead of conducting a dedicated rulemaking, if it would result in a more timely, efficient, and effective implementation of the Commission's direction.

Further, this paper describes how the staff intends to streamline the routine ASME Code Case rulemaking process to expedite the approval of requirements for new and evolving approaches and technologies for IST and ISI activities. Also, the staff is considering how to decrease the frequency of rulemakings to incorporate ASME Code editions to maintain safety while reducing the expenditure of staff resources.

BACKGROUND:

The NRC currently incorporates by reference into 10 CFR 50.55a various ASME Codes, including the Boiler and Pressure Vessel (BPV) Code, Section III, Division 1, "Rules for Construction of Nuclear Facility Components" (Section III), and Section XI, Division 1, "Rules for Inservice Inspection of Nuclear Power Plant Components" (Section XI), and the ASME "Operation and Maintenance of Nuclear Power Plants," Division 1, OM Code: Section IST (OM Code). Section III specifies provisions for the design and construction of nuclear power plants and their structures, systems, and components (SSCs). Section XI specifies provisions for ISI of SSCs in nuclear power plants. The OM Code sets forth IST provisions for pumps, valves, and dynamic restraints (snubbers) in nuclear power plants. ASME updates these Codes on a regular basis through a consensus standard development process, and the NRC's current practice is to incorporate each new edition as it is published, which is roughly every 2 years.

Each new reactor applicant adopts the most recently incorporated edition of Section III in effect at the time they submit a construction permit or combined license application. While the licensee's Section III edition, "code of record," is generally maintained throughout the life of the plant, licensees typically request to use provisions of some later Section III editions (e.g., those that contain desirable advances to the standard). In contrast, licensees are required to update their OM Code and Section XI "codes of record" to the latest edition incorporated and in effect every 120 months, in accordance with 10 CFR 50.55a(f)(4) and (g)(4).

EMBARK Venture Studio Project

The staff evaluated possible options to streamline the agency's treatment of ASME Codes in 10 CFR 50.55a through the Office of Nuclear Reactor Regulation (NRR)'s EMBARK Venture Studio (EVS) project (hereafter "EVS report") (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20153A752). The project team consisted of a diverse cross section of staff with different expertise and experience working with 10 CFR 50.55a, including rulemaking experts and engineering staff. The EVS project team developed

nine initial streamlining ideas complete with technical, regulatory, and cost impacts. The team grouped these initial ideas into three categories as follows:

- (1) Improving the clarity of 10 CFR 50.55a.
- (2) Improving process efficiency for the use of the ASME Codes and Code Cases.
- (3) Increasing flexibility to licensees in implementing their IST and ISI programs.

The EVS team conducted outreach activities on these initial ideas for streamlining 10 CFR 50.55a with both internal and external stakeholders to receive feedback and recommendations. Throughout the program, the team conducted three public meetings (meeting summaries can be found in ADAMS Accession Nos. ML20043F370, ML20091H114, and ML20202A618) and one staff town hall meeting. Overall, external stakeholder feedback strongly indicated that the NRC should not give a high priority to efforts to clarify 10 CFR 50.55a, but rather the staff should focus on improving process efficiency and increasing flexibility for nuclear power plant licensees in implementing their IST and ISI programs. Internal stakeholders' feedback was favorable to the EVS ideas, except for their concern that the proposed additional direct final rulemakings might cause publication delays since the Office of Management and Budget only accepts one rulemaking affecting any given part of the CFR at a time. Additional details on the staff town hall can be found in Appendix II of the EVS report. In addition, several internal meetings with headquarters staff and ISI regional inspectors were focused on the removal of ASME Code from 10 CFR 50.55a. Headquarters staff were concerned with enforceability issues if ASME Code was removed from the regulations, but the regional inspectors commented that typically violations were written against Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50 and not 10 CFR 50.55a.

Based on the initial ideas and external and internal stakeholder feedback, the staff is advancing three recommendations for further action:

- (1) Revise the requirements to update IST and ISI programs every 120 months following the next update by a nuclear power plant licensee to the 2019 Edition of the ASME BPV Code and the 2020 Edition of the ASME OM Code.
- (2) Institute a streamlined rulemaking process (i.e., direct final rule) for unconditionally approved ASME Code Cases to expedite the approval of requirements for new and evolving approaches and technologies for IST and ISI activities without the need for a request to use these Code Cases as alternatives under 10 CFR 50.55a(z), which require specific NRC authorization.
- (3) Decrease the frequency of rulemakings to incorporate ASME Code editions.

The first recommendation is a change to the regulatory framework for 10 CFR 50.55a that requires rulemaking that is outside the scope of the current delegation and therefore, requires Commission approval and is the subject of this paper. The staff will implement the two other recommendations, which are within the staff's delegated authority for rulemaking, as follows:

- The staff plans to utilize direct final rules for incorporating by reference unconditionally approved ASME Code Cases in 10 CFR 50.55a, separate from rulemakings for conditioned Code Cases. ASME Code Cases typically provide standards for using new approaches or technologies, new materials, or Code enhancements more quickly than Code edition updates because Code Cases are published frequently, typically three to four times per year, for ISI Code Cases. Since these Code Cases are acceptable for

licensee use without NRC conditions, and have been developed through a consensus standards process in which the NRC participates, their incorporation by reference should be noncontroversial, and therefore appropriate for the direct final rule process. As evidence, in the past three ASME Code Case 10 CFR 50.55a rulemakings, Code Cases that were approved without conditions in Regulatory Guide 1.147¹, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Regulatory Guide 1.192², “Operation and Maintenance Code Case Acceptability, ASME OM Code,” and Regulatory Guide 1.84³, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” received just one adverse public comment on one Code Case. In that case, the staff responded that the requested condition was not needed.

The use of direct final rules for unconditionally approved Code Cases would result in improved efficiency because it would allow licensees to use new approaches and technologies for IST and ISI activities more promptly. The staff determined that it is appropriate to incorporate these unconditionally approved Code Cases as quickly as possible to reduce both NRC and licensee resources spent on requests to use these Code Cases as alternatives under 10 CFR 50.55a(z), which require specific NRC authorization.

- The staff is considering how to reduce the frequency of 10 CFR 50.55a rulemakings to incorporate by reference new editions of the ASME Codes. The staff has determined that reducing the frequency of rulemakings to endorse new editions of ASME BPV Code, Section XI and the OM Code continues to maintain safety while reducing the expenditure of staff resources. These changes reduce how frequently the NRC incorporates updates from revised editions of the Code into the regulations. The staff is also considering whether the frequency of staff endorsement of ASME BPV Code, Section III should be reduced, as the appropriate periodicity for incorporating new editions of Section III may be different than that for Section XI and the OM Code. Even though licensees commit to a specific edition of Section III in their license application, they have the opportunity to request the use later Code editions as needed, which licensees often do (e.g., to take advantage of advances in the standard). The staff does note that maintaining a more frequent periodicity of rulemakings for endorsing only new editions of ASME BPV Code, Section III would impact the aforementioned reduction of expenditure of staff resources associated with this recommendation. The staff has not yet determined the appropriate frequency of updates for particular ASME Codes or Sections and will engage with stakeholders on this matter.

Implementing all three EVS recommendations would allow the staff to approve more promptly the use of Code Cases that provide standards for using new approaches and technologies for IST and ISI activities while saving resources for both the NRC and industry.

The EVS team also discussed eliminating incorporation by reference of ASME BPV Code, Section III and Section XI, and ASME OM Code from 10 CFR 50.55a and instead endorsing these Codes through a regulatory guide. The staff concluded that, at this time, retaining ASME

¹ The percentage of unconditionally approved Code Cases to the total Code Cases listed in Regulatory Guide 1.147, Revisions 17, 18, and 19 are: 64%, 64%, and 61%, respectively.

² The percentage of unconditionally approved Code Cases to the total Code Cases listed in Regulatory Guide 1.192, Revisions 1, 2, and 3 are: 50%, 45%, and 42%, respectively.

³ The percentage of unconditionally approved Code Cases to the total Code Cases listed in Regulatory Guide 1.84, Revisions 36, 37, and 38 are: 77%, 90%, and 94%, respectively.

BPV Code, Section XI, and the ASME OM Code in the regulations remains the preferred approach for providing reasonable assurance of appropriate implementation of IST and ISI activities at operating nuclear power plants.

However, with regard to ASME BPV Code, Section III, the staff is still considering whether this Code should continue to be incorporated by reference in 10 CFR 50.55a, in whole or in part, or should instead be endorsed through a regulatory guide. In a letter to the NRC, dated July 9, 2020 (ADAMS Accession No. ML20198M559), the ASME organization has expressed preference for endorsement of ASME Section III (Division 1) not to exceed a “two year cycle” to support their stakeholders, which “include both the operating fleet (for new and replacement equipment), new construction of traditional light-water reactors, and advanced reactors.” The ASME organization also expressed that they “support whatever endorsement vehicle best achieves this objective, whether that is through more expedited rulemaking or endorsement by Regulatory Guide.” The staff notes that applicants can seek NRC approval to use part, or all, of an edition of ASME BPV Code, Section III not yet incorporated into the NRC’s regulations by requesting an alternative under 10 CFR 50.55a, or by requesting an exemption under 10 CFR 50.12. Therefore, the staff’s current consideration is focused on better quantifying the costs and benefits of various approaches to using ASME BPV Code, Section III. The staff will engage the Commission with a specific proposal if the staff concludes removing Section III from the regulations would be beneficial. In addition, as stated above, the staff has not yet decided whether to change from the current practice of incorporating by reference each edition of Section III into the regulations.

10 CFR 50.55a Rulemaking Delegation of Authority

Until 1976, the Commission approved each rulemaking to incorporate by reference certain portions of the ASME Code into 10 CFR 50.55a and published them as final rules. On August 24, 1976, in a staff requirements memorandum “Staff Requirements – Policy Session 76-37, 1:50 P.M., Thursday, August 19, 1976, Commissioners’ Conference Room, D.C. Office” the Commission delegated the authority to the EDO for amending the Commission’s regulations to incorporate by reference national codes and standards, including revised editions and addenda thereto, if the amendments are routine in nature and represent the updating of basic codes and standards previously approved by the Commission for incorporation by reference.

In SECY-10-0016, “Redelegation of Authority by the Executive Director for Operations to the Director, Office of Nuclear Reactor Regulation, to Approve Title 10 of the *Code of Federal Regulations* 50.55a Rulemakings,” dated January 28, 2010 (ADAMS Accession No. ML092730272), the EDO informed the Commission that he intended to redelegate the authority to approve certain rulemakings to the Director of NRR. The redelegation was expected to increase the speed at which new ASME Code editions could be incorporated into NRC regulations, increase accountability, and reduce inefficiencies and redundancies. The EDO’s redelegation of authority only applies to recurring 10 CFR 50.55a rulemakings pertaining to the ASME BPV Code, Section III and Section XI; the ASME OM Code; and the related regulatory guides.

During the staff’s evaluation of the EVS recommendation to revise the requirements to update IST and ISI programs every 120 months, the staff determined that this change was not covered under the existing Commission delegation of authority to the EDO for incorporation by reference of national codes and standards because this change would not be routine in nature and represent the updating of basic codes and standards previously approved by the Commission for incorporation by reference. As such, the staff determined that requesting Commission

approval to initiate the rulemaking is required. If the Commission delegates this rulemaking activity to the EDO, the EDO plans to redelegate the rulemaking to the Director of NRR, consistent with Management Directive 6.3, "The Rulemaking Process."

Previous Commission Direction

In SECY-00-0011, "Evaluation of the Requirement for Licensees to Update Their Inservice Inspection and Inservice Testing Programs Every 120 Months," dated January 14, 2000 (ADAMS Accession No. ML003675659), the staff reported to the Commission the results of an evaluation of the requirement to update the IST and ISI programs every 120 months. The staff identified three options for consideration:

- (1) Replace the 120-month IST and ISI update requirements with a baseline of IST and ISI requirements and allow voluntary updating to entire subsequent NRC-endorsed ASME Code editions and addenda without prior NRC approval.
- (2) Retain the current 120-month IST and ISI update requirement and the current regulatory provision that allows licensees to use portions of NRC-endorsed ASME Code editions or addenda provided that all related requirements of the respective editions are met.
- (3) Retain the 120-month IST and ISI update requirement and the current provision to use portions of NRC-endorsed ASME Code editions or addenda but develop explicit guidance for plant-specific alternatives.

The staff recommended Option 1, with the 1995 Edition with the 1996 Addenda of the ASME BPV and OM Codes as the baseline requirements.

On December 2, 1999, the staff discussed with the Advisory Committee on Reactor Safeguards (ACRS) the public comments received on the three options and the staff's recommendations regarding the IST and ISI update requirement. The ACRS recommended that the Commission adopt Option 2 and retain the 120-month update requirement for IST and ISI programs (ADAMS Accession No. ML003685070). The ACRS believed that the review of the past decade of experience demonstrated that significant changes to the IST, ISI, and OM requirements had occurred that improved the effectiveness and efficiency of these programs. In addition, developments in technology and operating experience could lead to additional changes in the inspection and testing programs.

In staff requirements memorandum (SRM) for SECY-00-0011, dated April 13, 2000 (ADAMS Accession No. ML003702722), the Commission disapproved the staff's recommendation and instead approved Option 2 in SECY-00-0011. The Commission also directed the staff to improve the timeliness of its review and endorsement process for future ASME Code editions and addenda.

DISCUSSION:

Title

Revision of Inservice Testing and Inservice Inspection Program Update Frequencies

Regulation

The proposed rulemaking for the revision of IST and ISI program updates would primarily affect two paragraphs in 10 CFR 50.55a:

- 10 CFR 50.55a(f)(4), "Inservice testing standards requirement for operating plants," and
- 10 CFR 50.55a(g)(4), "Inservice inspection standards requirement for operating plants."

Several other paragraphs in 10 CFR 50.55a reference the 120-month IST and ISI program update interval. Therefore, the staff will need to make corresponding changes to be consistent with the proposed changes to 10 CFR 50.55a(f)(4) and (g)(4).

Regulatory Issue

Licensee IST and ISI programs play an important role in ensuring the safe operation of nuclear power plants. For example, the ASME OM Code establishes requirements for preservice and inservice testing and the examination of certain components to assess their operational readiness in nuclear power plants by identifying the components subject to test or examination, responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating the results, corrective action, personnel qualification, and recordkeeping. ASME BPV Code, Section XI specifies which plant SSCs should be inspected, how to inspect them, and how to remediate any discovered abnormalities (such as a service-induced crack). The ASME BPV Code Section XI specifies a 10-year interval that provides a baseline for scheduling inspections. Licensee IST and ISI programs describe how the licensee will implement the requirements in the ASME OM Code and ASME BPV Code, Section XI.

ASME continually updates the OM and BPV Codes as technology evolves or new technical challenges arise. The NRC regulations in 10 CFR 50.55a require that a nuclear power plant licensee update its IST and ISI programs every 120 months to the latest edition and addenda of the ASME OM and BPV Codes incorporated by reference in 10 CFR 50.55a within 18 months of the start of each 120-month interval. This 120-month update interval currently corresponds to the current 10-year ISI interval in ASME BPV Code, Section XI, Subsection IWA-2430. This regulatory practice has been successful in many ways as Code requirements have evolved. Updates to licensee programs to reflect these Code changes have yielded safety benefits in the past, as described below.

In recent years, ASME has made significant improvements to the OM Code to address valve performance issues revealed by nuclear power plant operating experience and through NRC and industry valve testing programs. However, the development of major modifications to the ASME OM Code typically takes more than a decade. For example, ASME updated the OM Code in the 2009 Edition to improve the IST requirements for active motor-operated valves by replacing quarterly stroke-time testing with valve exercising on a refueling outage frequency and diagnostic testing at an interval up to 10 years based on motor-operated valve capability margin, with consideration of risk-informed aspects. This update was prepared in response to NRC Generic Letter 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," dated June 28, 1989 (ADAMS Accession No. ML031150300). Further, ASME updated the OM Code in the 2017 Edition to improve the IST requirements for active air-operated valves by supplementing quarterly stroke-time testing with diagnostic testing up to a 10-year interval for air-operated valves of high safety significance. This update was prepared in response to NRC Regulatory Issue Summary 2000-03, "Resolution of Generic Safety Issue 158: Performance of Safety-Related Power-Operated Valves under Design Basis Conditions," dated March 15, 2000

(ADAMS Accession No. ML003686003). Development of these two major modifications to the ASME OM Code took longer than the current 120-month duration of the IST program update interval. This trend gives the staff confidence that it is possible to extend the IST program update interval without significantly affecting how frequently improvements in the Code are required to be adopted by licensees. In addition, it will remain possible to incorporate and require (i.e., backfit), through rulemaking, early adoption of major improvements to the ASME OM Code or new OM Code Cases that occur when significant pump, valve, and snubber performance issues are identified. ASME is not currently developing similar significant modifications to the IST requirements for pumps, valves, or snubbers in the OM Code.

Similarly, as the operating reactors have aged, ASME BPV Code, Section XI has evolved in the detection, analysis, and mitigation of active degradation as degradation mechanisms were discovered. In the 1980s, nuclear power plants experienced many degradation mechanisms such as intergranular stress-corrosion cracking, microbiologically induced corrosion, flow accelerated corrosion, and others that challenged ASME to adapt and provide examination, analysis, and mitigation techniques to ensure continued safe operation. The most recent degradation mechanism that was identified was primary water stress-corrosion cracking (PWSCC) occurring in pressurized-water reactor pipe and head welds, which was discovered in the early 2000s and was addressed in ASME BPV Code, Section XI. This shows that the discovery of new degradation mechanisms has slowed greatly in recent years, as PWSCC was identified over a decade ago. This trend gives the staff confidence that new degradation mechanisms will be discovered less frequently. As the IST and ISI requirements in the ASME OM Code and ASME BPV Code, Section XI have matured, the overall Code process has evolved to meet the nuclear community's needs. Approximately 20 years ago, ASME Code Editions routinely incorporated new ISI standards every 5 to 7 years, to address newly discovered degradation mechanisms. Today, as the discovery of new degradation mechanisms has slowed, and the industry focuses on cost and efficiency gains, while maintaining safety, the desire to quickly publish advancements in new technologies and methods has increased. In response to user needs, ASME's use of Code Cases has become focused on new technologies and methods, with ASME publishing ISI Code Cases roughly quarterly and IST Code Cases on a rolling basis, as they are completed. In contrast, Code Editions are published biennially. Under the current process, significant advancements of the ASME Codes typically first appear in Code Cases and are later incorporated into Code Editions.

As a result of this established process for developing these improvements and updates to the ASME Code process, the staff believes that IST and ISI requirements in the recent editions of the ASME OM Code and ASME BPV Code, Section XI are currently mature. Therefore, and in light of the current Code process, the NRC staff believes that licensees, once they have updated their Codes of record to the most recently incorporated edition of the ASME OM Code and ASME BPV Code, Section XI as of the date of this rulemaking, can safely maintain their IST and ISI programs with an extended update interval, while continuing to avail themselves of advancing technologies and methods through standards issued as Code Cases. As described above, the NRC staff intends to begin using the direct final rule process to incorporate non-controversial Code Cases more promptly.

In the current ASME Code process, if a new safety issue is discovered between IST and ISI program updates, such as a new degradation mechanism, ASME would most likely first publish standards to address the issue in a Code Case. The NRC staff would then review the new or revised Code Case and incorporate the Code Case into the regulations, with conditions if necessary. This process would not be new: in a few instances in the past, to address emergent degradation or performance issues that have posed a significant safety concern, the NRC has

mandated the use of such Code Cases to require additional analyses, examination, and quality assurance activities to supplement the applicable ASME Code edition. In those instances, the staff analyzed the option to mandate early adoption of a Code Case ahead of the licensee's update interval as required under 10 CFR 50.109, "Backfitting." In the event that provisions to address the new safety issue are first issued in a Code Edition, the staff would use the same procedures to determine whether mandating early adoption of the new provisions is necessary.

Existing Regulatory Framework

As described above, the NRC incorporates by reference the ASME BPV Code, Sections III and XI and the ASME OM Code into 10 CFR 50.55a.

In addition, the NRC incorporates by reference five ASME Code Cases in 10 CFR 50.55a(a)(1)(iii) that require additional analyses, inspections, and quality assurance measures to supplement the requirements of the ASME Code edition.

In 10 CFR 50.55a(f) and 10 CFR 50.55a(g), respectively, the NRC requires that nuclear power plant licensees update their IST and ISI programs to the latest edition of the ASME OM Code and ASME BPV Code, Section XI that are incorporated by reference 18 months before the start of the initial and successive 120-month program intervals. This regulation has the effect of requiring licensees to update their IST and ISI programs to later editions of the stated Codes every 120 months.

Explanation of Why Rulemaking Is the Preferred Solution

Because the NRC specifies the 120-month IST and ISI program update interval in 10 CFR 50.55a, conducting rulemaking is the only option to address this regulatory issue. Developing new regulatory guidance or updating current regulatory guidance would not be a viable option to implement a change to this requirement.

Prior to the completion of this rulemaking process, the staff anticipates that some licensees may submit requests for exemptions to the requirements to update IST and ISI programs every 120 months. Staff will consider the merits of such requests on a case-by-case basis.

The staff has considered other actions to improve the process for ASME Code incorporation by reference that do not require new approvals from the Commission. The staff plans to implement the remaining two recommendations identified in the EVS report: (1) institute streamlined rules for unconditionally approved ASME Code Cases and (2) decrease the frequency of ASME Code edition rulemakings. Implementing all three EVS recommendations would allow the staff to approve more promptly the use of Code Cases that provide standards for using new approaches and technologies for IST and ISI activities while saving resources for both the NRC and industry.

Description of Rulemaking: Scope

This rulemaking would double the time between updates for the licensee's Codes of record for the IST and ISI programs from a 120-month interval to a 240-month interval for licensees that have updated their IST and ISI programs to the most recent edition and addenda of the ASME OM Code and BPV Code, Section XI incorporated by reference in 10 CFR 50.55a by the effective date of the final rule.

The current 120-month ISI program update interval corresponds to the current 10-year ISI interval in ASME BPV Code, Section XI, Subsection IWA-2430. For clarity and consistency, the staff proposed the 240-month interval (i.e., two ISI intervals) in order to extend the Code of record update interval while maintaining alignment with the ISI interval. However, ASME is considering extending that ISI interval to 12 years. If that extension is made, the staff would recommend extending the IST and ISI program update cycle to 288 months (24 years). Therefore, the staff requests that the Commission also approve the additional rulemaking and delegation of authority in this rulemaking plan to the EDO, although the staff is not currently proposing to conduct that rulemaking and ASME has not yet extended the ISI interval.

Description of Rulemaking: Preliminary Backfitting and Issue Finality Analysis

The proposed change would not constitute backfitting under 10 CFR 50.109 or affect the issue finality of any approval issued under 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants," because the proposed changes described in this rulemaking plan would relax the current requirements for licensees to update their IST and ISI programs every 120 months. Although the *required* update interval would be extended to 240 months, licensees could remain on the shorter 120-month update interval by requesting early updates under 10 CFR 50.55a(f)(4)(vi) and (g)(4)(vi). Therefore, this revision would be a voluntary reduction in requirements, i.e., a relaxation.

Description of Rulemaking: Estimated Schedule

The staff recommends omitting preparation of a regulatory basis for this action and proceeding with the development of a proposed rule with delegated signature authority to the EDO. If so delegated, the EDO will redelegate the rulemaking to the Director of NRR, so that it can be included in a rule to incorporate updates to the ASME Codes. As documented in the EVS report, the staff has previously had significant interaction with members of the public, including industry stakeholders, on this regulatory issue and proposed recommendations. As discussed above, the staff proposes a clear and narrow scope of rulemaking. The staff proposes to extend the IST and ISI program update interval to 240 months.

The following schedule assumes that this rulemaking cannot be incorporated into a planned rule to incorporate updates to ASME Codes:

- Deliver proposed rule to Director, NRR – 12 months after receipt of the Commission's SRM.
- Deliver final rule to Director, NRR – 12 months after the comment period for the proposed rule closes.

In the future, if ASME extends the ISI interval in the BPV Code to 144 months (12 years), the staff would conduct an additional rulemaking, most likely in the relevant Code update rulemaking, to revise the Code update interval from 240 to 288 months. The staff requests Commission approval and delegation of authority to the EDO for that potential future rulemaking, although the staff is not currently proposing to carry out that rulemaking.

The staff is currently developing a proposed rule to incorporate by reference the 2019 Edition of the ASME BPV Code and the 2020 Edition of the ASME OM Code (ASME 2019-2020 Code Editions, Docket ID NRC-2018-0290). If the Commission approves the rulemaking activity described in this rulemaking plan, depending on the timing of Commission direction, the staff will consider combining the rulemaking activity described in this plan with the ASME 2019-2020

Code Editions proposed rule, if it results in more timely, efficient, and effective implementation of the Commission's direction. The staff's schedule for the ASME 2019-2020 Code Edition rulemaking currently anticipates issuance of a proposed rule by March 2021. If the schedule does not allow this effort to be combined with the ASME 2019-2020 Code Edition rulemaking, the staff will consider combining this rulemaking activity with the next routine ASME Code Edition or Code Case rulemaking.

Description of Rulemaking: Preliminary Recommendation on Priority

Based on the Common Prioritization of Rulemaking methodology (ADAMS Accession No. ML18263A070), the preliminary priority for this rulemaking activity is medium. The staff determined the following:

- (1) This rulemaking would be an indirect contributor toward the safety goal by implementing two of the NRC Strategic Plan's safety strategies by helping to enhance the NRC's regulatory programs, and by further risk-informing the current regulatory framework by prioritizing efforts to focus on the most safety-significant issues.
- (2) This rulemaking would be a significant contributor to the efficiency and reliability Principles of Good Regulation because the rulemaking would provide the most cost-efficient methods for implementing the requirements, thus contributing to the Efficiency principle, and would ensure the reliability of the requirements with which reactor licensees and applicant must be in compliance, thus contributing to the Reliability principle.
- (3) This rulemaking would be a moderate contributor to the governmental priority as the proposed rulemaking activity would result in a future regulatory benefit.
- (4) This rulemaking would be a moderate contributor to the public priority, which includes considerations of significant public participation, response to a petition for rulemaking, significant media coverage, and regulatory burden reduction. The staff does not expect to have significant public participation or media coverage. This rulemaking would not be in response to a petition for rulemaking. The staff expects to have moderate public participation in the form of written comments on the positive and negative impacts of the proposed changes as well as attendance and interaction during public meetings. The staff expects that this rulemaking would result in a moderate burden reduction.

The priority for a rulemaking activity can change over time. Common reasons for a change in priority are new Commission or senior management direction or changes in the rulemaking scope.

Description of Rulemaking: Estimate of Resources

If the staff receives approval to initiate the rulemaking in fiscal year 2021, the costs associated with rule development during fiscal years 2021 through 2023 are expected to be low. In addition, if the staff is able to incorporate these revisions in the ASME 2019-2020 Code Edition rulemaking, additional efficiencies will be realized. While this rulemaking is not explicitly budgeted in fiscal years 2021 and 2022, the staff will use its planning, budgeting, and performance management process to reallocate resources within the rulemaking product line under the operating reactor business line. The staff's Common Prioritization of Rulemaking process will identify resources for fiscal year 2023, depending on the timing of Commission direction with respect to the budget formulation schedule.

The staff estimates the proposed action to involve cost savings by extending the interval for licensees to update their ISI and IST programs (currently performed every 120 months). These cost savings would be attributable to licensees updating their IST and ISI programs less frequently than every 120 months. Each IST and ISI program update costs a licensee an estimated \$1,000,000 per reactor unit. The potential cost savings to relax the requirement for licensees to update their IST and ISI programs every 120 months would be based on how frequently the licensees would have to update these programs. For example, if that interval doubles to 240 months, the staff estimates that licensees could save about \$1,000,000 per reactor unit during this 240-month time period. The cost savings are attributable to the reduction of licensee labor resources to make these updates less frequently than the current requirement of every 120 months. Although participation in the rulemaking requires resources, the staff believes the outcome of the proposed rulemaking would reduce unnecessary regulatory burden by decreasing the required frequency of ISI and IST program updates by licensees. However, other public participants may not favor increasing the time interval and therefore, would be opposed to this rulemaking, and especially the extra-burden it will require for them to seek the status-quo.

Cumulative Effects of Regulation

The staff's preliminary assessment of the cumulative effects of regulation concludes that: (1) the rulemaking will reduce the regulatory burden for licensees and (2) no known activities or affected entities will significantly impact the implementation of the proposed changes.

Agreement State Considerations

The staff identified no Agreement State considerations for this rulemaking because the use of codes and standards described in 10 CFR 50.55a by licensees under 10 CFR Part 50, "Domestic licensing of production and utilization facilities," and 10 CFR Part 52 are not subject to regulation by Agreement States.

Guidance

The staff finds that there are no guidance documents that need to be updated in parallel with the rulemaking.

The following guidance documents reference the IST and ISI program intervals but would not be needed for implementation of the proposed rule because conformance to the existing guidance (updating every 120 months) would remain an acceptable method for complying with the revised regulations or because the guidance document references the existing interval for information purposes only:

- NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 3.9.6, Revision 4, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints," issued May 2017, (ADAMS Accession No. ML16134A116)
- Regulatory Issue Summary 2004-12, "Clarification on Use of Later Editions and Addenda to the ASME OM Code and Section XI," dated July 28, 2004, (ADAMS Accession No. ML042090436)

- Regulatory Issue Summary 2010-06, "Inservice Inspection and Testing Requirements of Dynamic Restraints (Snubbers)," dated June 1, 2010, (ADAMS Accession No. ML101310338)
- Regulatory Issue Summary 2012-08, Revision 1, "Developing Inservice Testing and Inservice Inspection Programs Under 10 CFR Part 52," dated July 17, 2013, (ADAMS Accession No. ML13122A365)
- Regulatory Issue Summary 2016-07, "Containment Shell or Liner Moisture Barrier Inspection," dated May 9, 2016, (ADAMS Accession No. ML16068A436)
- NUREG-1482, Revision 3, "Guidelines for Inservice Testing at Nuclear Power Plants," issued July 2020, (ADAMS Accession No. ML20202A473)

In parallel with the rulemaking, the staff would determine the need to update the guidance documents listed above to reflect the modified requirements. The staff would also address any additional guidance documents identified during rulemaking.

Advisory Committee on Reactor Safeguards Review

The staff has consulted with the ACRS staff on this regulatory issue, and the ACRS has requested to be kept informed as the rulemaking progresses.

Committee to Review Generic Requirements Review

The staff recommends that review by the Committee to Review Generic Requirements (CRGR) is not necessary because the staff expects that no backfitting would be associated with this rulemaking action, as described in the "Description of Rulemaking: Preliminary Backfitting and Issue Finality Analysis" section of this rulemaking plan.

Advisory Committee on the Medical Use of Isotopes Review

The staff recommends that review by the Advisory Committee on the Medical Use of Isotopes (ACMUI) is not necessary because the proposed rulemaking would not affect NRC regulation or licensing of medical uses of byproduct material.

Analysis of Legal Matters

The Office of the General Counsel has reviewed this rulemaking plan and has not identified any issues necessitating a separate legal analysis at this time.

COMMITMENT:

If the Commission approves initiation of the rulemaking, in accordance with SECY-16-0042, "Recommended Improvements for Rulemaking Tracking and Reporting," dated April 4, 2016 (ADAMS Accession No. ML16075A070), the staff will allocate resources in accordance with the Common Prioritization of Rulemaking Process.

RECOMMENDATION:

The NRC staff recommends the Commission take the following five actions:

- (1) Approve initiation of a rulemaking to extend the interval for the IST and ISI program updates required in 10 CFR 50.55a from 120 months to 240 months for licensees that have updated their IST and ISI programs to the most recent edition and addenda for the ASME OM Code and BPV Code incorporated by reference in 10 CFR 50.55a by the effective date of this final rule.
- (2) Approve a future rulemaking to extend the interval again, from 240 months to 288 months, if ASME increases the ISI interval to 12 years.
- (3) Approve the staff's request not to develop a regulatory basis for these rulemakings.
- (4) Delegate signature authority for these actions to the EDO. With this delegation, the staff will consider combining this effort with a routine ASME Code Edition or Code Case rulemaking, if it would result in a more timely, efficient, and effective implementation of the Commission's direction.
- (5) Approve the staff's recommendations on ACRS, CRGR, and ACMUI review.

RESOURCES:

The enclosure to this plan estimates the resources needed to complete this rulemaking. The resource estimates in the enclosure are not publicly available.

COORDINATION:

The Office of the General Counsel has no legal objection to this action. The Office of the Chief Financial Officer has reviewed this paper and has no concerns with the estimated resources in the enclosure.

Margaret M. Doane

Digitally signed by Margaret M.
Doane
Date: 2021.03.15 17:59:40 -04'00'

Margaret M. Doane
Executive Director
for Operations

Enclosure:
Resources for Revision of Inservice
Testing and Inservice Inspection
Program Update Frequencies

SUBJECT: RULEMAKING PLAN ON REVISION OF TESTING AND INSPECTION PROGRAM UPDATE FREQUENCIES REQUIRED IN 10 CFR 50.55a, DATED March 15, 2021

ADAMS Accession Numbers: ML20273A284 (Pkg.); ML20273A286 (SECY); ML20273A293 (Enc.)

*Concur via e-mail/-concurrence

OFFICE	NRR/DNRL: TL*	NMSS/REFS/RRPB: PM*	QTE*	NMSS/REFS/RRPB: RS*
NAME	DRudland	VHuckabay	JDougherty	GLappert
DATE	9/28/2020	9/28/2020	10/1/2020	10/6/2020
OFFICE	NMSS/REFS/RRPB: BC*	NMSS/REFS/RASB: BC*	NRR/DNRL/NVIB: BC*	NRR/DNRL/NPHP: BC*
NAME	IBerrios	CBladey (JShepherd for)	HGonzalez	MMitchell
DATE	10/9/2020	10/9/2020	10/7/2020	10/7/2020
OFFICE	NRR/DEX/EMIB: BC*	RES/DE/CIB: BC*	OCFO*	NMSS/REFS: D*
NAME	ABuford	Rlyengar	RAllwein	JTappert
DATE	10/12/2020	10/8/2020	10/15/2020	10/16/2020
OFFICE	NRR/DNRL: D*	NRR/DE: D*	RES/DE: D*	OGC (NLO)*
NAME	ABradford	EBenner	LLund	SClark
DATE	10/20/2020	10/19/2020	10/16/2020	10/29/2020
OFFICE	NRR: D*	EDO		
NAME	HNieh (RTaylor for)	MDoane		
DATE	11/18/2020	03/ 15 /2021		

OFFICIAL RECORD COPY