[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC-2020-0029]

RIN 3150-AK42

Approval of the 2023 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and Code Cases, Revision 41

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to incorporate by reference the 2023 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. This action is in accordance with the NRC's policy to periodically update the regulations to incorporate by reference new editions of the ASME Codes and is intended to maintain the safety of nuclear power plants and to make NRC activities more effective and efficient. The NRC also is proposing to amend its regulations to incorporate by reference proposed revisions of three regulatory guides, which would approve new, revised, and reaffirmed code cases published by the ASME. This proposed action would allow nuclear power plant licensees and applicants to use the code cases listed in these draft regulatory guides as voluntary alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components. This proposed rule also incorporates minor editorial corrections. The NRC is requesting comments on this proposed rule, on the draft versions of three regulatory guides, and the draft version of an additional regulatory guide which will not be incorporated by reference.

DATES: Submit comments by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received before this date.

ADDRESSES: You may submit comments, identified by Docket ID NRC-2020-0029, at https://www.regulations.gov. If your material cannot be submitted using https://www.regulations.gov, call or email the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions.

You can read a plain language description of this proposed rule at https://www.regulations.gov/docket/NRC-2020-0029. For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Aaron Kwok, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-1371, email: Aaron.Kwok@nrc.gov; and Jay Collins, Office of Nuclear Reactor Regulation, telephone: 301-415-4038, email: Jay.Collins@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

This rulemaking is separate from NRC's comprehensive review and reform of its regulations in accordance with Executive Order (E.O.) 14300, "Ordering the Reform of the Nuclear Regulatory Commission" (90 FR 22587; May 29, 2025). The rulemakings associated with that effort will comprehensively reexamine NRC requirements, including those in 10 CFR part 50. While there could be additional revisions to 10 CFR part 50 as a result of these future rulemakings, the NRC is moving forward with publication of this proposed rule at this time because it is a deregulatory action of high interest for stakeholders that was in progress before the issuance of E.O. 14300.

EXECUTIVE SUMMARY:

A. Need for the Regulatory Action

The NRC is proposing to amend its regulations to incorporate by reference the 2023 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV Code). The ASME periodically revises and updates its

Codes for nuclear power plants by issuing new editions; this proposed rule is in accordance with the NRC's practice to incorporate those new editions into the NRC's regulations. This proposed rule maintains the safety of nuclear power plants, makes NRC activities more effective and efficient, and allows nuclear power plant licensees and applicants to take advantage of the latest ASME BPV Code. The ASME is a voluntary consensus standards organization, and the ASME BPV Code is a voluntary consensus standard. The NRC's use of the ASME BPV Code is consistent with applicable requirements of the National Technology Transfer and Advancement Act (NTTAA). See Section XIV, “Voluntary Consensus Standards,” of this document for more information.

In addition, the NRC is proposing to incorporate by reference into its regulations the latest revisions of three regulatory guides (RGs) (currently in draft form for comment). The three draft RGs identify new, revised, and reaffirmed code cases published by the ASME that the NRC has determined are acceptable for use as voluntary alternatives to compliance with certain provisions of the ASME BPV Code and the ASME *Operation and Maintenance* (OM) *of Nuclear Power Plants, Division 1, OM Code: Section IST* (OM Code) currently incorporated by reference into the NRC's regulations. The NRC is also proposing to revise an additional RG listing code cases that the NRC has not approved for use.

B. Major Provisions

Major provisions of this proposed rule include the incorporation by reference with conditions of the 2023 Edition of the ASME BPV Code into NRC regulations and delineation of NRC requirements for the use of this code. In addition, the NRC proposes to incorporate by reference into the NRC's regulations the following regulatory guides: RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 41 (Draft Regulatory Guide (DG)-1446); RG 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 22 (DG-1447); and RG 1.192, “Operation and Maintenance [OM] Code Case Acceptability, ASME OM Code,”

Revision 6 (DG-1448). This proposed action would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in these revised RGs as voluntary alternatives to ASME engineering standards for the construction, inservice inspections, and inservice testing of nuclear power plant components. The NRC also notes the availability of a proposed version of RG 1.193, “ASME Code Cases Not Approved for Use,” Revision 9 (DG-1449). This document lists code cases that the NRC has not approved for generic use and would not be incorporated by reference into the NRC's regulations.

C. Costs and Benefit

The NRC prepared a draft regulatory analysis to determine the expected quantitative costs and benefits of this proposed rule, as well as qualitative factors to be considered in the NRC's rulemaking decision. The analysis concluded that this proposed rule would result in net savings to the industry and the NRC. As shown in Table I, the estimated total net benefit relative to the regulatory baseline and the quantitative benefits would outweigh the costs by a range from approximately $9.52 million (7-percent net present value) to $11.7 million (3-percent net present value).

Table I—Cost Benefit Summary

Attribute	**Total averted costs (costs)**		
	Undiscounted	**7% Net present value**	**3% Net present value**
Industry Implementation	$0	$0	$0
Industry Operation	$9,580,000	$6,650,000	$8,150,000
Total Industry Costs	$9,580,000	$6,650,000	$8,150,000
NRC Implementation	($260,000)	($230,000)	($240,000)
NRC Operation	$4,470,000	$3,100,000	$3,810,000
Total NRC Costs	$4,210,000	$2,870,000	$3,570,000
Net	$13,790,000	$9,520,000	$11,720,000

The draft regulatory analysis also considered the following qualitative considerations: (1) protection of public health and safety and the environment; (2) consistency with the provisions of the National Technology Transfer and Advancement Act of 1995, which encourages Federal regulatory agencies to consider adopting voluntary consensus standards as an alternative to de novo agency development of standards affecting an industry; (3) consistency with the NRC's policy of evaluating the latest versions of consensus standards in terms of their suitability for endorsement by regulations and regulatory guides; and (4) consistency with the NRC's goal to harmonize with international standards to improve regulatory efficiency for both the NRC and international standards groups.

The NRC has had a decades-long practice of approving and/or mandating the use of certain parts of editions and addenda of ASME Codes and certain ASME Code Cases in § 50.55a through the rulemaking process of “incorporation by reference.” Continuing this practice in this proposed rule ensures regulatory stability and predictability. This practice also provides consistency across the industry and provides assurance to the industry and the public that the NRC will continue to support the use of the most updated and technically sound techniques developed by the ASME to provide adequate protection to the public. The ASME Codes are voluntary consensus standards developed by technical committees composed of mechanical engineers and others who represent the broad and varied interests of their industries, from manufacturers and installers to insurers, inspectors, distributors, regulatory agencies, and end users. The standards undergo extensive external review before the NRC considers whether to incorporate them by reference. Finally, the NRC's use of the ASME Codes is consistent with the NTTAA, which directs Federal agencies to adopt voluntary consensus standards instead of developing “government-unique” (i.e., Federal agency-developed) standards, unless inconsistent with applicable law or otherwise impractical.

The draft regulatory analysis concludes that this proposed rule should be adopted because it is justified when integrating the cost-beneficial quantitative results

and the positive and supporting nonquantitative considerations in the decision. For more information, please see the draft regulatory analysis as indicated in Section XVII, "Availability of Documents," of this document.

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I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2020-0029 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID NRC-2020-0029.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin ADAMS Public Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.

- **Technical Library**: The Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852, is open by appointment only. Interested parties may make appointments to examine documents by contacting the NRC Technical Library by email at Library.Resource@nrc.gov between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.

B. Submitting Comments

The NRC encourages electronic comment submission through the **Federal rulemaking website** (https://www.regulations.gov). Please include Docket ID NRC-2020-0029 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at https://www.regulations.gov as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Background

A. Proposed Incorporation by Reference of the 2023 BPV Code Edition

The American Society of Mechanical Engineers (ASME) develops and publishes the ASME Boiler and Pressure Vessel (BPV) Code, which contains requirements for the design, construction, and inservice inspection (ISI) of nuclear power plant components. Until 2012, the ASME issued new editions of the ASME BPV Code every 3 years and addenda to the editions annually, except in years when a new edition was issued. Starting in 2012, the ASME decided to issue editions of its BPV Code (no addenda) every 2 years on the odd years (e.g., 2013, 2015, etc.). The new editions typically revise provisions of the ASME BPV Code to broaden their applicability, add specific elements to current provisions, delete specific provisions, and/or clarify them to narrow the

applicability of the provision. The revisions to the editions of the ASME BPV Code do not significantly change code philosophy or approach.

The ASME also develops and publishes the ASME Operation and Maintenance (OM) Code, which contains requirements for inservice testing (IST) of nuclear power plant components. The ASME periodically publishes new editions and addenda of the ASME OM Code. Starting in 2012, the ASME decided to issue editions of its OM Code (no addenda) every 2 years on the even years (e.g., 2012, 2014, etc.). However, the ASME did not publish a 2024 edition of the OM Code.

The NRC's practice is to establish requirements for the design, construction, operation, ISI (examination), and IST of nuclear power plants by approving the use of editions of the ASME BPV and OM Codes (ASME Codes) in § 50.55a of title 10 of the *Code of Federal Regulations* (10 CFR). The NRC approves or mandates the use of certain parts of editions of these ASME Codes in § 50.55a through the rulemaking process of incorporation by reference. Upon incorporation by reference of the ASME Codes into § 50.55a, the provisions of the ASME Codes are legally-binding NRC requirements as delineated in § 50.55a, and subject to the conditions on certain specific ASME Codes' provisions that are set forth in § 50.55a. The most recent editions of the ASME Codes were last incorporated by reference into the NRC's regulations in a final rule dated August 30, 2024 (89 FR 70449).

The ASME Codes are voluntary consensus standards developed by participants, including the NRC and licensees of nuclear power plants, who have broad and varied interests. The ASME's adoption of new editions of the ASME Codes does not mean that there is unanimity on every provision in the ASME Codes. There may be disagreement among the technical experts, including the NRC's representatives on the ASME Code committees and subcommittees, regarding the acceptability or desirability of a particular code provision included in an ASME-approved Code edition. If the NRC believes that there is a significant technical or regulatory concern with a provision in an ASME-approved Code edition being considered for incorporation by reference, then the

NRC conditions the use of that provision when it incorporates by reference that ASME Code edition into its regulations. In some instances, the condition increases the level of safety afforded by the ASME Code provision, or addresses a regulatory issue not considered by the ASME. In other instances, where research data or experience has shown that certain code provisions are unnecessarily conservative, the condition may provide that the code provision need not be complied with in some or all respects. The NRC's conditions are included in § 50.55a, typically in paragraph (b) of that section. In a Staff Requirements Memorandum (SRM) dated September 10, 1999, the Commission indicated that NRC rulemakings adopting (incorporating by reference) a voluntary consensus standard must identify and justify each part of the standard that is not adopted. For this proposed rule, the provisions of the 2023 Edition of Section III, Division 1, and the 2023 Edition of Section XI, Division 1, of the ASME BPV Code that the NRC is not adopting, or is only partially adopting, are identified in the “Discussion,” “Regulatory Analysis,” and “Backfitting and Issue Finality” sections of this document. The provisions of those specific editions and code cases that are the subject of this proposed rule that the NRC finds to be conditionally acceptable, together with the applicable conditions, are also identified in the “Discussion,” “Regulatory Analysis,” and “Backfitting and Issue Finality” sections of this document.

The ASME Codes are voluntary consensus standards, and the NRC's incorporation by reference of these Codes is consistent with applicable requirements of the National Technology Transfer and Advancement Act (NTTAA). Additional discussion on the NRC's compliance with the NTTAA is set forth in Section XIV of this document, “Voluntary Consensus Standards.”

B. Proposed Incorporation by Reference of Three Regulatory Guides

The ASME develops and publishes the ASME BPV Code, which contains requirements for the design, construction, and inservice inspection of nuclear power plant components, and the ASME OM Code, which contains requirements for preservice and inservice testing of nuclear power plant components. In response to BPV and OM

Code user requests, the ASME develops code cases that provide voluntary alternatives to BPV and OM Code requirements.

The NRC approves the ASME Codes in § 50.55a, “Codes and standards,” through the process of incorporation by reference. As such, each provision of the ASME Codes incorporated by reference into and mandated by § 50.55a constitutes a legally-binding NRC requirement imposed by rule. As noted previously, the ASME Code cases, for the most part, represent alternative approaches for complying with provisions of the ASME BPV and OM Codes. Accordingly, the NRC periodically amends § 50.55a to incorporate by reference the NRC's regulatory guides (RGs) listing approved ASME Code cases that may be used as voluntary alternatives to the BPV and OM Codes.

This proposed rule is the latest in a series of rules that incorporate by reference new versions of several RGs that identify new, revised, and reaffirmed ASME Code cases that the NRC unconditionally or conditionally approves for use. In developing these RGs, the NRC reviews the ASME BPV and OM Code Cases, determines the acceptability of each code case, and publishes its findings in the RGs. The RGs are revised periodically as new code cases are published by the ASME. The NRC incorporates by reference the RGs listing acceptable and conditionally acceptable ASME Code Cases into § 50.55a. The NRC published a final rule dated July 17, 2024 (89 FR 58039), that incorporated by reference into § 50.55a the most recent versions of the RGs, which are RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 40; RG 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 21; and RG 1.192, “Operation and Maintenance Code Case Acceptability, ASME OM Code,” Revision 5.

C. Direct Final Rule for Noncontroversial Code Cases

In a direct final rule (DFR) (90 FR 46319; [published September 26, 2025, effective January 26, 2026]), the NRC incorporated by reference RG 1.262, “ASME Code Cases Approved for Use Without Conditions.” This new approach to ASME Code

Case rulemaking implements Commission direction in SRM-SECY-21-0029 regarding streamlining § 50.55a rulemaking activities. The NRC considers the code cases approved in RG 1.262 to be noncontroversial in nature without the need for regulatory conditions, such that issuing a DFR is an appropriate rulemaking process. This approach allows the NRC to approve such code cases in a more efficient manner than was possible under the former process (see final rule, “American Society of Mechanical Engineers Code Cases and Update Frequency,” issued July 17, 2024 (89 FR 58039)). In developing RG 1.262, the NRC reviewed the ASME BPV and OM Code Cases, determined the acceptability of each code case, and published its findings in the RG. This RG will be revised periodically as the NRC determines that new code cases published by the ASME are acceptable without NRC regulatory conditions and are noncontroversial. Using this new approach, the NRC approved these ASME Code Cases for use by incorporating RG 1.262 by reference into § 50.55a. This rule supplements that DFR by addressing code cases that need additional NRC regulatory conditions or are otherwise potentially controversial.

III. Discussion

A. Proposed Incorporation by Reference of the 2023 BPV Code Edition

The NRC regulations incorporate by reference ASME Codes for nuclear power plants. This proposed rule is the latest in a series of rulemakings to amend the NRC's regulations to incorporate by reference revised and updated ASME Codes for nuclear power plants. This proposed rule is intended to maintain the safety of nuclear power plants and make NRC activities more effective and efficient.

The NRC follows a three-step process to determine acceptability of new provisions in new editions of the ASME Codes and the need for conditions on the uses of these ASME Codes. This process was employed in the review of the ASME BPV Code that is the subject of this proposed rule. First, the NRC actively participates with other ASME committee members with full involvement in discussions and technical

debates in the development of new and revised Code provisions. This includes technical justification of each new or revised Code provision. Second, the NRC's committee representatives discuss the Code provisions and technical justifications with other cognizant staff to ensure an adequate technical review. Third, the NRC position on each Code provision is reviewed and approved by NRC management as part of this proposed rule amending § 50.55a to incorporate by reference new editions of the ASME Codes and conditions on their use. This regulatory process, when considered together with the ASME's own process for developing and approving the ASME Codes, assures that the NRC approves for use only those new and revised code editions, with conditions as necessary, that provide reasonable assurance of adequate protection to the public health and safety, and that do not have significant adverse impacts on the environment.

The NRC reviewed changes to the ASME BPV Code identified in this proposed rule. The NRC concluded, in accordance with the process for review of changes to the Codes, that this edition of the Code is technically adequate, consistent with current NRC regulations, and approved for use with the specified conditions upon the conclusion of the rulemaking process.

The NRC is proposing to amend its regulations to incorporate by reference the 2023 Editions of the ASME BPV Code, Section III, Division 1 and Section XI, Division 1, with conditions on their use.

The current regulations in § 50.55a(a)(1)(i) incorporate by reference ASME BPV Code, Section III, 1963 Edition through the 1970 Winter Addenda; and the 1971 Edition (Division 1) through the 2021 Edition (Division 1), subject to the conditions identified in current § 50.55a(b)(1)(i) through (xiv). This proposed rule would revise § 50.55a(a)(1)(i) to incorporate by reference the 2023 Edition (Division 1) of the ASME BPV Code, Section III with Errata 23-2471, “NB-5332(a)(2) (from R/N 22-1562),” dated April 4, 2024. It also would clarify the wording and add or revise some of the conditions as explained in this proposed rule.

The current regulations in § 50.55a(a)(1)(ii) incorporate by reference ASME BPV Code, Section XI, 1974 Edition through the 1975 Summer Addenda, the 1995 Edition (Division 1) through the 1997 Addenda (Division 1), and the 2001 Edition (Division 1) through the 2021 Edition (Division 1), subject to the conditions identified in current § 50.55a(b)(2)(i) through (l). This proposed rule would revise § 50.55a(a)(1)(ii) to incorporate by reference the 2023 Edition (Division 1) of the ASME BPV Code, Section XI. It also would clarify the wording and add, remove, or revise some of the conditions as explained in this proposed rule.

In the introductory discussion of its Codes, ASME specifies that errata to those Codes may be posted on the ASME website under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in those Codes. Users of the ASME Codes should be aware of errata when implementing the specific provisions of those Codes. Applicants and licensees should monitor errata to determine when they might need to submit a request for an alternative under § 50.55a(z) to implement provisions specified in an errata to their ASME Code of Record. Each of the proposed NRC conditions and the reasons for each are discussed in the following sections of this document. The discussions are organized under the applicable ASME Code and Section.

The NRC prepared an unofficial redline strikeout version of the proposed changes to regulatory text that is intended to help the reader identify the proposed changes. The unofficial redline strikeout version of the proposed rule is publicly available and provided in the “Availability of Documents” section.

i. ASME BPV Code, Section III

Section 50.55a(a)(1)(i)(E) Rules for Construction of Nuclear Facility Components—Division 1

The NRC proposes to revise § 50.55a(a)(1)(i)(E) to incorporate by reference the 2023 Edition of the ASME BPV Code, Section III, including Subsection NCA and Division 1 Subsections NB through NG and Appendices, with Errata 23-2471, “NB-5332(a)(2)

(from R/N 22-1562)," dated April 4, 2024. As stated in § 50.55a(a)(1)(i), the Nonmandatory Appendices are excluded and not incorporated by reference. The Mandatory Appendices are incorporated by reference because they include information necessary for Division 1. However, the Mandatory Appendices also include material that pertains to other Divisions that have not been reviewed and approved by the NRC. Although this information is included in the sections and appendices being incorporated by reference, the NRC notes that the use of Divisions other than Division 1 has not been approved, nor are they required by NRC regulations and, therefore, such information is not relevant to NRC applicants and licensees. The NRC is not taking a position on the non-Division 1 information in the appendices and is including it in the incorporation by reference only for convenience. Therefore, this proposed rule revises the introductory text to § 50.55a(a)(1)(i)(E) to reference the 2023 Edition of the ASME BPV Code, Section III, including Subsection NCA and Division 1 Subsections NB through NG and Appendices, with Errata 23-2471, "NB-5332(a)(2) (from R/N 22-1562)," dated April 4, 2024.

Section 50.55a(a)(1)(v)(B) ASME NQA-1, "Quality Assurance Requirements for Nuclear Facility Applications"

The NRC proposes to revise § 50.55a(a)(1)(v)(B) to include the 2017, 2019, and 2022 editions of NQA-1. The 2017, 2019, and 2022 editions of NQA-1 were endorsed, with conditions, by the NRC in Revision 6 of RG 1.28.

Section 50.55a(b)(1)(xiv) Section III Condition: Repairs to Stamped Components

The NRC proposes to revise § 50.55a(b)(1)(xiv) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section III incorporated by reference in paragraph (a)(1)(i). The 2023 Edition of Section III was not updated to include the provisions of this condition. Therefore, the NRC is proposing to revise this condition to apply to the latest edition incorporated by reference.

Section 50.55a(b)(1)(xv) Section III Condition: Protection from Deterioration of Radiographic Film and Lifetime Record Retention

The NRC proposes to add condition § 50.55a(b)(1)(xv) to require that reasonable protection from deterioration of radiographic film specified in Note (3) to Table NCA-4134.17-1 and Note (1) to Table NCA-4134.17-2 of the 2023 Edition of the ASME BPV Code, Section III, must include the provisions in NCA-4134.17(c), and the reproduction must be retained as a record in accordance with Table NCA-4134.17-1 or NCA-4134.17-2, as applicable, of the 2023 Edition of Section III. A similar condition, § 50.55a(b)(2)(liii), is proposed in this rule for IWA-6310(b) of the 2023 ASME BPV Code, Section XI. The condition is in two provisions as follows:

Section 50.55a(b)(1)(xv)(A) Protection from Deterioration of Radiographic Film and Lifetime Record Retention, First Provision

NCA-4134.17(d) requires records listed in Table NCA-4134.17-1 to be classified as lifetime records and shall be retained and maintained for the life of the plant. In the 2023 Edition of the ASME BPV Code, Section III, Note (3) to Table NCA-4134.17-1 specifies that deterioration of radiographic film is expected and radiographic film that has deteriorated to the point where it no longer has value does not need to be maintained as a record by the owner.

However, the NRC notes that there are existing provisions in NCA-4134.17(c) that allow reproduction of radiographic film, including by electronic processes (e.g., digitize) before the original film's deterioration. Therefore, the NRC is proposing to add § 50.55a(b)(1)(xv)(A) to condition Note (3) of Table NCA-4134.17-1 of the 2023 Edition of Section III to require that the reasonable protection from deterioration of radiographic film shall include the provisions specified in NCA-4134.17(c) of the 2023 Edition of Section III, and the reproduction must be retained as a lifetime record in accordance with Table NCA-4134.17-1 of the ASME BPV Code, Section III. This would maintain the current requirements in the 2021 Edition of the ASME BPV Code, Section III.

Section 50.55a(b)(1)(xv)(B) Protection from Deterioration of Radiographic Film and Nonpermanent Record Retention, Second Provision

NCA-4134.17(e) requires records listed in Table NCA-4134.17-2 to be classified as nonpermanent records and shall be retained for the period specified in Table NCA-4134.17-2 (10 years for radiographic film). In the 2023 Edition of the ASME BPV Code, Section III, Note (1) to Table NCA-4134.17-2 specifies that deterioration of radiographic film is expected and radiographic film that has deteriorated to the point where it no longer has value does not need to be maintained as a record by the owner.

However, the NRC notes that there are existing provisions in NCA-4134.17(c) that allow reproduction of radiographic film, including by electronic processes (e.g., digitize) before the original film's deterioration. Therefore, the NRC is proposing to add § 50.55a(b)(1)(xv)(B) to condition Note (1) of Table NCA-4134.17-2 of the 2023 Edition of Section III to require that the reasonable protection from deterioration of radiographic film shall include the provisions specified in NCA-4134.17(c) of the 2023 Edition of Section III, and the reproduction must be retained as a nonpermanent record in accordance with NCA-4134.17-2 of the ASME BPV Code, Section III. This would maintain the current requirements in the 2021 Edition of the ASME BPV Code, Section III.

ii. ASME BPV Code, Section XI

Section 50.55a(a)(1)(ii)(C) ASME Boiler and Pressure Vessel Code, Section XI

The NRC proposes to amend the regulations in § 50.55a(a)(1)(ii)(C) to incorporate by reference the 2023 Edition (Division 1) of the ASME BPV Code, Section XI. The current regulations in § 50.55a(a)(1)(ii)(C) incorporate by reference ASME BPV Code, Section XI, the 1974 Edition through the 1975 Summer Addenda, the 1995 Edition (Division 1) through the 1997 Edition (Division 1), and the 2001 Edition (Division 1) through the 2021 Edition (Division 1), subject to the conditions identified in current § 50.55a(b)(2)(i) through (l).

Section 50.55a(a)(1)(iii)(A) ASME BPV Code Case N-513-3 Mandatory Appendix I

The NRC proposes to remove and reserve § 50.55a(a)(1)(iii)(A) to delete the incorporation by reference of ASME BPV Code Case N-513-3, Mandatory Appendix I. This mandatory appendix was previously incorporated by reference as a reference for § 50.55a(b)(2)(xxxiv), Section XI Condition: Nonmandatory Appendix U. The reference to Mandatory Appendix I was removed from this condition in a previous rulemaking, and Mandatory Appendix I is no longer referenced in this section. Therefore, this proposed rule would remove and reserve § 50.55a(a)(1)(iii)(A).

Section 50.55a(b)(2)(xii) Section XI Condition: Underwater Welding

The NRC proposes to revise § 50.55a(b)(2)(xii) to limit the applicability of the condition to the 2001 Edition through the 2021 Edition of ASME BPV Code, Section XI. The current regulations in § 50.55a(b)(2)(xii) state that the condition applies to the latest edition and addenda incorporated by reference in § 50.55a(a)(1)(ii). In the 2023 Edition of ASME BPV Code, Section XI, ASME modified subparagraph IWA-4661(f) to add provisions that satisfy the conditions in § 50.55a(b)(2)(xii). Therefore, these conditions do not apply to the 2023 Edition.

Section 50.55a(b)(2)(xviii) Section XI Condition: NDE Personnel Certification

The NRC proposes to remove and reserve the first provision of this condition in § 50.55a(b)(2)(xviii)(A). The current regulations in § 50.55a(b)(2)(xviii) provide four provisions related to qualification rules for nondestructive evaluation (NDE) personnel. The condition was added in 2002 (67 FR 60520) when the 1997 Addenda, and 1998 and later Editions of ASME Code, Section XI revised the requirement for recertification of Level I and Level II NDE personnel from 3 years to 5 years. This was before the widespread implementation of ASME BPV Code, Section XI, Appendix VIII rules for the performance demonstration requirements for personnel performing ultrasonic testing (UT). At that time the NRC had lower confidence in the quality of the qualifications for the NDE personnel, equipment, and procedures.

ASME provided the NRC a letter dated August 23, 2024, describing the basis for removing the provision. The basis can be summarized as saying that changes and improvements to the 8-hour, hands-on practice work done by NDE personnel mandated by § 50.55a(b)(2)(xiv) have been shown to maintain the proficiency of NDE personnel. Experience with 5-year recertifications in non-nuclear fields and internationally with ISO 9712, “Non-destructive testing—Qualification and certification of NDT personnel,” supports their contention that a 5-year recertification rate does not adversely impact the skill levels of the NDE personnel. The NRC agrees that the improvements in NDE rigor and experience with the 8-hour, hands-on training have shown that a 5-year recertification rate is acceptable and will provide adequate proficiency for NDE personnel.

Additionally, the NRC proposes to revise § 50.55a(b)(2)(xviii)(D) to clarify that the alternatives listed in paragraphs (b)(2)(xviii)(D)(1) and (2) are applicable to ASME BPV Code, Section XI, editions and addenda later than the 2010 Edition. When using these editions and addenda, the current provision to this condition requires licensees and applicants to use the prerequisites for ultrasonic examination personnel certifications in Appendix VII, Table VII-4110-1 and Appendix VIII, Subarticle VIII-2200 in the 2010 Edition. Although alternatives to these prerequisites currently exist in §§ 50.55a(b)(2)(xviii)(D)(1) and 50.55a(b)(2)(xviii)(D)(2), the current provision paragraph does not make it clear that these alternatives are acceptable because it does not refer to them as options. Therefore, the NRC is proposing to clarify that the alternatives are acceptable to meet the requirement.

Section 50.55a(b)(2)(xxv) Section XV Condition: Mitigation of Defects by Modification

The NRC proposes to revise § 50.55a(b)(2)(xxv) to correct an error in the title. The current title of § 50.55a(b)(2)(xxv) incorrectly states “Section XV Condition.” This proposed change would correct the title to state “Section XI Condition.”

Section 50.55a(b)(2)(xxviii) Section XI Condition: Analysis of Flaws

The NRC proposes to revise § 50.55a(b)(2)(xxviii) to clarify that the condition applies to A-4300(b)(1) for the ASME BPV Code, Section XI, 2021 Edition and earlier. For the 2023 Edition, this proposed change would clarify that the condition applies to Y-3100(c). In the 2023 Edition, ASME moved the fatigue crack growth law for ferritic steels in air from A-4300 to Y-3100. The existing condition in § 50.55a(b)(2)(xxviii) still applies to Y-3100.

Section 50.55a(b)(2)(xxxi) Section XI Condition: Mechanical Clamping Devices

The NRC proposes to revise § 50.55a(b)(2)(xxxi) to add several provisions related to the use of mechanical clamping devices. In the 2023 Edition of the ASME BPV Code, Section XI, Appendix W was revised to remove the prohibition on the use of mechanical clamps for Class 1 piping, portions of piping that form the containment boundary, piping larger than nominal pipe size (NPS) 2 with nominal operating temperature of 200°F (95°C) and nominal pressure of 275 pounds per square Inch gauge (psig) (1,900 kilopascal (kPa)), and piping larger than NPS 6 (DN 150). Note that Nonmandatory Appendix W was previously Code Case N-523 in the early 2000s, and was later incorporated into a mandatory appendix, and finally in the 2013 Edition of Section XI, was made into Nonmandatory Appendix W.

The existing § 50.55a(b)(2)(xxxi) condition specifies that when installing a mechanical clamping device on an ASME BPV Code class piping system, Appendix W of Section XI shall be treated as a mandatory appendix and all of the provisions of Appendix W shall be met for the mechanical clamping device being installed. Additionally, the second part of the condition specifies that use of IWA–4131.1(c) of the 2010 Edition of Section XI and IWA–4131.1(d) of the 2011 Addenda of the 2010 Edition and later versions of Section XI is prohibited on small item Class 1 piping and portions of a piping system that form the containment boundary. The change to Appendix W was not modified in a way that would make it possible for the NRC to remove this condition.

Additionally, the NRC proposes four new provisions to be added to the condition as follows:

- The prohibition in Appendix W for use on Class 1 piping was removed by ASME because it is not specified in the title of the Nonmandatory Appendix W. However, the NRC notes that this condition is to ensure that Class 1 is not applicable to this Appendix and will not be an oversight in future revisions. Further discussion of this included interpretations in other sections of ASME Code, that could allow use of mechanical clamps on Class 1 piping which was discussed in a final rule titled "Incorporation be Reference of American Society of Mechanical Engineers Codes and Code Cases" (82 FR 32934; July 18, 2017) that incorporated by reference the 2013 Edition of the ASME Code. Therefore, the NRC is proposing to include a condition that prohibits the use of Appendix W on Class 1 piping to provide clarity that the change in the ASME Code does not reflect a change in applicability of Appendix W to Class 1 piping.

- The prohibition in Appendix W for use on piping that forms part of the containment boundary was removed by the ASME based on NRC approval of alternative requests submitted using § 50.55a(z)(2). Although the NRC approved the use of Appendix W on a case-by-case basis on certain systems, the NRC has not allowed Appendix W to be used generically on an unlimited basis on numerous joints and systems that collectively could affect the function of the system. Requesting NRC approval through the § 50.55a(z) processes allows specific applications and limits the frequency on its use within each system as to ensure that the structural margin is maintained, thereby reducing the potential for challenging the structural integrity of the joints and system. Therefore, the NRC is proposing to include a condition that prohibits the use of Appendix W on piping that forms part of the containment boundary.

- The prohibition in Appendix W for use on piping larger than NPS 2 (DN 50) when the nominal operating temperature or pressure exceeds 200°F (95°C) or 275 psig (1,900 kPa) was removed. The NRC notes that the potential consequence of failure of a

high-energy line piping limits the use of the mechanical clamps. High-energy lines can produce consequences that are severe and challenge the function of components and systems to safely shut down the reactor. Therefore, the NRC is proposing to include a condition that prohibits the use of Appendix W on piping larger than NPS 2 (DN 50) when the nominal operating temperature or pressure exceeds 200°F (95°C) or 275 psig (1,900 kPa), which maintains the previous prohibition in earlier editions of Appendix W.

- The prohibition in Appendix W for use on piping greater than NPS 6 (DN 150) was removed by the ASME based on NRC approval of one alternative request submitted using § 50.55a(z)(2). However, this approval was for a discharge line that did not affect the system's ability to perform its safety function of removing heat. Approving the use of Appendix W on a case-by-case basis on certain locations in systems does not allow it to be used generically on an unlimited basis on numerous joints and systems that collectively could affect the function of the system. The limitations on the frequency on its use within each system is to ensure that the structural margin is maintained, thereby reducing the potential for challenging the structural integrity of the joints. Therefore, the NRC is proposing to include a condition that prohibits the use of Appendix W on piping greater than NPS 6 (DN 150), which maintains the prohibition from earlier editions of Appendix W.

Section 50.55a(b)(2)(xxxiv) Section XI Condition: Nonmandatory Appendix U

The NRC proposes to revise § 50.55a(b)(2)(xxxiv)(B) to extend the applicability of the condition to the 2023 Edition of ASME BPV Code, Section XI. This condition prohibits the use of Nonmandatory Appendix U, Supplement U-S1. The provisions of U-S1 are redundant to those in Code Case N-513. The purpose of § 50.55a(b)(2)(xxxiv)(B) is to clarify that the more up-to-date approach of Code Case N-513 is the appropriate method for temporary acceptance of flaws in moderate energy piping. This condition remains applicable to the 2023 Edition of the ASME BPV Code, Section XI.

Section 50.55a(b)(2)(xliv) Section XI Condition: Nonmandatory Appendix Y

The NRC proposes to revise § 50.55a(b)(2)(xliv) to correct errors, extend its applicability to the 2023 Edition of the ASME BPV Code, Section XI, and add one provision.

The current regulations in § 50.55a(b)(2)(xliv) incorrectly reference Subarticle Y-2440, when the correct reference is Subarticle Y-2400. The current regulations in § 50.55a(b)(2)(xliv) also incorrectly reference Articles Y-2200 and Y-3200, when the correct reference is Subarticles Y-2200 and Y-3200. This proposed revision would correct those errors.

The NRC imposed § 50.55a(b)(2)(xliv) on the 2021 Edition of the ASME BPV Code, Section XI, because the crack growth laws in Subarticles Y-2200, Y-2400, and Y-3200 are duplicated in Code Cases N-809, N-889, and N-643, respectively. The purpose of § 50.55a(b)(2)(xliv) is to eliminate duplication and clarify that the code cases should govern. § 50.55a(b)(2)(xliv) remains applicable to the 2023 Edition of the ASME BPV Code, Section XI.

ASME added crack growth laws for nickel alloys to Article Y-4000 in the 2023 Edition of the ASME BPV Code, Section XI. In particular, ASME added factors of improvement for Alloys 690, 52, 152, and variant welds in paragraph Y-4322. The rules added to paragraph Y-4322 are duplicated in Code Case N-909. The NRC's position is that the relevant code case should govern whenever there are overlapping requirements between the ASME BPV Code and a code case. Therefore, the NRC is proposing to add § 50.55a(b)(2)(xliv)(D) to prohibit use of paragraph Y-4322.

Section 50.55a(b)(2)(xlv) Section XI Condition: Pressure Testing of Containment Penetration Piping After Repair/Replacement Activities

The NRC proposes to revise § 50.55a(b)(2)(xlv) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI incorporated by reference in paragraph (a)(1)(ii). The 2023 Edition of Section XI was not updated to

include the provisions of this condition. Therefore, the NRC is proposing to revise this condition to apply to the latest edition incorporated by reference.

Section 50.55a(b)(2)(xlvi) Section XI Condition: Contracted Repair/Replacement Organization Fabricating Items Offsite of the Owner's Facility

The NRC proposes to revise § 50.55a(b)(2)(xlvi) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI incorporated by reference in paragraph (a)(1)(ii). The 2023 Edition of Section XI was not updated to include the provisions of this condition. Therefore, the NRC is proposing to revise this condition to apply to the latest edition incorporated by reference.

Section 50.55a(b)(2)(xlviii) Section XI Condition: Analytical Evaluations of Degradation

The NRC proposes to revise § 50.55a(b)(2)(xlviii) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI, incorporated by reference in paragraph (a)(1)(ii), and make an editorial correction. This condition requires that licensees submit to the NRC analytical evaluations performed under ASME BPV Code, Section XI, IWB-3132.3 and IWC-3122.3. The original requirements to submit these evaluations previously resided in ASME BPV Code, Section XI, IWB-3134 and IWC-3125. ASME removed these requirements in the 2019 Edition of ASME BPV Code, Section XI. The current reference for ASME Class 2 analytical evaluation is incorrectly referenced as IWC-3132.3 versus the correct reference of IWC-3122.3. As an editorial change, the reference has been updated. This condition remains applicable to the 2023 Edition of ASME BPV Code, Section XI.

Section 50.55a(b)(2)(li) Section XI Condition: Pressure Testing Following Repair/Replacement Activity

The NRC proposes to add condition § 50.55a(b)(2)(li) to prohibit the use of IWA-4540(d)(7) in the 2023 Edition of the ASME BPV Code, Section XI, for exempting pressure testing of Class 2 and 3 welds that have a surface or volumetric examination

performed. Current ASME Code requirements specify a pressure test of most welds regardless of the non-destructive examination performed. The current exemptions for pressure testing are for welds in components or connections NPS 1 (DN 25) or smaller and other miscellaneous welds such as tube-to-tubesheet welds and seal welds. ASME added IWA-4540(d)(7) in the 2023 Edition of ASME BPV Code, Section XI, exempting pressure testing of Class 2 and 3 welds that are examined by a volumetric or surface examination following repair/replacement.

An ASME Code pressure test, with or without NDE, after a repair/replacement activity is needed to ensure the ASME Class 2 and 3 system, including emergency core cooling systems, would be able to perform its intended function to safely shut down and maintain the reactor in a safe condition. In addition, a pressure test is a defense-in-depth measure, supplementing any surface or volumetric NDE conducted, even as required by the Construction Code. The purpose of the pressure test, in this role, is to address the possible uncertainty associated with various NDE techniques. In addition, operational experience has shown pressure tests identify flaws that were not revealed by volumetric and surface examinations. Leakage from a component immediately after being repaired indicates a quality issue that must be addressed. The NRC position is that a pressure test should be conducted in addition to any surface or volumetric NDE required on a repaired or replaced ASME Class 2 or 3 component. Therefore, the NRC is proposing to add § 50.55a(b)(2)(li) to condition provisions IWA-4540(d)(7) of the 2023 Edition of the ASME Code, Section XI, to prohibit the exemption of performing a pressure testing for Class 2 and 3 welds that have had a surface or volumetric examination performed.

Section 50.55a(b)(2)(lii) Section XI Condition: Preservice and Inservice Volumetric Examination of Nozzles Fabricated from Weld Buildups

The NRC proposes to add condition § 50.55a(b)(2)(lii) to require preservice and inservice volumetric examination of nozzles fabricated from weld buildups specified in Figure IWB-2500-7(d) of the 2023 Edition of the ASME BPV Code, Section XI. ASME changed Figure IWB-2500-7(d) in the 2023 Edition to allow nozzles fabricated by weld

buildups to be installed without preservice or inservice examinations throughout the life of the component. Nozzles fabricated by weld buildup have multiple weld passes, which each provide an opportunity for flaws to be located within the weld buildup. These flaws could propagate during service and could cause component failure.

Currently, nozzles fabricated from weld buildups, such as in the AP1000 design, are required to have a preservice and inservice volumetric examination performed. This condition would be consistent with current requirement for AP1000 design which consists of a volumetric examination (ultrasonic) of weld buildups and are performed with procedures and personnel to the ASME BPV Code, Section XI, Appendix VIII using acceptance criteria of IWB-3514 for Category B-F welds in the ASME BPV Code, Section XI. Therefore, the NRC is proposing to add § 50.55a(b)(2)(lii) to condition provisions in Figure IWB-2500-7(d) of the 2023 Edition of the ASME BPV Code, Section XI, to require preservice and inservice volumetric examination of nozzles fabricated from weld buildups. This maintains the requirements from previous editions of the Code. The volumetric examination (ultrasonic) of weld buildups shall be performed with procedures and personnel to the ASME BPV Code, Section XI, Mandatory Appendix VIII using acceptance criteria of IWB-3514 for Category B-F welds in the ASME BPV Code, Section XI.

Section 50.55a(b)(2)(liii) Section XI Condition: Protection from Deterioration of Radiographic Film and Lifetime Record Retention

The NRC proposes to add condition § 50.55a(b)(2)(liii) to require that reasonable protection from deterioration of radiographic film specified in IWA-6310(b) of the 2023 Edition of the ASME BPV Code, Section XI, shall include the provisions in IWA-6320 and the reproduction must be retained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350 of the ASME BPV Code, Section XI.

IWA-6300 requires final radiographic film to be maintained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350 of the ASME BPV Code, Section XI. In the 2023 Edition, ASME added IWA-6310(b), which specifies that film deteriorates

and therefore need not be maintained. While IWB-6310(b) specifies that reasonable protection from deterioration for radiographic film shall be provided, it also states that deterioration of radiographic film is to be expected and is not a violation of the requirement to provide suitable protection. The new provision further states that if radiographic film has deteriorated, it need no longer be maintained as a lifetime record, as determined by the owner.

However, the NRC notes that there are existing provisions in IWA-6320 that allow reproduction of radiographic film, including by electronic processes (e.g., digitize) before the original film's deterioration. Therefore, the NRC is proposing to add § 50.55a(b)(2)(liii) to condition provision IWA-6310(b) of the 2023 Edition of the ASME BPV Code, Section XI, to require that the reasonable protection from deterioration of radiographic film shall include the provisions specified in IWA-6320, and the reproduction must be retained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350. This would maintain the current requirements in the 2021 Edition of the ASME BPV Code, Section XI.

A similar condition, § 50.55a(b)(1)(xv), is proposed in this rule for Table NCA-4134.17 of the ASME BPV Code, Section III.

Section 50.55a(g)(6)(ii)(D)(9) Volumetric Qualifications

The NRC proposes to revise § 50.55a(g)(6)(ii)(D)(9) to allow for qualification of volumetric evaluation in accordance with Section XI, Division 1, Mandatory Appendix VIII, Supplement 15, in the 2021 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(i) of this section. Licensees have the option to use the latest version of Supplement 15 in lieu of the requirements of Code Case N-729-6. The proposed change would allow licensees to utilize the 2023 Edition of Supplement 15 as an option to the volumetric qualification requirements of Code Case N-729-6.

Section 50.55a(g)(6)(ii)(F)(*2*)(*iv*) Categorization

The NRC proposes to revise § 50.55a(g)(6)(ii)(F)(2)(iv) to include inspection item B-3 in the list of categorization options for identification of cold leg temperature welds. Inspection item B-3 (auxiliary head adapter butt welds) was previously part of inspection item B-1. This proposed revision maintains the same requirements and only clarifies the expansion of categorization options for licensees for auxiliary head adapter butt welds.

Section 50.55a(g)(6)(ii)(F)(13) Encoded Ultrasonic Examination

The NRC proposes to revise § 50.55a(g)(6)(ii)(F)(13) to include inspection item B-3 in the list of encoded volumetric exams. Inspection item B-3, auxiliary head adapter butt welds, was previously part of inspection item B-1. This proposed revision maintains the same requirements for encoded volumetric exams.

B. Proposed Incorporation by Reference of Three Regulatory Guides

This proposed rule would incorporate by reference the latest revisions of the NRC's RGs that list the ASME BPV and OM Code Cases that the NRC finds to be acceptable, or acceptable with NRC-specified conditions (“conditionally acceptable”). RG 1.84, Revision 41 (DG-1446) would supersede the incorporation by reference of Revision 40; RG 1.147, Revision 22 (DG-1447) would supersede the incorporation by reference of Revision 21; and RG 1.192, Revision 6 (DG-1448) would supersede the incorporation by reference of Revision 5.

The ASME BPV Code Cases that are the subject of this proposed rule are the new and revised Section III and Section XI Code Cases as listed in Supplements 3 through 6 to the 2021 Edition of the ASME BPV Code and Supplements 0 through 3 to the 2023 Edition of the ASME BPV Code. By letter dated October 18, 2024, ASME requested that the NRC consider including, in part, Code Cases N-752-2, N-926 and N-934 in this proposed rulemaking. In response, the NRC included these three code cases within the scope of this proposed rule. The NRC also is proposing to include OMN-32, Revision 1, “Alternative Requirements for Range and Accuracy of Pressure,

Flow, and Differential Pressure Instruments Used in Pump Tests," and OMN-34, "Use of Pump Curve Testing," within the scope of this proposed rule.

The ASME publishes code cases that provide alternatives to existing code requirements that the ASME developed and approved. This proposed rule would incorporate by reference the most recent revisions of RGs 1.84, 1.147, and 1.192, which allow nuclear power plant licensees, and applicants for combined licenses, standard design certifications, standard design approvals, and manufacturing licenses under the regulations that govern license certifications, to use the code cases listed in these RGs as suitable alternatives to the ASME BPV and OM Codes for the construction, inservice inspections, and inservice testing of nuclear power plant components. The ASME makes the issued OM Code Cases available on the OM Code website and provides an index listing the issued OM Code Cases and their applicability in each ASME OM Code edition. The ASME publishes BPV Code Cases in a separate document and at a different time than the ASME BPV Code Editions. This proposed rule identifies the ASME BPV Code Cases by the edition of the ASME BPV Code under which they were published by the ASME and the OM Code Cases by the most recent edition of the ASME OM Code to which they apply.

The following general guidance applies to the use of the ASME Code Cases approved in the latest versions of the RGs that are incorporated by reference into § 50.55a as part of this proposed rule. Specifically, the use of the code cases listed in the latest versions of RGs 1.84, 1.147, and 1.192 are acceptable with the specified conditions when implementing the editions and addenda of the ASME BPV and OM Codes incorporated by reference in § 50.55a.

The approval of a code case in these RGs constitutes acceptance of its technical position for applications that are not precluded by other requirements. The applicant or licensee is responsible for ensuring that use of the code case does not conflict with regulatory requirements or licensee commitments. The code cases listed in the RGs are acceptable for use within the limits specified in the code cases. If the RG states an NRC

condition on the use of a code case, then the NRC condition supplements and does not supersede any limitation(s) specified in the code case, unless otherwise stated in the NRC condition.

The ASME Code Cases may be revised for many reasons (e.g., to incorporate operational examination and testing experience or to update material requirements based on research results). On occasion, an inaccuracy in an equation is discovered or an examination, as practiced, is found not to be adequate to detect a newly discovered degradation mechanism. Therefore, when an applicant or a licensee initially implements a code case, § 50.55a requires that the applicant or the licensee implement the most recent version of that code case, as listed in the RGs incorporated by reference. Code cases superseded by revision are no longer acceptable for new applications unless otherwise indicated.

Section III of the ASME BPV Code applies to new construction (e.g., the edition and addenda to be used in the construction of a plant are selected based on the date of the construction permit and are not changed thereafter, except voluntarily by the applicant or the licensee). Section III also may be used for repair and replacement activities under the provisions of Section XI of the ASME BPV Code. Whether used for construction or later repair or replacement, when a code case is first implemented by a licensee, the applicant implements the latest edition incorporated by reference into § 50.55a. Thereafter, the applicant or licensee may continue to apply the previously implemented version of the code case or may apply the later version of the code case, including any NRC-specified conditions placed on its use.

Code cases apply to specific editions and addenda, and code cases may be revised for various reasons. Licensees that were using a code case before the effective date of a final rule incorporating by reference a regulatory guide in § 50.55a(a)(3) may continue to use the previous version until the next update to the code of record for the ISI or IST program, as applicable. This relieves licensees of the burden of having to update their ISI or IST program each time a code case is revised by the ASME and

approved for use by the NRC. The rules for applying code cases are described in §§ 50.55a(b)(4), 50.55a(f)(4), and 50.55a(g)(4).

The ASME may annul code cases that are no longer required, are determined to be inaccurate or inadequate, or have been incorporated into the ASME BPV or OM Codes. A code case may be revised, for example, to incorporate user experience. The older or superseded version of the code case cannot be applied by the licensee or applicant if it is the first use of that code case. If an applicant or a licensee applied a code case before it was listed as superseded or annulled, the applicant or the licensee may continue to use the code case until the applicant or the licensee updates its Construction Code of record (or updates its application, in the case of an applicant) or until the licensee's code of record interval for the ISI or IST program expires, after which the continued use of the code case is prohibited unless NRC authorization is given under § 50.55a(z). If a code case is incorporated by reference into § 50.55a and later a revised version is issued by the ASME because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate, the NRC will amend § 50.55a and the relevant RG to remove the approval of the superseded code case. Applicants and licensees should not begin to implement such superseded code cases in advance of the rulemaking.

i. Code Cases Proposed to be Approved for Unconditional Use

The code cases discussed in Table 2 are new, revised, or reaffirmed code cases in which the NRC is not proposing any conditions. The table identifies the draft regulatory guide listing the applicable code case that the NRC proposes to approve for use.

Table II—Acceptable Code Cases

Operation and Maintenance Code (addressed in DG-1448, Table 1)		
Code Case No.	**Edition**	**Title**

OMN-32 (Revision 1)	2022	Alternative Requirements for Range and Accuracy of Pressure, Flow, and Differential Pressure Instruments Used in Pump Tests
OMN-34	2022	Use of a Pump Curve for Testing

ii. Code Cases Proposed to be Approved for Use with Conditions

The NRC has determined that certain code cases, as issued by the ASME, are generally acceptable for use, but that the alternative requirements specified in those code cases must be supplemented in order to provide an acceptable level of quality and safety. Accordingly, the NRC proposes to impose conditions on the use of these code cases to modify, limit, or clarify their requirements. The conditions would specify, for each applicable code case, the additional activities that must be performed, the limits on the activities specified in the code case, and/or the supplemental information needed to provide clarity. These ASME Code Cases, listed in Table III, are included in Table 2 of DG-1447 (RG 1.147) and DG-1448 (RG 1.192). This section provides the NRC's evaluation of the code cases and the reasons for the NRC's proposed conditions. Notations indicate the conditions duplicated from previous versions of the RG.

The NRC requests public comment on these code cases and the proposed conditions. It also should be noted that this section only addresses those code cases for which the NRC proposes to impose condition(s), which are listed in the RG for the first time.

Table III—Conditionally Acceptable Code Cases

Boiler and Pressure Vessel Code, Section XI (addressed in DG-1447, Table 2)		
Code Case No.	**Published with Supplement**	**Title**
N-508-5	6 (2021 Edition)	Rotation of Snubbers and Pressure Retaining Items for the Purpose of Testing or Preventive Maintenance
N-666-3	0 (2023 Edition)	Weld Overlay of Class 1, 2, and 3 Socket Welded Connections
N-716-4	1 (2023 Edition)	Alternative Classification and Examination Requirements
N-752-2	6 (2023 Edition)	Risk-Informed Categorization and Treatment for Repair/Replacement Activities in Class 2 and 3 Systems

N-778-1	0 (2023 Edition)	Alternative Requirements for Preparation and Submittal of Inservice Inspection Plans, Schedules, and Preservice and Inservice Inspection Summary Reports
N-806-2	3 (2023 Edition)	Analytical Evaluation of Metal Loss in Class 2 and 3 Metallic Piping Buried in a Back-Filled Trench
N-830-1	3 (2021 Edition)	Direct Use of Fracture Toughness for Flaw Evaluations of Pressure Boundary Materials in Class 1 Ferritic Steel Components
N-926	6 (2021 Edition)	Alternative Examination Requirements for Unbonded Post-Tensioning Systems of Class CC Components
N-930	0 (2023 Edition)	Alternative Experience Requirements for Nondestructive Examination Personnel for Ultrasonic Examination

ASME BPV CODE, SECTION XI CODE CASES (DG-1447/RG 1.147)

CODE CASE N-508-5 [SUPPLEMENT 6, 2021 EDITION]

Type: Revised

Title: Rotation of Snubbers and Pressure Retaining Items for the Purpose of Testing or Preventive Maintenance

Code Case N-508 describes the circumstances under which items may be rotated from stock for routine maintenance and testing without following all the repair/replacement rules of IWA-4000. In Revision 5 of the code case, ASME removed a prescriptive list of items and replaced it with “pressure retaining items” This change allows the code case to be applied to a broader range of components, such as valves and heat exchangers, that may be similarly rotated from stock. While the NRC has no objection to the broader application of this code case as allowed in Revision 5, the existing condition on Code Case N-508-4 remains applicable. Therefore, the NRC proposes to approve Code Case N-508-5 and retain the existing condition.

CODE CASE N-666-3 [SUPPLEMENT 0, 2023 EDITION]

Type: Revised

Title: Weld Overlay of Class 1, 2, and 3 Socket Welded Connections

Code Case N-666 provides an alternative to the defect removal provisions of IWA-4420 by installation of weld overlay for restoring structural integrity of a cracked or leaking socket weld if a failure is a result of vibration fatigue. N-666-1 is currently listed in Table 2 of RG 1.147 as conditionally acceptable for use. Revision 2 extended the applicability of the code case to dissimilar metal socket welds, addressed the NRC condition regarding surface examination after installation of the weld overlay on Class 1 and Class 2 piping socket welds, deleted the prohibition on welding on water backed P-No. 1 Group 2 materials with a carbon content greater than 0.30 percent, and removed filler metal requirements. Revision 3 of the code case superseded revision 2 and specified applicability to tubing socket welds and removes NIS-2 Form documentation requirements.

In revision 2 of the code case, ASME added P-43 base materials and dissimilar welds between P-No. 1 and P-No. 8, between P-No. 8 and P-No. 43, and between P-No. 1 and P-No. 43. P-No. 43 base materials are Ni-Cr-Fe materials such as Alloys 600 and 690. The NRC finds the addition of P-No. 43 material and dissimilar metal welds is acceptable because the mechanical fatigue characteristics of nickel-based alloys and their associated filler materials are expected to be similar to that of stainless steel, which was listed as approved in Code Case N-666-1.

In revision 3 of the code case, ASME added the terms “tube” and “tubing” in relevant sections to explicitly allow for weld overlay repair of tubing socket welds. Moreover, the revision included the deletion of the section requiring documenting the code case on an NIS-2 Form. This section was deemed redundant and unnecessary, as IWA-6211(d) already mandates the documentation of all repair/replacement activities on this form. The NRC finds these revisions to be acceptable.

The current condition on N-666-1 in Regulatory Guide 1.147, Revision 21, states that the licensee must perform a surface examination and disposition the results according to the construction code. ASME modified the provisions of 5(a)(1) of the code

case to require such examination and disposition of results. The NRC finds this change to be acceptable and proposes to remove the existing condition for Code Case N-666-3.

ASME modified the provisions of 1(b) of the code case to remove the limitation against water backed welding of P-No. 1 Group 2 materials with a carbon content greater than 0.30 percent. The NRC has approved alternative requests for welding P-No. 1 Group 2 materials with a carbon content up to 0.35 percent (ML20111A337). However, the use of low hydrogen electrodes when applying the shielded metal arc welding (SMAW) process and the use of stringer beads were part of the basis for approval, since this welding approach limits the potential for hydrogen induced cracking. Therefore, the NRC proposes to add a condition to Code Case N-666-3 requiring that only stringer beads (no weaving) be used, and that when using the SMAW process, low hydrogen electrodes are used when welding P-No. 1 Group 2 materials with carbon content greater than 0.30 percent.

ASME deleted the listing of American Welding Society filler metal classifications to be used. The NRC finds this change acceptable because the code case requires that welding procedure specifications must be qualified in accordance with the ASME BPV Code Section XI, IWA-4440, which in turn references ASME BPV Code, Section IX. This ensures that welding filler materials used are compatible with the base materials and weld materials over which the weld overlay is applied. However, as noted above, when the SMAW process is used, the NRC proposes to require low hydrogen electrodes when welding materials with a carbon content greater than 0.30 percent carbon.

CODE CASE N-716-4 [SUPPLEMENT 1, 2023 EDITION]

Type: Revised

Title: Alternative Classification and Examination Requirements

Code Case N-716 provides requirements for risk-informed classification and examination for Class 1 piping welds, Class 2 components, Class 3 components, or non-class components. Code Case N-716-3 is listed in Regulatory Guide 1.147, Revision 21,

as acceptable for use with the condition that it is not approved for use by plants issued an operating license or combined license after January 1, 2012. In revision 4 of the code case, the ASME modifies the successive examination requirements for items with multiple degradation mechanisms in cases where an initial examination has revealed flaws or relevant conditions exceeding the acceptance standards of Section XI Article IWB-3000, Article IWC-3000, or Article IWD-3000, as applicable. In Code Case N-716-3, all welds were assigned different possible degradation mechanisms, such as fatigue cracking, stress corrosion cracking, or no degradation mechanism. If an item was subject to multiple degradation mechanisms, all applicable degradation mechanisms were listed for the item. If a flaw was found during examination activities, the owner determined the damage mechanism. In Code Case N-716-3, the expanded scope for additional examinations included inspection items with the same postulated degradation mechanism and the combination of degradation mechanisms. In revision 4 of the code case, the ASME limited the scope of the additional examinations to include only those items with the same combination of degradation mechanisms.

The NRC proposes to maintain the condition imposed on Code Case N-716-3, as the code case was not modified to address the condition. The NRC position is that there are enough variables possible in the design of new reactors that the NRC should review the proposed degradation mechanisms and risk related information for new plants before application of the code case. Regarding the revision to the scope expansion rules, the NRC objects to the option of limiting the scope expansion to only those locations classified according to the same degradation combination, because an insufficient technical basis was provided to show that this method would be effective in assessing the true extent of condition. The proposed Condition 2 would preserve the wording on Section 6, “Successive Inspections and Additional Examinations,” sub-paragraphs (b)(1)(-b) and (b)(1)(-c), from Code Case N-716-3.

CODE CASE N-752-2 [SUPPLEMENT 6, 2023 EDITION]

Type: Revised, no current NRC position

Title: Risk-Informed Categorization and Treatment for Repair/Replacement Activities in Class 2 and 3 Systems

Code Case N-752 provides a process for determining the risk-informed categorization and treatment for repair/replacement activities on Class 2 and 3 items that are categorized as low safety significant. Revision 1 of the code case provided clarification on the scope of the code case. Revision 2 of the code case focused categorization and safety evaluation on items versus systems, clarified requirements for supports, removed requirements for probabilistic risk assessment (PRA) updates, allowed a piping segment to be a single item, provided an additional option to verify technical adequacy of the PRA, removed the requirements to consider external events such as seismic, and added a new footnote to clarify no optionally Class 1 or Class 1 exempt item can be categorized by this case before reclassification as non-Class 1 in accordance with the applicable change control process. The NRC has not previously issued a position on Code Cases N-752 or N-752-1. The NRC has reviewed Code Case N-752-2 and determined it to be acceptable for use, with conditions as specified in RG 1.147.

The NRC proposes to add a condition that the owner shall review changes to the plant, operational practices, applicable plant and industry operational experience, and, as appropriate, update the PRA and categorization and treatment processes, and that the owner shall perform this review in a timely manner but no longer than once every two refueling outages. Consistent with plant-specific Code Case N-752 relief request approvals, a review of the plant PRA must be completed in a timely manner because the periodic update of the plant PRA may affect the results of the categorization process. The validity of the categorization process relies on ensuring that the performance and conditions of structures, systems, and components (SSCs) continue to be maintained consistent with applicable assumptions. Changes in the level of treatment applied to an SSC might result in changes in the reliability of SSCs credited in the categorization

process. These changes along with modifications to the plant, operational practices and experiences should be reflected in the PRA on a consistent basis to ensure accuracy and credibility of categorization results.

In approving the use of Code Case N-752-2, the NRC specifies that Subparagraph-1420 from IWA-1400(o) does not relieve licensees of obligations to document quality assurance programs or otherwise affect NRC requirements for quality assurance outside of § 50.55a (e.g., Appendix B to 10 CFR part 50 and § 50.54(a)). Footnote 1 in Code Case N-752-2 states that if compliance with 10 CFR part 50, Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” or ASME Standard NQA-1, “Quality Assurance Requirements for Nuclear Facility Applications,” is required at the owner’s facility, then IWA-1400(o) in ASME BPV Code, Section XI, Division 1, is not exempt. This language in Code Case N-752-2 and earlier versions caused confusion among nuclear power plant licensees regarding the applicability of 10 CFR part 50, Appendix B, when implementing Code Case N-752. The NRC resolved this confusion in NRC Information Notice 2025-01, “Lessons Learned When Implementing ASME Code Case N-752,” by stating that licensees are required to comply with the quality assurance requirements in 10 CFR part 50, Appendix B, for safety-related Class 2 and Class 3 low safety significant items. Information Notice 2025-01 notes that the NRC has approved specific changes to the Quality Assurance Program Descriptions related to the implementation of Code Case N-752. For early uses of Code Case N-752, licensees followed § 50.54(a)(4) to establish risk-informed supplemental processes and procedures that the NRC accepted as satisfying the requirements of 10 CFR part 50, Appendix B, given the low safety significance of the components within the scope of Code Case N-752. For later adoptions of Code Case N-752, licensees followed § 50.54(a)(3) to apply risk-informed quality assurance treatment of components within the scope of Code Case N-752. The NRC regulations in § 50.54(a)(3) allow licensees to adjust their quality assurance activities as accepted by the NRC in response to prior licensee requests under §

50.54(a)(4). Therefore, licensees are encouraged to review prior licensee requests under § 50.54(a)(4) to determine the extent of the risk-informed quality assurance treatment for components within the scope of Code Case N-752 allowed under § 50.54(a)(3).

In approving the use of Code Case N-752-2, the NRC also specifies that for a supporting requirement to be met, all relevant peer review and other independent findings shall have been addressed and necessary changes made to PRA models, methods, and documentation. In addition, all relevant peer review facts and observations (F&Os) findings for the internal events and internal flooding PRA shall have been dispositioned and closed out using an acceptable process. Examples of NRC-endorsed processes for these activities include NEI 17-07 Revision 2 and Appendix X to NEI 05-04/7-12/12-06. A peer review of the PRA is performed to determine whether the requirements established in national consensus PRA standards, as endorsed by the NRC with exceptions and clarifications, have been met. To remove the need for NRC review of plant-specific PRAs in support of Code Case N-752-2, all relevant peer review findings must be closed using an acceptable close-out process. An acceptable close-out process includes NEI 17-07 Revision 2, as endorsed by the NRC in RG 1.200, "Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 3, Regulatory Position C.2.2. Another acceptable close-out process includes NEI 05-04/07-12/12-06, Appendix X: "Close-Out of Facts and Observations (F&Os)," dated February 21, 2017, as accepted by NRC by letter dated May 3, 2017. The implementation of an acceptable closure process is intended to provide the needed confidence in the resolution of peer review F&Os against the requirements in the national consensus PRA standard such that, when used in support of Code Case N-752-2, it will remove the need for an in-depth review of the licensee's F&O resolutions by NRC reviewers.

The NRC issued a policy statement on the use of PRA methods in NRC activities in the *Federal Register* on August 16, 1995. The NRC's 1995 Policy Statement on the

use of PRA states that the use of PRA technology 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. Since the NRC issued its PRA policy statement, a number of risk-informed regulatory activities have been implemented and necessary technical documents developed to provide guidance on the use of PRA information. This guidance includes RG 1.200, which describes one acceptable approach for determining the requisite technical adequacy of the PRA is sufficient to provide confidence in the results. The RG revisions reference successive consensus PRA standards developed by the ASME and the American Nuclear Society (ANS). RG 1.200, Revision 1, references ASME RA-S-2002-2002, ASME RA-Sa-2003 and ASME RA-Sb-2005 standards; and RG 1.200, Revisions 2 and 3, references ASME / ANS RA-Sa-2008 and ASME / ANS RA-Sa-2009 standards. Furthermore, in March 2007, the NRC issued Regulatory Issue Summary (RIS) 2007-06, "Regulatory Guide 1.200 Implementation" which states "the NRC would expect licensees to fully address all scope elements consistent with Revision 2 of RG 1.200 by the end of 2009." Because of regulatory and industry initiatives, the majority of the U.S. nuclear fleet currently have peer reviewed PRAs that show conformance to RG 1.200, Revision 2. The NRC finds the technical adequacy of the base PRA, as determined by RG 1.200, Revision 1, to be sufficient with regard to use of Code Case N-752-2 to provide the needed confidence in the results. In alignment with the NRC's policy statement on the use of PRA, RIS 2007-06 and the status of PRAs for the U.S. nuclear fleet, the licensee also may elect to use RG 1.200, Revision 2, or RG 1.200, Revision 3, to ensure the technical adequacy of the PRA by meeting supporting requirements that correspond to supporting requirements in RG 1.200, Revision 1. This can include full-scope peer review of internal events and internal flooding PRA against RG 1.200, Revision 2, as well as a gap assessment of earlier peer reviews of the internal events and internal flooding PRA against RG 1.200, Revision 2. The NRC reviewed the requirements of Table I-7 and concluded that the corresponding supporting requirements endorsed in RG 1.200, Revision 2 and Revision

3, are adequate to meet the requirements of Table I-7 for technical adequacy of the PRA. Therefore, the NRC determined that licensee PRA programs that conform to RG 1.200, Revision 2 or Revision 3, would meet the requirements of N-752-2 as incorporated by reference in RG 1.147.

The NRC considered internal flooding supporting requirements for inclusion in Table I-7 of Code Case N-752-2, consistent with requirements for Code Case N-716-1, "Alternative Classification and Examination Requirements Section XI, Division 1," Mandatory Appendix 2, as endorsed in RG 1.147. The NRC evaluated the difference in supporting requirements and concluded the methodology as outlined in Section I-3.3.1, "Modes and Effects Analysis," part (c), "Indirect Effects," adequately addresses spatial effects, as defined in the glossary, to include flooding as part of the consequence evaluation.

The NRC considered whether a qualitative assessment should be performed to adjust the consequence rank to reflect the pressure boundary's failure impact on the mitigation of external events. The NRC determined that the baseline risk from external events would have a minimal influence on the categorization results, which already assume complete loss of the pressure retaining item and which are primarily driven by the availability and reliability of mitigating systems responding to direct and indirect effects of the item's failure. This NRC evaluation is consistent with feedback from industry stakeholders, licensees in public meetings, and audit discussions related to passive categorization.

CODE CASE N-778-1 [SUPPLEMENT 0, 2023 EDITION]

Type: Revised

Title: Alternative Requirements for Preparation and Submittal of Plans, Schedules, and Preservice and Inservice Inspection Summary Reports

Code Case N-778 offers alternatives to the requirements of IWA-1400(c) and IWA-6240 for the preparation and submission of various inspection reports and plans. In

revision 1 of the code case, the ASME modified the submission period for the inservice inspection summary report to the NRC from 90 days to 120 days. The NRC does not object to allowing licensees more time to prepare and submit the report.

Code Case N-778-1, paragraph (d), states that “Plans, schedules, and preservice and inservice inspection summary reports shall be submitted to the enforcement and regulatory authorities having jurisdiction at the plant site, if required by these authorities.” The existing conditions on Code Case N-778 specify that the preservice inspection and inservice inspection summary reports shall be submitted to the NRC and the timing of such submissions. Since the code case still qualifies the requirement with “if required by these authorities,” the NRC proposes to retain the existing condition.

CODE CASE N-806-2 [SUPPLEMENT 3, 2023 EDITION]

Type: Revised

Title: Analytical Evaluation of Metal Loss in Class 2 and 3 Metallic Piping Buried in a Back-Filled Trench

Code Case N-806 provides guidelines for assessing metal loss in ASME Code Class 2 and 3 buried piping items, using data obtained from inspection results. ASME revised this code case from N-806-1 based on the NRC’s comments. Revision 2 of the code case enhances methods for flaw evaluation utilizing internal pressures, soil and surcharge loads, and seismic loads. The main revision expands the analytical evaluation framework to include Level 3 evaluations for seismic impacts on buried piping as specified in the code case. Code Case N-806-2 is not applicable to cast iron, leakage through a piping item or joint, cracked piping items, non-metallic piping with or without a metallic liner, and piping items with a minimum wall thickness of less than 0.1 inch (.25 cm).

Equation 16 of Section 6.2.2.2(c) is related to the buckling of the buried pipe under external pressure. The existing Equation 16 requires that $P_{ss}' \leq P_{cr} / 2$, where P_{ss}' is the total external pressure plus negative internal pressure, P_{cr} is the critical buckling

pressure of the buried pipe, and “2” is the structural factor. The NRC notes that Equation 16 for buckling due to external pressure is similar to the buckling equation used in American Lifelines Alliance, “Guidelines for the Design of Buried Steel Pipe,” July 2001 with Addenda through February 2005; NUREG/CR-6876, “Risk-Informed Assessment of Degraded Buried Piping System in Nuclear Power Plants”; and A.P. Moser, Buried Pipe Design, Second Edition, McGraw-Hill. However, the code case uses a structural factor of 2 in Equation 16 while these three references recommend a higher structural factor of 2.5 (when C/D = 2) or 3.0 (when C/D < 2), where C/D is soil depth to pipe diameter ratio. Therefore, the NRC proposes to approve Code Case N-806-2, with one condition to require the higher structural factors.

CODE CASE N-830-1 [SUPPLEMENT 3, 2021 EDITION]

Type: Revised

Title: Direct Use of Fracture Toughness for Flaw Evaluations of Pressure Boundary Materials in Class 1 Ferritic Steel Components

Code Case N-830 defines fracture toughness models based on the Master Curve Method in accordance with ASTM E1921, “Standard Test Method for Determination of Reference Temperature, T_0, for Ferritic Steels in the Transition Range,” that may be used in lieu of those specified in the ASME BPV Code, Section XI, Nonmandatory Appendices A, G, and K.

The current condition on N-830 in Regulatory Guide 1.147, Revision 21, states that the use of Paragraph (f) in N-830 is prohibited. In revision 1, ASME significantly revised and restructured this code case, including a different transition temperature toughness curve. Since the condition on the use of Paragraph (f) in N-830 applies to the transition temperature toughness curve defined in N-830, this existing condition is no longer applicable to the transition temperature toughness curve defined in revision 1. Therefore, the NRC proposes to remove the existing condition for Code Case N-830-1.

The NRC extensively reviewed Code Case N-830-1 while it was under development. During the review, the NRC evaluated relevant aspects of the fracture toughness models, including assumptions, datasets, uncertainties and biases, limitations, and applicability. The NRC generated over 40 comments to which the ASME Working Groups provided responses. The NRC reviewed all responses and determined that they adequately addressed the NRC's comments on the fracture toughness models. During its review, the NRC also performed an independent analysis of the fracture toughness models in the code case to confirm the validity of the models for materials with low upper shelf energy. The NRC confirmed that, where appropriate, the code case and technical basis document were updated as a result of the NRC's review.

Code Case N-830-1 specifies that the transition reference temperature be adjusted to account for effects of irradiation and notes that the methods in ASTM Standard E900-15, "Standard Guide for Predicting Radiation-Induced Transition Temperature Shift in Reactor Vessel Materials," may be used for this adjustment. The NRC noted that while the methodology in ASTM E900-15 for calculating the transition reference temperature shift is currently not in the regulations nor endorsed by the NRC through a regulatory guide, it has been used in a recent NRC final report titled "Impacts of Embrittlement on Reactor Pressure Vessel Integrity from a Risk-Informed Perspective," and in SECY-22-0019, "Rulemaking Plan for the Revision of Embrittlement and Surveillance Requirements for High-Fluence Nuclear Power Plants in Long-Term Operation." Accordingly, the NRC proposes to condition Code Case N-830-1 to limit the methodology for determining the transition reference temperature shift due to irradiation effects to a methodology acceptable to the NRC, specifically Regulatory Guide 1.99, Revision 2, "Radiation Embrittlement of Reactor Vessel Materials," including appropriate conversion factors and margins.

CODE CASE N-926 [SUPPLEMENT 6, 2021 EDITION]

Type: New

Title: Alternative Examination Requirements for Unbonded Post-Tensioning Systems of Class CC Components, Section XI, Division 1

Code Case N-926 provides an alternative examination schedule for unbonded post-tensioning systems in Class CC containment structures. The alternative applies to tendon groups that have completed the required examinations at 20 years following the Structural Integrity Test and have met additional criteria demonstrating long-term structural integrity. Use of the alternative must be discontinued if the specified criteria are not satisfied.

The NRC has reviewed Code Case N-926 and determined that it provides an acceptable level of quality and safety for unbonded post-tensioning systems of Class CC components in containment structures, consistent with the provisions of § 50.55a(z)(1). The code case allows for a reduced testing frequency for tendon groups with a demonstrated history of satisfactory performance. Continued use of the alternative requires that test results remain within acceptable limits and that tendon force predictions show adequate margins through the next scheduled examination. In addition, the code case retains the existing requirement for five-year visual inspections of tendon assemblies. If these visual inspections identify degradation that may impact tendon performance, corrective actions, including tendon testing, may be necessary. The NRC's evaluation is further supported by operating experience from several previously approved relief requests that authorized similar reductions in tendon testing frequency. These approvals were based on demonstrated long-term performance and structural integrity of the tendon systems. This consistent operating experience reinforces the conclusion that the alternative examination schedule proposed in Code Case N-926 maintains an acceptable level of quality and safety.

However, Code Case N-926 does not explicitly address tendons that have undergone repair or replacement. To ensure consistent safety standards, the NRC is proposing that the alternative requirements of Code Case N-926 shall be applied to tendons affected by repair/replacement activities only if examinations of those affected

tendons required by IWL-2521.2 at 20 years following tendon repair/replacement activities have been completed and all requirements specified in the “Scope” paragraph of Code Case N-926 have been met.

CODE CASE N-930 [SUPPLEMENT 0, 2023 EDITION]

Type: New

Title: Alternative Experience Requirements for Nondestructive Examination Personnel for Ultrasonic Examination

Code Case N-930 provides qualification requirements related to ultrasonic examination personnel as part of the broader set of criteria and standards outlined in the ASME BPV Code, Section XI. The code case introduces alternative experience requirements for the qualification of ultrasonic examination personnel, specifically for Levels II and III. This code case presents an alternative to ASME BPV Code, Section XI, Mandatory Appendix VII, Table VII-4100, accommodating the challenges of reduced refueling outage durations and the application of risk-informed inservice inspection programs.

While Table VII-4100 has minimum experience requirements for personnel to be certified as ASME Levels I and II Ultrasonic (UT) personnel, notes (c) and (d) of the table allow for substitution of laboratory practice for all of the Level I experience hours and reduces the experience hours for Level II from 800 experience hours to 400 total hours, 320 of which can be laboratory practice. Notes (c) and (d) were added in the 2011 Addenda to the 2010 Edition of ASME BPV Code, Section XI. As there was not a sufficient technical basis for the reduction of hours and the substitution of laboratory practice, the NRC held the requirements of the 2010 Edition via the condition in § 50.55a(b)(2)(xviii)(D).

The NRC conducted research into the substitution of laboratory practice hours for experience hours. This work was published in the technical letter report “Nondestructive Examination (NDE) Training and Qualifications: Implications of Research on Human

Learning and Memory, Instruction and Expertise." This research showed that it can be beneficial to substitute some experience hours with laboratory practice, as while on-the-job experience helps to acclimate personnel to the field environment, structured laboratory practice may provide more experience with finding and sizing cracks and other flaws, as there are relatively few in the power plants. Based on this research, the NRC added § 50.55a(b)(2)(xviii)(D)(1) and (2), which allow for partial substitution of laboratory practice for experience hours for Level I and II UT personnel.

In parallel with the NRC's research in this area, the Electric Power Research Institute (EPRI) conducted a detailed evaluation of the number of experience hours and the structure of the laboratory practice that would be needed for personnel to obtain the needed skills to be effective examiners. The results of the EPRI work were published in a technical report titled "Technical Basis for Nondestructive Examination Experience Requirements for ASME Section XI, Appendix VII." The NRC finds that the report provides a sufficient technical basis to support the use of reduced hours and partial substitution of laboratory hours for field experience for Personnel to obtain Levels I, II, and III UT examiner certifications. These revised requirements are described in ASME Code Case N-930. The requirements for Level I and II personnel are similar to and consistent with the NRC conditions in § 50.55a(b)(2)(xviii)(D)(1) and (2). The reduced hours for UT Level III certification are supported by the EPRI report, as well.

During a final revision to the code case, the total number of hours was revised from 600 total hours to 630 to be consistent with the ASME BPV Code, Section III UT Level II personnel experience requirements. As an oversight, this change was not reflected in the allowed laboratory practice hours in Note (d) in Table -4110-1 in the code case. The revised ASME Code Case N-930-1 has been approved by ASME Code with NRC support. Therefore, the NRC is proposing a condition to align Code Case N-930 with Code Case N-930-1 and allow the use of the code case without the error until Code Case N-930-1 is accepted into RG 1.147.

OTHER OM CODE CASES IN PROPOSED REVISION 6 TO RG 1.192

No changes were made to the OM Code Cases listed in proposed Revision 6 to RG 1.192 (with the exception of new Code Cases OMN-32 and OMN-34, discussed previously) from the versions that were listed in OM Code Cases listed in Revision 5 to RG 1.192.

iii. Code Cases Not Approved for Use (DG-1449/RG-1.193)

The ASME Code Cases that are currently issued by the ASME but not approved for generic use by the NRC are listed in RG 1.193, "ASME Code Cases not Approved for Use." In addition to the ASME Code Cases that the NRC has found to be technically or programmatically unacceptable, RG 1.193 includes code cases on reactor designs for high-temperature gas-cooled reactors and liquid metal reactors, reactor designs not currently licensed by the NRC, and certain requirements in Section III, Division 2, for submerged spent fuel waste casks, that are not endorsed by the NRC. RG 1.193 complements RGs 1.84, 1.147, and 1.192. It should be noted that the NRC is not proposing to adopt any of the code cases listed in RG 1.193. The NRC has included Revision 0 to OM Code Case OMN-32 in RG 1.193, because Revision 1 to Code Case OMN-32 has resolved the issues with Revision 0 of the code case.

C. Editorial Corrections

The NRC is proposing editorial corrections to §§ 50.55a(a)(1), 50.55a(b)(2)(xliii), 50.55a(g)(4)(iv), 50.55a(g)(6)(ii)(F)(*2*)(*v*), 50.55a(g)(6)(ii)(F)(*4*), and 50.55a(g)(6)(ii)(F)(10). This proposed rule would correct a broken hyperlink in § 50.55a(a)(1), a typo to replace "Licenses shall" to "Licensees shall," and the reference in § 50.55a(g)(4)(iv) from "(a)(1)(iv) of this section" to "(a)(1)(iii) of this section" and also correct references to the appropriate version of the ASME BPV Code Case in § 50.55a(g)(6)(ii)(F)(*2*)(*v*), (g)(6)(ii)(F)(*4*), and (g)(6)(ii)(F)(*10*).

The references to ASME BPV Code Case N-770-5 would be replaced with ASME BPV Code Case N-770-7 in § 50.55a(g)(6)(ii)(F)(*2*)(*v*), (g)(6)(ii)(F)(*4*), and (g)(6)(ii)(F)(*10*). ASME BPV Code Cases N-770-5 and N-770-7 versions are identical. All references in § 50.55a(g)(6)(ii)(F)(*2*)(*v*), (g)(6)(ii)(F)(*4*), and (g)(6)(ii)(F)(*10*) to ASME BPV Code Case N-770-5 should be replaced with N-770-7, with the exception of § 50.55a(g)(6)(ii)(F)(1), which discusses the replacement to implement the requirements of ASME BPV Code Case N-770-7 instead of ASME BPV Code Case N-770-5.

Note that the content of the paragraphs and notes within the code case specific to these conditions (1100(e), 2500(a), 2500(c), 2500(d), Note 14(b) of Table 1, and Note (b) of Figure 5(a)) that are referenced in the regulations contain no differences between the N-770-5 and N-770-7 versions. Therefore, this correction would not cause any changes in what is being referenced.

IV. Specific Requests for Comments

The NRC is seeking advice and recommendations from the public on the proposed rule. The NRC is particularly interested in comments and supporting rationale from the public on the following:

The NRC is proposing to remove and reserve § 50.55a(a)(1)(iii)(A). This paragraph currently incorporates by reference Mandatory Appendix I of Code Case N-513-3 and was previously referenced in § 50.55a(b)(2)(xxxiv)(B). However, this paragraph has since been updated so that it no longer references the mandatory appendix. Should the NRC instead retain Mandatory Appendix I of Code Case N-513-3 in the list of documents approved for incorporation by reference? Please provide the basis for your response.

V. Section-by-Section Analysis

The following paragraphs describe the specific changes to § 50.55a proposed by this rulemaking.

Paragraph (a)(1)

This proposed rule would revise paragraph (a)(1) to correct the broken hyperlink to https://www.asme.org/codes-standards.

Paragraph (a)(1)(i)(E)

This proposed rule would revise paragraphs (a)(1)(i)(E)(20) and (21) and add new paragraph (a)(1)(i)(E)(22) to include the 2023 Edition.

Paragraph (a)(1)(ii)(C)

This proposed rule would revise paragraphs (a)(1)(ii)(C)(56) and (57) and add new paragraph (a)(1)(ii)(C)(58) to include the 2023 Edition.

Paragraph (a)(1)(iii)(A)

This proposed rule would remove and reserve paragraph (a)(1)(iii)(A). Mandatory Appendix I to ASME BPV Code Case N-513-3 is no longer referenced in this section.

Paragraph (a)(1)(v)(B)

This proposed rule would revise paragraphs (a)(1)(v)(B)(5) and (6) and add new paragraphs (a)(1)(v)(B)(7), (8), and (9) to include the 2017, 2019, and 2022 editions of NQA-1.

Paragraph (a)(3)(i)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.84, Revision 40,” by removing “Revision 40” and adding in its place “Revision 41” and changing the month and year for the document’s revision date.

Paragraph (a)(3)(ii)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.147, Revision 21,” by removing “Revision 21” and adding in its place “Revision 22” and changing the month and year for the document’s revision date.

Paragraph (a)(3)(iii)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.192, Revision 5,” by removing “Revision 5” and adding in its place “Revision 6” and changing the month and year for the document’s revision date.

Paragraph (a)(3)(iv)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.147, Revision 22,” by removing “Revision 21” and adding in its place “Revision 22.”

Paragraph (b)(1)(xiv)

This proposed rule would revise paragraph (b)(1)(xiv) to update the applicability of this paragraph through the latest edition incorporated by reference in paragraph (a)(1)(i) of this section.

Paragraph (b)(1)(xv)

This proposed rule would add new paragraph (b)(1)(xv) to require that protection from deterioration of radiographic film shall include the provisions specified in NCA-4134.17(c) of the 2023 Edition of ASME Code, Section III, and the copy must be retained as a record in accordance with Table NCA-4134.17-1 or NCA-4134.17-2, as applicable, of the 2023 Edition of Section III. The two provisions would be added in new paragraphs (b)(1)(xv)(A) and (B).

Paragraph (b)(2)(xii)

This proposed rule would revise paragraph (b)(2)(xii) to update the applicability of this paragraph through the 2021 Edition.

Paragraph (b)(2)(xviii)

This proposed rule would remove and reserve the provision in paragraph (b)(2)(xviii)(A) because this provision is no longer necessary. In addition, this proposed rule would revise paragraph (b)(2)(xviii)(D) to clarify that the alternatives listed in paragraphs (b)(2)(xviii)(D)(1) and (2) are applicable to editions and addenda later than the 2010 Edition.

Paragraph (b)(2)(xxv)

This proposed rule would revise the title of paragraph (b)(2)(xxv) from “Section XV Condition” to “Section XI Condition.” This is an editorial correction.

Paragraph (b)(2)(xxviii)

This proposed rule would revise paragraph (b)(2)(xxviii) to add paragraphs (A) and (B). Paragraph (A) would be the existing condition applicable to the 2021 Edition and earlier. Paragraph (B) would be the existing condition applicable to the 2023 Edition and replacing reference to A-4300(b)(1) with reference to Y-3100(c).

Paragraph (b)(2)(xxxi)

This proposed rule would revise the current paragraph (b)(2)(xxxi) to reformat the current condition to two separate provisions, designated as new paragraphs (b)(2)(xxxi)(A) and (B). In addition, this proposed rule would add four additional provisions, designated as new paragraphs (b)(2)(xxxi)(C), (D), (E), and (F). The new provisions would maintain current NRC position on the use of Nonmandatory Appendix W concerning prohibiting use of mechanical clamps on piping for Class 1, piping that forms the containment boundary, piping larger than NPS 2 (DN 50) when nominal

operating temperature or pressure exceeds 200°F (95°C) or 275 psig (1,900 kPa), and piping larger than NPS 6 (DN 150).

Paragraph (b)(2)(xxxiv)

This proposed rule would revise paragraph (b)(2)(xxxiv)(B) to update the applicability of this paragraph through the 2023 Edition.

Paragraph (b)(2)(xliv)

This proposed rule would revise paragraph (b)(2)(xliv) to extend its applicability to the 2023 Edition, correct errors, and add paragraph (D). Paragraph (A) would be revised to “Subarticle Y-2200” instead of “Article Y-2200.” Paragraph (B) would be revised to “Subarticle Y-2400” instead of "Subarticle Y-2440.” Paragraph (C) would be revised to “Subarticle Y-3200” instead of “Article Y-3200.” New paragraph (D) would be added to prohibit the use of Nonmandatory Appendix Y, Paragraph Y-4322.

Paragraph (b)(2)(xliii)

This proposed rule would revise paragraph 50.55a((b)(2)(xliii) to correct a typo, revising “Licenses shall” to “Licensees shall.”

Paragraph (b)(2)(xlv)

This proposed rule would revise paragraph (b)(2)(xlv) to extend its applicability to the latest edition incorporated by reference in paragraph (a)(1)(ii) of this section.

Paragraph (b)(2)(xlvi)

This proposed rule would revise paragraph (b)(2)(xlvi) to extend its applicability to the latest edition incorporated by reference in paragraph (a)(1)(ii) of this section.

Paragraph (b)(2)(xlviii)

This proposed rule would revise paragraph (b)(2)(xlviii) to extend its applicability to the latest edition incorporated by reference in paragraph (a)(1)(ii) of this section.

Paragraph (b)(2)(li)

This proposed rule would add new paragraph (b)(2)(li) to prohibit the use of IWA-4540(d)(7) for the 2023 Edition.

Paragraph (b)(2)(lii)

This proposed rule would add new paragraph (b)(2)(lii) to require preservice and inservice examination of nozzles fabricated from weld buildups, to require use of ultrasonic procedures and personnel compliant with Mandatory Appendix VIII, and to require the flaw acceptance criteria of IWB-3514 for Examination Category B-F welds.

Paragraph (b)(2)(liii)

This proposed rule would add new paragraph (b)(2)(liii) to require that reasonable protection from deterioration of radiographic film specified in IWA-6310(b) shall include the provisions in IWA-6320 and the reproduction must be retained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350.

Paragraph (g)(4)(iv)

The NRC proposes to revise § 50.55a(g)(4)(iv) correct the reference from “(a)(1)(iv) of this section” to “(a)(1)(iii) of this section”.

Paragraph (g)(6)(ii)(D)(9)

This proposed rule would revise paragraph (g)(6)(ii)(D)(9) to extend the applicability of this paragraph to include the latest edition incorporated by reference in paragraph (a)(1)(ii) of this section of Supplement 15, Section XI, Division 1, Mandatory Appendix VIII.

Paragraph (g)(6)(ii)(F)(2)(iv)

This proposed rule would revise paragraph (g)(6)(ii)(F)(2)(iv) to include Inspection Item B-3.

Paragraph 50.55a(g)(6)(ii)(F)(*2*)(*v*)

This proposed rule would revise paragraph (g)(6)(ii)(F)(*2*)(*v*) to correct the reference from ASME BPV Code Case N-770-5 to ASME BPV Code Case N-770-7.

Paragraph 50.55a(g)(6)(ii)(F)(*4*)

This proposed rule would revise paragraph (g)(6)(ii)(F)(*4*) to correct the reference from ASME BPV Code Case N-770-5 to ASME BPV Code Case N-770-7.

Paragraph 50.55a(g)(6)(ii)(F)(2)(*10*)

This proposed rule would revise paragraph (g)(6)(ii)(F)(*10*); to correct the reference from ASME BPV Code Case N-770-5 to ASME BPV Code Case N-770-7.

Paragraph (g)(6)(ii)(F)(13)

This proposed rule would revise paragraph (g)(6)(ii)(F)(13) to include Inspection Item B-3.

VI. Generic Aging Lessons Learned Report

In December 2010, the NRC issued NUREG-1801, Revision 2, “Generic Aging Lessons Learned (GALL) Report” (ML103490041), for applicants to use in preparing license renewal applications. The GALL Report provides aging management programs (AMPs) that the NRC has concluded are sufficient for aging management in accordance with the license renewal rule, as required in § 54.21(a)(3). In addition, NUREG-1800, Revision 2, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants” (ML103490036), was issued in December 2010, to ensure the

quality and uniformity of NRC reviews of license renewal applications and to present a well-defined basis on which the NRC evaluates the applicant's AMPs and activities. In 2011, the NRC also issued NUREG-1950, "Disposition of Public Comments and Technical Bases for Changes in the License Renewal Guidance Documents NUREG-1801 and NUREG-1800" (ML11116A062), which describes the technical bases for the changes in Revision 2 of the GALL Report and Revision 2 of the standard review plan (SRP) for review of license renewal applications.

Revision 2 of the GALL Report, in Sections XI.M1, XI.S1, XI.S2, XI.M3, XI.M5, XI.M6, XI.M11B, and XI.S3, describes the evaluation and technical bases for determining the sufficiency of ASME BPV Code Subsections IWB, IWC, IWD, IWE, IWF, or IWL for managing aging during the period of extended operation (i.e., up to 60 years of operation). In addition, many other AMPs in the GALL Report rely, in part but to a lesser degree, on the requirements specified in the ASME BPV Code, Section XI. Revision 2 of the GALL Report also states that the 1995 Edition through the 2004 Edition of the ASME BPV Code, Section XI, Subsections IWB, IWC, IWD, IWE, IWF, or IWL, as modified and limited by § 50.55a, were found to be acceptable editions and addenda for complying with the requirements of § 54.21(a)(3), unless specifically noted in certain sections of the GALL Report. The GALL Report further states that future *Federal Register* documents that amend § 50.55a will discuss the acceptability of editions and addenda more recent than the 2004 Edition for their applicability to license renewal. In a final rule issued on June 21, 2011 (76 FR 36232), subsequent to Revision 2 of the GALL Report, the NRC also found that the 2004 Edition with the 2005 Addenda through the 2007 Edition with the 2008 Addenda of Section XI of the ASME BPV Code, Subsections IWB, IWC, IWD, IWE, IWF, or IWL, as subject to the conditions in § 50.55a, are acceptable for the AMPs in the GALL Report and the conclusions of the GALL Report remain valid with the augmentations specifically noted in the GALL Report. In a final rule issued on July 18, 2017 (82 FR 32934), the NRC further found that the 2009 Addenda through the 2017 Edition of Section XI of the ASME BPV Code, Subsections IWB, IWC,

IWD, IWE, IWF, or IWL, as subject to the conditions in § 50.55a, are acceptable for the AMPs in the GALL Report. In a final rule issued on May 4, 2020 (85 FR 26540), the NRC further found that Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI of the 2015 Edition and the 2017 Edition of the ASME BPV Code, as subject to the conditions in § 50.55a, are acceptable for the AMPs in the GALL Report. In a final rule issued on October 27, 2022 (87 FR 65128), the NRC further found that Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI of the 2019 Edition of the ASME BPV Code, as subject to the conditions in § 50.55a, are acceptable for the AMPs in the GALL Report. In a final rule issued on August 30, 2024 (89 FR 70449), the NRC found that Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI of the 2021 Edition of the ASME BPV Code, as subject to the conditions in § 50.55a, are acceptable for the AMPs in the GALL Report.

In July 2025, the NRC issued NUREG-2191, Revision 1, “Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report” (ML25113A021 and ML25113A022), for applicants to use in preparing applications for subsequent license renewal. The GALL-SLR Report provides AMPs that are sufficient for aging management for the subsequent period of extended operation (i.e., up to 80 years of operation), as required in § 54.21(a)(3). The NRC also issued NUREG-2192, Revision 1, “Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants” (SRP-SLR), in July 2025 (ML25113A023). In a similar manner as the GALL Report does, the GALL-SLR Report, in Sections XI.M1, XI.S1, XI.S2, XI.M3, XI.11B, and XI.S3, describes the evaluation and technical bases for determining the sufficiency of ASME BPV Code Subsections IWB, IWC, IWD, IWE, IWF, or IWL for managing aging during the subsequent period of extended operation. Many other AMPs in the GALL-SLR Report rely, in part but to a lesser degree, on the requirements specified in the ASME BPV Code, Section XI. The GALL-SLR Report also indicates that the 1995 Edition through the 2023 Edition (if and when published) of the ASME BPV Code, Section XI, Subsections IWB, IWC, IWD, IWE, IWF, or IWL, as subject to the

conditions in § 50.55a, are acceptable for complying with the requirements of § 54.21(a)(3), unless specifically noted in certain sections of the GALL-SLR Report.

Evaluation with Respect to Aging Management

The NRC evaluated whether those AMPs in the GALL Report and GALL-SLR Report that rely upon Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI in the editions and addenda of the ASME BPV Code incorporated by reference into § 50.55a, in general continue to be acceptable if the AMP relies upon these Subsections in the 2023 Edition. The NRC finds that the 2023 Edition of Section XI of the ASME BPV Code, Subsections IWB, IWC, IWD, IWE, IWF, or IWL, as subject to the conditions of this proposed rule, are acceptable for the AMPs in the GALL Report and GALL-SLR Report with the exception of augmentation, as specifically noted in those reports, and the NRC finds that the conclusions of the GALL Report and GALL-SLR Report remain valid. Accordingly, an applicant for license renewal (including subsequent license renewal) may use, in its plant-specific license renewal application, Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI of the 2023 Edition of the ASME BPV Code, as subject to the conditions in this proposed rule, without additional justification. Similarly, a licensee approved for license renewal that relied on the AMPs may use Subsections IWB, IWC, IWD, IWE, IWF, or IWL of Section XI of the 2023 Edition of the ASME BPV Code. However, applicants must assess and follow applicable NRC requirements with regard to licensing basis changes and evaluate the possible impact on the elements of existing AMPs.

Some of the AMPs in the GALL Report and GALL-SLR Report recommend augmentation of certain Code requirements in order to ensure adequate aging management for license renewal. The technical and regulatory aspects of the AMPs for which augmentations are recommended also apply if the 2023 Edition of Section XI of the ASME BPV Code is used to meet the requirements of § 54.21(a)(3). The NRC evaluated the changes in the 2023 Edition of Section XI of the ASME BPV Code to

determine if the augmentations described in the GALL Report and GALL-SLR Report remain necessary. The NRC's evaluation has concluded that the augmentations described in the GALL and GALL-SLR Reports are necessary to ensure adequate aging management.

For example, GALL-SLR Report AMP XI.S3, “ASME Section XI, Subsection IWF,” recommends that volumetric examination consistent with that of the ASME BPV Code, Section XI, Table IWB-2500-1, Examination Category B-G-1 should be performed to detect cracking for high strength structural bolting (actual measured yield strength greater than or equal to 150 kilopound per square inch (ksi)) (1,034 megapascals (MPA)) in sizes greater than 1 inch nominal diameter. The GALL-SLR Report also indicates that this volumetric examination may be waived with adequate plant-specific justification. This guidance for aging management in the GALL-SLR Report is the augmentation of the visual examination specified in Subsection IWF of the 2023 Edition of the ASME BPV Code, Section XI.

A license renewal applicant may either augment its AMPs as described in the GALL Report and GALL-SLR Report (for operation up to 60 and 80 years respectively) or propose alternatives for the NRC to review as part of the applicant's plant-specific justification for its AMPs.

VII. Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact on a substantial number of small entities. This proposed rule affects only the licensing and operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of “small entities” set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

VIII. Regulatory Analysis

The NRC has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The NRC requests public comment on the draft regulatory analysis. The draft regulatory analysis is available as indicated in the “Availability of Documents” section of this document. Comments on the draft regulatory analysis may be submitted to the NRC as indicated under the **ADDRESSES** caption of this document.

IX. Backfitting and Issue Finality

A. Proposed Incorporation by Reference of the 2023 BPV Code Edition Introduction

The NRC's Backfit Rule in § 50.109 states that the NRC shall require the backfitting of a facility only when it finds the action to be justified under specific standards stated in the rule. Section 50.109(a)(1) defines backfitting as the modification of or addition to systems, structures, components, or design of a facility; the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct, or operate a facility. Any of these modifications or additions may result from a new or amended provision in the NRC's rules or the imposition of a regulatory position interpreting the NRC's rules that is either new or different from a previously applicable NRC position after issuance of the construction permit or the operating license or the design approval.

Section 50.55a requires nuclear power plant licensees to:

- Construct ASME BPV Code Class 1, 2, and 3 components in accordance with the rules provided in Section III, Division 1, of the ASME BPV Code (“Section III”).
- Inspect, examine, and repair or replace Class 1, 2, 3, Class MC, and Class CC components in accordance with the rules provided in Section XI, Division 1, of the ASME BPV Code (“Section XI”).
- Test Class 1, 2, and 3 pumps and valves in accordance with the rules provided in the ASME OM Code.

- Inspect, examine, repair or replace, and test Class 1, 2, and 3 dynamic restraints (snubbers) in accordance with the rules provided in either the ASME OM Code or Section XI, depending on the code edition.

This rulemaking proposes to incorporate by reference the 2023 Edition of the ASME BPV Code, Section III, Division 1, and ASME BPV Code, Section XI, Division 1.

The ASME BPV and OM Codes are national consensus standards developed by participants with broad and varied interests, in which all interested parties (including the NRC and utilities) participate. A consensus process involving a wide range of stakeholders is consistent with the NTTAA, inasmuch as the NRC has determined that there are sound regulatory reasons for establishing regulatory requirements for design, maintenance, ISI, and IST by rulemaking. The process also facilitates early stakeholder consideration of backfitting issues.

Overall Backfitting Considerations: Section III of the ASME BPV Code

Incorporation by reference of more recent editions and addenda of Section III of the ASME BPV Code does not affect a plant that has received a construction permit or an operating license or a design that has been approved. This is because the edition and addenda to be used in constructing a plant are, under § 50.55a, determined based on the date of the construction permit or combined license, and are not changed thereafter, except voluntarily by the licensee. The incorporation by reference of more recent editions and addenda of Section III ordinarily applies only to applicants after the effective date of the final rule incorporating these new editions and addenda. Therefore, incorporation by reference of a more recent edition and addenda of Section III does not constitute “backfitting” as defined in § 50.109(a)(1).

Overall Backfitting Considerations: Section XI of the ASME BPV Code

Incorporation by reference of more recent editions and addenda of Section XI of the ASME BPV Code affects the ISI program of operating reactors. However, the Backfit

Rule generally does not apply to incorporation by reference of later editions of the ASME BPV Code (Section XI). As previously mentioned, the NRC's longstanding regulatory practice has been to incorporate later versions of the ASME Codes into § 50.55a. Under § 50.55a, licensees must periodically update their ISI and program to the latest edition of Section XI of the ASME BPV Code incorporated by reference into § 50.55a 18 months before the start of a new code of record interval. Therefore, when the NRC approves and requires the use of a later version of the Code for ISI, it is implementing this longstanding regulatory practice and requirement.

Other circumstances where the NRC does not apply the Backfit Rule to the approval and requirement to use later code editions and addenda are as follows:

1. When the NRC takes exception to a later ASME BPV Code or OM Code provision but merely retains the current existing requirement, prohibits the use of the later code provision, limits the use of the later code provision, or supplements the provisions in a later code, the Backfit Rule does not apply because the NRC is not imposing new requirements. However, the NRC explains any such exceptions to the code in the preamble to and regulatory analysis for the rule.

2. When an NRC exception relaxes an existing ASME BPV Code or OM Code provision but does not prohibit a licensee from using the existing code provision, the Backfit Rule does not apply because the NRC is not imposing new requirements.

3. Modifications and limitations imposed during previous routine updates of § 50.55a have established a precedent for determining which modifications or limitations are backfits, or require a backfit analysis (e.g., final rule dated September 10, 2008 (73 FR 52730), and a correction dated October 2, 2008 (73 FR 57235)). The application of the backfit requirements to modifications and limitations in the current rule are consistent with the application of backfit requirements to modifications and limitations in previous rules.

The incorporation by reference and adoption of a requirement mandating the use of a later ASME BPV Code or OM Code may constitute backfitting in some

circumstances. In these cases, the NRC would perform a backfit analysis or prepare documented evaluation in accordance with § 50.109. These include the following:

1. When the NRC endorses a later provision of the ASME BPV Code or OM Code that takes a substantially different direction from the existing requirements, the action is treated as a backfit (e.g., 61 FR 41303; August 8, 1996).

2. When the NRC requires implementation of a later ASME BPV Code or OM Code provision on an expedited basis, the action is treated as a backfit. This applies when implementation is required sooner than it would be required if the NRC simply endorsed the Code without any expedited language (e.g., 64 FR 51370; September 22, 1999).

3. When the NRC takes an exception to an ASME BPV Code or OM Code provision and imposes a requirement that is substantially different from the existing requirement as well as substantially different from the later Code (e.g., 67 FR 60520; September 26, 2002).

Detailed Backfitting Discussion: Proposed Changes Beyond Those Necessary to Incorporate by Reference the New ASME BPV Code Provisions

This section discusses the backfitting considerations for all the proposed changes to § 50.55a that go beyond the minimum changes necessary and are required to adopt the new ASME Code edition into § 50.55a.

ASME BPV Code, Section III

1. Revise § 50.55a(b)(1)(xiv) to extend the applicability of the conditions through the latest edition of the ASME BPV Code, Section III incorporated by reference in paragraph (a)(1)(i). The NRC is proposing to revise this condition to apply to the latest edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

2. Add § 50.55a(b)(1)(xv) to include provisions to require that protection from deterioration of radiographic film specified in Note (3) of Table NCA-4134.17-1 and Note (1) of Table NCA-4134.17-2 of the 2023 Edition of the ASME BPV Code, Section III shall include the provisions specified in NCA-4134.17(c), and the reproduction must be retained as a lifetime or nonpermanent record in accordance with Table NCA-4134.17-1 or NCA-4134.17-2, as applicable, of the 2023 Edition. The proposed conditions on Note (3) of Table NCA-4134.17-1 and Note (1) of Table NCA-4134.17-2 of the 2023 Edition specify that existing provisions in NCA-4134.17(c) allow digitization of radiographic film before the original film's deterioration to protect and preserve the record as required. This is not a new or changed NRC position. Therefore, the addition of this proposed condition to maintain the radiographic film or digitized radiographic film as a permanent record is not a backfit.

ASME BPV Code, Section XI

1. Remove and reserve § 50.55a(a)(1)(iii)(A) to delete the incorporation by reference of ASME BPV Code Case N-513-3, Mandatory Appendix I. The mandatory appendix was previously referenced in § 50.55a(b)(2)(xxxiv), but that reference was removed from this condition in a previous rulemaking. The NRC is proposing to remove this incorporation by reference, which is not a change to NRC position and, therefore, is not a backfit.

2. Revise § 50.55a(b)(2)(xii) to limit the applicability of the condition to the 2001 Edition through the 2021 Edition of ASME BPV Code, Section XI. The 2023 Edition added provisions that satisfied the conditions in this paragraph. The NRC is proposing to not apply this condition to the 2023 Edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

3. Revise § 50.55a(b)(2)(xviii) to remove and reserve a provision and clarify a provision.

a. The current provision in § 50.55a(b)(2)(xviii)(A) is being removed as the NRC believes that the NDE recertification rate is acceptable. Removing this condition allows licensees to voluntarily apply the less stringent requirements for recertification of Level I and II NDE personnel to 5-year intervals as stated in the ASME BPV Code, Section XI. Therefore, this is not a backfit.

b. The current provision in § 50.55a(b)(2)(xviii)(D) is being revised to clarify that the alternatives listed in paragraphs (b)(2)(xviii)(D)(1) and (2) are applicable to editions and addenda later than the 2010 Edition. This is not a change in NRC position and, therefore, is not a backfit.

4. Revise § 50.55a(b)(2)(xxv) to correct an error in the title. The current title of this section incorrectly states, “Section XV Condition,” and the NRC proposes to correct the title to state, “Section XI Condition.” This is an editorial correction and, therefore, is not a backfit.

5. Revise § 50.55a(b)(2)(xxviii) to clarify that the condition applies to A-4300(b)(1) for the 2021 Edition of the ASME BPV Code, Section XI, and earlier, and applies to Y-3100(c) in the 2023 Edition. In the 2023 Edition, ASME moved the fatigue crack growth law for ferritic steels in air from A-4300 to Y-3100. This is not a change in NRC position and, therefore, is not a backfit.

6. Revise § 50.55a(b)(2)(xxxi) to reformat the existing condition into two separate provisions and add four new provisions.

a. The current condition continues to apply and is being reformatted into two separate provisions. This is not a change to NRC position and, therefore, is not a backfit.

b. Appendix W of the 2023 Edition of the ASME BPV Code, Section XI, was revised to remove the prohibition on the use of mechanical clamps for several types of piping. The NRC continues to prohibit the use of mechanical clamps in these four specific types of piping. This is not a new or changed position and, therefore, is not a backfit.

7. Revise § 50.55a(b)(2)(xxxiv) to extend the applicability of the condition to the 2023 Edition of the ASME BPV Code, Section XI. The NRC is proposing to revise this condition to apply to the 2023 Edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

8. Revise § 50.55a(b)(2)(xliv) to correct errors, extend its applicability to the 2023 Edition of the ASME BPV Code, Section XI, and add a provision.

a. Subarticle Y-2400 and Articles Y-2200 and Y-3200 are all incorrect references. The NRC is proposing to fix these errors. This is an editorial correction, not a change in position, and, therefore, not a backfit.

b. The NRC is proposing to revise this condition to extend to the 2023 Edition, which is not a change in position and, therefore, is not a backfit.

c. The NRC is proposing to prohibit the use of paragraph Y-4322. The NRC's position is that the relevant code case should govern whenever there are overlapping requirements between the ASME BPV Code and a code case. The crack growth laws in paragraph Y-4322 are duplicated in Code Case N-909. The prohibiting of the use of this paragraph does not modify the requirements with regards to crack growth laws and, therefore, is not a backfit.

9. Revise § 50.55a(b)(2)(xlv) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI. The NRC is proposing to revise this condition to apply to the latest edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

10. Revise § 50.55a(b)(2)(xlvi) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI. The NRC is proposing to revise this condition to apply to the latest edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

11. Revise § 50.55a(b)(2)(xlviii) to extend the applicability of the condition through the latest edition of the ASME BPV Code, Section XI. The NRC is proposing to

revise this condition to apply to the latest edition incorporated by reference, which is not a change to NRC position and, therefore, is not a backfit.

12. Add § 50.55a(b)(2)(li) to prohibit the use of IWA-4540(d)(7) in the 2023 Edition of the ASME BPV Code, Section XI, for exempting pressure testing of Class 2 and 3 welds that have a surface or volumetric examination performed. This is a new condition that retains the NRC's current position to perform pressure testing of most welds regardless of the non-destructive examination performed. The proposed condition on IWA-4540(d)(7) does not constitute a new or changed NRC position. Therefore, the addition of this proposed condition is not a backfit.

13. Add § 50.55a(b)(2)(lii) to condition Figure IWB-2500-7(d) of the 2023 Edition of the ASME BPV Code, Section XI, to require preservice and inservice volumetric examination of nozzles fabricated from weld buildups. This new condition retains a requirement from previous code editions; it does not constitute a new or changed NRC position. Therefore, the addition of this proposed condition is not a backfit.

14. Add § 50.55a(b)(2)(liii) to include provisions to require that protection from deterioration of radiographic film specified in IWA-6310(b) of the 2023 Edition of ASME BPV Code, Section XI, shall include the provisions specified in IWA-6320, and the reproduction must be retained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350 of the ASME BPV Code, Section XI. The proposed condition on IWA-6310(b) of the 2023 Edition specifies that existing provisions in IWA-6320 allow digitization of radiographic film before the original film's deterioration to protect and preserve the lifetime record as required. This is not a new or changed NRC position. Therefore, the addition of this proposed condition to maintain the radiographic film or digitized radiographic film as a permanent record is not a backfit.

15. Revise § 50.55a(g)(6)(ii)(D)(9) to allow for qualification of volumetric evaluation in accordance with Section XI, Division 1, Mandatory Appendix VIII, Supplement 15, in the 2021 Edition through the latest edition of the ASME BPV Code, Section XI. The NRC is proposing to allow licensees the further option to utilize the 2023

Edition of Supplement 15 for the volumetric qualification requirements of Code Case N-729-6, which is a voluntary alternative and, therefore, is not a backfit.

16. Revise § 50.55a(g)(6)(ii)(F)(2)(iv) to include inspection item B-3 in the list of categorization options for identification of cold leg temperature welds. Inspection item B-3 was previously part of inspection item B-1. The NRC is proposing to revise this condition to include inspection item B-3, which maintains the same requirements and only clarifies the expansion of categorization options for licensees and, therefore, is not a backfit.

17. Revise § 50.55a(g)(6)(ii)(F)(13) to include inspection item B-3 in the list of encoded volumetric exams. Inspection item B-3 was previously part of inspection item B-1. The NRC is proposing to revise this condition to include inspection item B-3, which maintains the same requirements and only clarifies the expansion of categorization options for licensees and, therefore, is not a backfit.

Conclusion

The NRC finds that incorporation by reference into § 50.55a of the 2023 Edition of the ASME BPV Code, subject to the identified conditions, does not constitute backfitting or represent an inconsistency with any issue finality provisions in 10 CFR part 52.

B. Proposed Incorporation by Reference of Three Regulatory Guides

The provisions in this proposed rule would allow licensees and applicants to voluntarily apply NRC-approved code cases, sometimes with NRC-specified conditions. The approved code cases are listed in three RGs that are proposed to be incorporated by reference into § 50.55a. An applicant's or a licensee's voluntary application of an approved code case does not constitute backfitting, because there is no imposition of a new requirement or new position.

Similarly, voluntary application of an approved code case by a 10 CFR part 52 applicant or licensee does not represent NRC imposition of a requirement or action and therefore is not inconsistent with any issue finality provision in 10 CFR part 52. The NRC is not proposing to revise any conditions on previously approved code cases, and approval of new code cases with conditions on their voluntary use does not represent an imposition of a new requirement and is therefore not a backfit. For these reasons, the NRC finds that this proposed rule does not involve any provisions requiring the preparation of a backfit analysis or documentation demonstrating that one or more of the issue finality criteria in 10 CFR part 52 are met.

The NRC finds that the proposed incorporation by reference into § 50.55a of the three RGs containing the latest NRC-approved code cases does not constitute backfitting or represent an inconsistency with any issue finality provisions in 10 CFR part 52.

X. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, “Plain Language in Government Writing,” published June 10, 1998 (63 FR 31885). The NRC requests comment on this document with respect to the clarity and effectiveness of the language used.

XI. Environmental Assessment and Proposed Finding of No Significant Environmental Impact

The NRC has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of

the human environment and, therefore, an environmental impact statement is not required.

The determination of this environmental assessment is that there will be no significant effect on the quality of the human environment from this action. Public stakeholders should note, however, that comments on any aspect of this environmental assessment may be submitted to the NRC as indicated under the ADDRESSES caption.

A. Proposed Incorporation by Reference of the 2023 BPV Code Edition

This proposed rule is in accordance with the NRC's policy to incorporate by reference in § 50.55a new editions of the ASME BPV and OM Codes to provide updated rules for construction and inspecting components and testing pumps, valves, and dynamic restraints (snubbers) in light-water nuclear power plants. The ASME Codes are national voluntary consensus standards and are required by the NTTAA to be used by Government agencies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. The proposed rule does not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off-site, and there is no significant increase in public radiation exposure. This proposed rule does not involve non-radiological plant effluents and has no other environmental impact. Therefore, no significant environmental impacts are associated with this action.

B. Proposed Incorporation by Reference of Three Regulatory Guides

NRC-approved code cases provide an equivalent level of safety as the ASME codes. Therefore, this proposed action does not result in increases in the probability or consequences of accidents. There also are no significant, non-radiological impacts associated with this action because no changes would be made affecting non-radiological plant effluents and because no changes would be made in activities that

would adversely affect the environment. The determination of this environmental assessment is that there would be no significant impact from this action.

XII. Paperwork Reduction Act

This proposed rule amends a collection of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). The proposed rule would reduce the burden for the existing information collection. This proposed rule has been submitted to the Office of Management and Budget (OMB) for review and approval of the paperwork requirements.

Type of submission: Revision

The title of the information collection: Codes and Standards

The form number if applicable: Not applicable.

How often the collection is required or requested: On occasion.

Who will be required or asked to respond: Operating power reactor licensees and applicants who choose to implement Code Case N-752-2

An estimate of the number of annual responses: 1

The estimated number of annual respondents: 3.33

An estimate of the total number of hours needed annually to comply with the information collection requirement or request: One-time recordkeeping burden of 1,800 hours, recurring annual recordkeeping burden reduction of 5,390 hours.

Abstract: This proposed rule, in part, approves the implementation of Code Case N-752-2, with conditions as specified in RG 1.147. In order to implement the code case, licensees and applicants would be required to evaluate the safety-significant functions of their SSCs, and would need to follow requirements for on-going evaluations to ensure safety standards are maintained and that records of categorization decisions be kept.

The NRC is seeking public comment on the potential impact of the information collection(s) contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility? Please explain your response.

2. Is the estimate of the burden of the proposed information collection accurate? Please explain your response.

3. Is there a way to enhance the quality, utility, and clarity of the information to be collected? Please explain your response.

4. How can the burden of the proposed information collection on respondents be minimized, including the use of automated collection techniques or other forms of information technology?

A copy of the OMB clearance package is available in ADAMS under Accession No. ML25225A001 or may be viewed free of charge by contacting the NRC's Public Document Room reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. You may obtain information and comment on submissions related to the OMB clearance package by searching on https://www.regulations.gov under Docket ID NRC-2020-0029.

You may submit comments on any aspect of these proposed information collection(s), including suggestions for reducing the burden and on the above issues, by the following methods:

- **Federal rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2020-0029.
- **Mail comments to:** FOIA, Library, and Information Collections Branch, Office of the Chief Information Officer, Mail Stop: T-6 A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or to the OMB reviewer at OMB Office of Information and Regulatory Affairs (3150-0264), Attention: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503.

Submit comments by **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

XIII. Executive Orders

The following are E.O.s that are related to this proposed rule:

A. Executive Order 12866: Regulatory Planning and Review (as amended by Executive Order 14215: Ensuring Accountability for All Agencies)

This action is not a significant regulatory action and therefore was not submitted to OMB for review.

B. Executive Order 14154: Unleashing American Energy

The NRC has examined this proposed rule and has determined that it is consistent with the policies and directives outlined in E.O. 14154.

C. Executive Order 14192: Unleashing Prosperity Through Deregulation

This action is a deregulatory action as defined by E.O. 14192. Details on the estimated costs of this proposed rule can be found in Section VIII of this document, "Regulatory Analysis."

D. Executive Order 14270: Zero-Based Regulatory Budgeting to Unleash American Energy

E.O. 14270, "Zero-Based Regulatory Budgeting to Unleash American Energy," requires the NRC to insert a conditional sunset date into all new or amended NRC regulations provided the regulations are (1) promulgated under the Atomic Energy Act of 1954, as amended (AEA), the Energy Reorganization Act of 1974, as amended, or the Nuclear Waste Policy Act of 1982, as amended; (2) not statutorily required; and (3) not part of the NRC's permitting regime. The NRC determined that the regulatory changes proposed in this rule are necessary for reasonable assurance of adequate protection of public health and safety and part of the NRC's regulatory permitting scheme authorized by the AEA. Therefore, the NRC views this rulemaking to be outside the scope of E.O. 14270 and did not insert conditional sunset dates for the regulatory changes in this proposed rule.

XIV. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Public Law 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless using such a standard is inconsistent with applicable law or is otherwise impractical. In this proposed rule, the NRC is continuing to use the ASME BPV Code by incorporating by reference the 2023 Edition of the BPV Code. In addition, the NRC is continuing to use the ASME BPV and OM Code Cases, which are ASME-approved voluntary alternatives to compliance with various provisions of the ASME BPV and OM Codes. The NRC's approval of the ASME

Code Cases is accomplished by amending the NRC's regulations to incorporate by reference the latest revisions of the following, which are the subject of this rulemaking, into § 50.55a: RG 1.84, Revision 41; RG 1.147, Revision 22; and RG 1.192, Revision 6. The RGs list the ASME Code Cases that the NRC has approved for use. The ASME Code Cases are voluntary consensus standards as described in the National Technology Transfer and Advancement Act of 1995 and OMB Circular A-119. The ASME Code editions and code cases constitute voluntary consensus standards, in which all interested parties (including the NRC and licensees of nuclear power plants) participate. The NRC invites comment on the applicability and use of other standards.

XV. Incorporation by Reference—Reasonable Availability to Interested Parties

The NRC proposes to incorporate by reference the 2023 Edition of the ASME BPV Code for nuclear power plants. As described in the “Background” and “Discussion” sections of this document, this material contains standards for the inspection of nuclear power plant components.

The NRC also proposes to incorporate by reference three NRC RGs that list new and revised ASME Code cases that the NRC has approved as voluntary alternatives to certain provisions of NRC-required editions and addenda of the ASME BPV Code and the ASME OM Code. The draft regulatory guides, DG-1446, DG-1447, and DG-1448, will correspond to final RG 1.84, Revision 41; RG 1.147, Revision 22; and RG 1.192, Revision 6, respectively.

- RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 41 (DG-1446), would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases listed in this revised RG as voluntary alternatives to ASME engineering standards for the construction of nuclear power plant components. DG-1446 updates the discussion language of the document and does not list any new code cases.

- RG 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 22 (DG-1447), would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in this revised RG as voluntary alternatives to ASME engineering standards for the inservice inspection of nuclear power plant components.
- RG 1.192, “Operation and Maintenance [OM] Code Case Acceptability, ASME OM Code,” Revision 6 (DG-1448), would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in this revised RG as voluntary alternatives to ASME engineering standards for the inservice examination and testing of nuclear power plant components.

The NRC is required by law to obtain approval for incorporation by reference from the Office of the Federal Register (OFR). The OFR's requirements for incorporation by reference are set forth in 1 CFR part 51. On November 7, 2014, the OFR adopted changes to its regulations governing incorporation by reference (79 FR 66267). The OFR regulations require an agency to include in a proposed rule a discussion of the ways that the materials the agency proposes to incorporate by reference are reasonably available to interested parties or how it worked to make those materials reasonably available to interested parties. The discussion in this section complies with the requirement for proposed rules as set forth in 1 CFR 51.5(a)(1).

The NRC considers “interested parties” to include all potential NRC stakeholders, not only the individuals and entities regulated or otherwise subject to the NRC's regulatory oversight. These NRC stakeholders are not a homogenous group, so the considerations for determining “reasonable availability” vary by class of interested parties. The NRC identified six classes of interested parties with regard to the material to be incorporated by reference in an NRC rule:

- Individuals and small entities regulated or otherwise subject to the NRC's regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, “small entities” has the same meaning as set out in § 2.810.
- Large entities otherwise subject to the NRC's regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, a “large entity” is one that does not qualify as a “small entity” under § 2.810.
- Non-governmental organizations with institutional interests in matters regulated by the NRC.
- Other Federal agencies, States, local governmental bodies (within the meaning of § 2.315(c)).
- Federally recognized and State-recognized Indian tribes.
- Members of the general public (i.e., individual, unaffiliated members of the public who are not regulated or otherwise subject to the NRC's regulatory oversight) who need access to the materials that the NRC proposes to incorporate by reference in order to participate in the rulemaking.

The 2023 Edition of the ASME BPV Code may be viewed, by appointment, at the Technical Library, which is located at Two White Flint, 11545 Rockville Pike, Rockville, Maryland 20852. You may submit your request to the Technical Library via email at Library.Resource@nrc.gov between 8:00 a.m. and 4:00 p.m. eastern time, Monday through Friday, except Federal holidays. In addition, as described in the “Availability of Documents” section of this document, documents related to this proposed rule are available online in the NRC's ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html.

Interested parties may purchase a copy of the ASME materials from ASME at Three Park Avenue, New York, NY 10016, or at the ASME website

https://www.asme.org/shop/standards. The materials also are accessible through third-party subscription services such as IHS (15 Inverness Way East, Englewood, CO 80112; https://global.ihs.com) and Thomson Reuters Techstreet (3916 Ranchero Dr., Ann Arbor, MI 48108; https://www.techstreet.com). The purchase prices for individual documents range from $325 to $720 and the cost to purchase all documents is approximately $9,000.

For the class of interested parties constituting members of the public who wish to gain access to the materials to be incorporated by reference in order to participate in the rulemaking, the NRC recognizes that the $9,000 cost may be so high that the materials could be regarded as not reasonably available for purposes of commenting on this proposed rule, despite the NRC's actions to make the materials available at the NRC's PDR. Accordingly, the NRC requested that ASME consider enhancing public access to these materials during the public comment period. On January 21, 2026, the ASME agreed to make the materials available online in a read-only electronic access format during the public comment period (ML26023A041). Therefore, the 2023 Edition of the ASME BPV Code Edition for nuclear power plants that the NRC proposes to incorporate by reference in this rulemaking is available in read-only format at the ASME website https://go.asme.org/NRC-ASME.

The three draft RGs that the NRC proposes to incorporate by reference in this proposed rule are available without cost and can be read online or downloaded online. The draft RGs can be viewed, by appointment, at the NRC Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301-415-7000; email: Library.Resource@nrc.gov.

Because the three draft RGs, and eventually, the final RGs, are available in various forms at no cost, the NRC determines that the three draft RGs, DG-1446, DG-1447, and DG-1448, and final RG 1.84, Revision 41; RG 1.147, Revision 22; and RG 1.192, Revision 6, once approved by the OFR for incorporation by reference, are reasonably available to all interested parties.

The materials are available to all interested parties in multiple ways and in a manner consistent with their interest in this proposed rule. Therefore, the NRC concludes that the materials the NRC proposes to incorporate by reference in this proposed rule are reasonably available to all interested parties.

XVI. Availability of Guidance

The NRC will not be issuing guidance for this rulemaking.

XVII. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated in Table IV.

Table IV—Availability of Documents

DOCUMENT	ADAMS ACCESSION NO. / WEB LINK / *FEDERAL REGISTER* CITATION
Proposed Rule Documents:	
Rulemaking: Proposed Rule: Regulatory Analysis for Approval of the 2023 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and Code Cases, Revision 41, February 27, 2026	ML25182A128
Rulemaking: Proposed Rule: Unofficial Redline Strikeout of the NRC's Proposed Rule: Approval of the 2023 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and Code Cases, Revision 41, February 27, 2026	ML25182A125
Executive Orders	
Executive Order 12866, "Regulatory Planning and Review," October 4, 1993	58 FR 51735
Executive Order 14125, "Ensuring Accountability for All Agencies," February 18, 2025	90 FR 10447
Executive Order 14154, "Unleashing American Energy," January 29, 2025	90 FR 8353
Executive Order 14192, "Unleashing Prosperity Through Deregulation," February 6, 2025	90 FR 9065
Executive Order 14270, "Zero-Based Regulatory Budgeting to Unleash American Energy," April 15, 2025	90 FR 15643

Executive Order 14300, “Ordering the Reform of the Nuclear Regulatory Commission,” May 29, 2025	90 FR 22587
Related Documents	
ASME Letter to NRC, “ASME Request for Including Specific Code Cases in Draft Revision 22 of Regulatory Guide 1.147 and Draft Revision 1 of Regulatory Guide 1.246,” October 18, 2024	ML24296A006
ASME Letter to NRC, “ASME NDE Level I and II Personnel Recertification,” August 23, 2024	ML25099A046
EPRI Technical Report 3002018615, “Technical Basis for Nondestructive Examination Experience Requirements for ASME Section XI, Appendix VII,” September 2021	https://restservice.epri.com/publicdownload/000000003002018615/0/Product
Direct final rule—Approval of American Society of Mechanical Engineers Unconditioned Code Cases, September 26, 2025	90 FR 46319
Final Rule—American Society of Mechanical Engineers 2021-2022 Code Editions, August 30, 2024	89 FR 70449
Final Rule—American Society of Mechanical Engineers Code Cases and Update Frequency, July 17, 2024	89 FR 58039
Final Rule—American Society of Mechanical Engineers 2015-2017 Code Editions Incorporation by Reference, May 4, 2020	85 FR 26540
Final Rule—Incorporation by Reference of American Society of Mechanical Engineers Codes and Code Cases, July 18, 2017	82 FR 32934
Final Rule—Incorporation by Reference, November 7, 2014	79 FR 66267
Final Rule—American Society of Mechanical Engineers (ASME) Codes and New and Revised ASME Code Cases, June 21, 2011	76 FR 36232
Final Rule—Industry Codes and Standards; Amended Requirements; Correction, October 2, 2008	73 FR 57235
Final Rule—Industry Codes and Standards; Amended Requirements, September 10, 2008	73 FR 52730
Final Rule—Industry Codes and Standards; Amended Requirements, September 26, 2002	67 FR 60520
Proposed Rule—Industry Codes and Standards; Amended Requirements, September 22, 1999	64 FR 51370
Codes and Standard for Nuclear Power Plants; Subsection IWE and Subsection IWL, August 8, 1996	61 FR 41303
Final Policy Statement—Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities, August 16, 1995	60 FR 42622

“Impacts of Embrittlement on Reactor Pressure Vessel Integrity from a Risk-Informed Perspective, Final Report,” March 8, 2022	ML21314A228
NEI 05-04/07-12/12-06 Appendix X, “Close-Out of Facts and Observations (F&Os),” February 2017	ML17086A451
NEI 17-07, Revision 2, “Performance of PRA Reviews using the ASME/ANS PRA Standard,” August 2019	ML19231A182
NRC Information Notice 2025-01, “Lessons Learned When Implementing ASME Code Case N-752,” February 10, 2025	ML24323A057
NRC Letter to NEI, “U.S. Nuclear Regulatory Commission Acceptance on Nuclear Energy Institute Appendix X to Guidance 05-04, 07-12, and 12-13 Close-Out of Facts and Observations (F&Os),” May 3, 2017	ML17079A427
NUREG-1800, Revision 2, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants,” December 2010	ML103490036
NUREG-1801, Revision 2, “Generic Aging Lessons Learned (GALL) Report,” December 2010	ML103490041
NUREG-1950, “Disposition of Public Comments and Technical Bases for Changes in the License Renewal Guidance Documents NUREG-1801 and NUREG-1800,” April 2011	ML11116A062
NUREG-2191, Vols. 1 and 2, Revision 1, “Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report,” July 2025	ML25113A021 ML25113A022
NUREG-2192, Revision 1, “Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants,” July 2025	ML25113A023
OMB Supporting Statements, February 9, 2026	ML25225A001
PNNL-29761, “Nondestructive Examination (NDE) Training and Qualifications: Implications of Research on Human Learning and Memory, Instruction, and Expertise,” March 2020	ML20079E343
Regulatory Issue Summary 2007-06, “Regulatory Guide 1.200 Implementation,” March 22, 2007	ML070650428
Presidential Memorandum, “Plain Language in Government Writing,” June 10, 1998	63 FR 31885
RG 1.28, Quality Assurance Program Criteria (Design and Construction), Revision 6, September 2023	ML23177A002
RG 1.84, Design, Fabrication, and Materials Code Case Acceptability, ASME Section III, Revision 40, March 2024	ML23291A008

RG 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Revision 21, March 2024	ML23291A003
RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 5, March 2024	ML23291A006
RG 1.193, ASME Code Cases Not Approved for Use, Revision 8, March 2024	ML23291A007
RG 1.193, ASME Code Cases Not Approved for Use, Revision 9 (DG-1449), December 2025	ML25083A257
RG 1.200, An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities, Revision 1, January 2007	ML070240001
RG 1.200, An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities, Revision 2, March 2009	ML090410014
RG 1.200, Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities, Revision 3, December 2020	ML20238B871
RG 1.262, ASME Code Cases Approved for Use Without Conditions, Revision 0, July 2025	ML25091A013
Rulemaking: Proposed Rule: Email from Kathryn Hyam (ASME) to Christian Araguas (NRC), Request for Limited Public Access of Code for Public Comment Period, January 21, 2026	ML26023A041
SECY-22-0019, “Rulemaking Plan for the Revision of Embrittlement and Surveillance Requirements for High-Fluence Nuclear Power Plants in Long-Term Operation,” March 8, 2022	ML21314A215
Staff Requirements—Affirmation Session, 11:30 a.m., Friday, September 10, 1999, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open to Public Attendance), September 10, 1999	ML003755050
“Wolf Creek Generating Station, Unit 1—Request for Relief from Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Case N-666-1 (EPID L-2019-LLR-0077),” April 27, 2020	ML20111A337
ASME Codes, Standards, and Code Cases:	
ASME BPV Code, Section III, Division 1: 2023 Edition	https://go.asme.org/NRC-ASME
ASME BPV Code, Section XI, Division 1: 2023 Edition	https://go.asme.org/NRC-ASME
ASME Codes and Standards, Operation and Maintenance of Nuclear Power Plants (OM) Code Cases	https://cstools.asme.org/csconnect/CommitteePages.cfm?Committee=O10300000&Action=26676

Additional Documents Proposed to be Incorporated by Reference

The NRC proposes to incorporate by reference three NRC RGs, as set forth in Table V, that list new and revised ASME Code Cases that the NRC is proposing to approve as voluntary alternatives to certain provisions of NRC-required editions and addenda of the ASME BPV Code and the ASME OM Code.

Table V—Draft Regulatory Guides Proposed to be Incorporated by Reference in 10 CFR 50.55a

DOCUMENT	ADAMS ACCESSION NO.
RG 1.84, Design, Fabrication, and Materials Code Case Acceptability, ASME Section III, Revision 41 (DG-1446), December 2025	ML25079A307
RG 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Revision 22 (DG-1447), December 2025	ML25080A261
RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 6 (DG-1448), December 2025	ML25083A254

Code Cases for Approval in this Proposed Rule

The ASME OM Code Cases that the NRC is proposing to approve as alternatives to certain provisions of the ASME OM Code, as set forth in Table VI, are made available for read-only access at the URL listed in Table IV. The ASME BPV Code Cases that the NRC is proposing to approve as alternatives to certain provisions of the ASME BPV Code, as set forth in Table VI, are being made available by the ASME for read-only access during the public comment period on https://go.asme.org/NRC-ASME.

The ASME is making the code cases listed in Table VI available for limited, read-only access at the request of the NRC. The NRC believes that stakeholders need to be able to read these code cases in order to provide meaningful comment on the three RGs (listed in Table V) that the NRC is proposing to incorporate by reference into § 50.55a. It is the NRC's position that the listed code cases, as modified by any conditions contained in the three RGs and thus serving as alternatives to requirements in § 50.55a, would be legally-binding regulatory requirements. An applicant or licensee must comply with a

listed code case and any conditions to be within the scope of the NRC's approval of the code case as a voluntary alternative for use. These requirements cannot be fully understood without knowledge of the code case to which the proposed condition applies, and to this end, the NRC has requested that the ASME provide limited, read-only access to the code cases in order to facilitate meaningful public comment.

Table VI—ASME Code Cases Proposed for NRC Approval

Boiler and Pressure Vessel Code Section XI		
Code Case No.	**Published with Supplement**	**Title**
N-508-5	6 (2021 Edition)	Rotation of Snubbers and Pressure Retaining Items for the Purpose of Testing or Preventive Maintenance
N-666-3	0 (2023 Edition)	Weld Overlay of Class 1, 2, and 3 Socket Welded Connections
N-716-4	1 (2023 Edition)	Alternative Classification and Examination Requirements
N-752-2	6 (2023 Edition)	Risk-Informed Categorization and Treatment for Repair/Replacement Activities in Class 2 and 3 Systems
N-778-1	0 (2023 Edition)	Alternative Requirements for Preparation and Submittal of Inservice Inspection Plans, Schedules, and Preservice and Inservice Inspection Summary Reports
N-806-2	3 (2023 Edition)	Analytical Evaluation of Metal Loss in Class 2 and 3 Metallic Piping Buried in a Back-Filled Trench
N-830-1	3 (2021 Edition)	Direct Use of Fracture Toughness for Flaw Evaluations of Pressure Boundary Materials in Class 1 Ferritic Steel Components
N-926	6 (2021 Edition)	Alternative Examination Requirements for Unbonded Post-Tensioning Systems of Class CC Components
N-930	0 (2023 Edition)	Alternative Experience Requirements for Nondestructive Examination Personnel for Ultrasonic Examination
Operation and Maintenance Code		
Code Case No.	**Edition**	**Title**
OMN-32, Revision 1	2022	Alternative Requirements for Range and Accuracy of Pressure, Flow, and Differential Pressure Instruments Used in Pump Test
OMN-34	2022	Use of a Pump Curve for Testing

The NRC may post materials related to this document, including public comments, on the Federal rulemaking website at https://www.regulations.gov under Docket ID NRC-2020-0029. In addition, the Federal rulemaking website allows members

of the public to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2020-0029); 2) click the “Subscribe” button; and 3) enter an email address and click on the “Subscribe” button.

List of Subjects in 10 CFR Part 50

Administrative practice and procedure, Antitrust, Backfitting, Classified information, Criminal penalties, Education, Emergency planning, Fire prevention, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Penalties, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC is proposing to amend 10 CFR Part 50 as follows:

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for part 50 is revised to read as follows:

Authority: Atomic Energy Act of 1954, secs. 11, 101, 102, 103, 104, 105, 108, 122, 147, 149, 161, 181, 182, 183, 184, 185, 186, 187, 189, 223, 234 (42 U.S.C. 2014, 2131, 2132, 2133, 2134, 2135, 2138, 2152, 2167, 2169, 2201, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2239, 2273, 2282); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); Nuclear Waste Policy Act of 1982, sec. 306 (42 U.S.C. 10226); National Environmental Policy Act of 1969 (42 U.S.C. 4332); 44 U.S.C. 3504 note.

2. In § 50.55a:

a. In paragraph (a)(1) introductory text, remove “Codes/” and add in its place “codes-standards”.

b. In paragraph (a)(1)(i)(E)(*20*), remove the word “and”;

c. Revise paragraph (a)(1)(i)(E)(*21*);

d. Add paragraph (a)(1)(i)(E)(*22*);

e. In paragraph (a)(1)(ii)(C)(*56*), remove the word “and”;

f. Revise paragraph (a)(1)(ii)(C)(*57*);

g. Add paragraph (a)(1)(ii)(C)(*58*);

h. Remove and reserve paragraph (a)(1)(iii)(A);

i. In paragraph (a)(1)(v)(B)(*5*), remove the word “and”;

j. Revise paragraph (a)(1)(v)(B)(*6*);

k. Add paragraphs (a)(1)(v)(B)(*7*) through (*9*);

l. Revise paragraphs (a)(3)(i) through (iv);

m. Revise paragraph (b)(1)(xiv);

n. Add paragraph (b)(1)(xv);

o. Revise paragraph (b)(2)(xii);

p. Remove and reserve paragraph (b)(2)(xviii)(A);

q. Revise paragraphs (b)(2)(xviii)(D), (b)(2)(xxv), (b)(2)(xxviii), (b)(2)(xxxi), and (b)(2)(xxxiv)(B);

r. In paragraph (b)(2)(xliii), remove the phrase “Licenses shall” and add in its place the phrase “Licensees shall”;

s. Revise paragraph (b)(2)(xliv);

t. Revise paragraphs (b)(2)(xlv), (b)(2)(xlvi), and (b)(2)(xlviii);

u. Add paragraphs (b)(2)(li), (b)(2)(lii), and (b)(2)(liii);

v. In paragraph (g)(4)(iv), remove the reference “(a)(1)(iv) of this section” and add in its place the reference “(a)(1)(iii) of this section”; and

w. Revise paragraphs (g)(6)(ii)(D)(*9*), (g)(6)(ii)(F)(*2*)(*iv*) and (*v*), (g)(6)(ii)(F)(*4*), (g)(6)(ii)(F)(*10*), and (g)(6)(ii)(F)(*13*).

The revisions and additions read as follows:

§ 50.55a Codes and Standards.

(a) * * *

(1) * * *

(i) * * *

(E) * * *

(*21*) 2021 Edition (including Subsection NCA; and Division 1 subsections NB through NG and Appendices); and

(*22*) 2023 Edition (including Subsection NCA; and Division 1 subsections NB through NG and Appendices), with Errata 23-2471, “NB-5332(a)(2) (from R/N 22-1562),” dated April 4, 2024.

(ii) * * *

(C) * * *

(*57*) 2021 Edition; and

(*58*) 2023 Edition.

(iii) * * *

(A) [Reserved]

* * * * *

(v) * * *

(B) * * *

(*6*) NQA-1—2015;

(*7*) NQA-1—2017;

(*8*) NQA-1—2019; and

(*9*) NQA-1—2022.

* * * * *

(3) * * *

(i) *NRC Regulatory Guide 1.84, Revision 41.* NRC Regulatory Guide 1.84, Revision 41, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” issued December 2025, with the requirements in paragraph (b)(4) of this section.

(ii) *NRC Regulatory Guide 1.147, Revision 22.* NRC Regulatory Guide 1.147, Revision 22, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division

1," issued December 2025, which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(5) of this section.

(iii) *NRC Regulatory Guide 1.192, Revision 6.* NRC Regulatory Guide 1.192, Revision 6, "Operation and Maintenance Code Case Acceptability, ASME OM Code," issued December 2025, which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(6) of this section.

(iv) *NUREG-2228.* NUREG-2228, "Weld Residual Stress Finite Element Analysis Validation: Part II—Proposed Validation Procedure," published July 2020 (including Errata September 22, 2021), which is referenced in RG 1.147, Revision 22.

* * * * *

(b) * * *

(1) * * *

(xiv) *Section III condition: Repairs to Stamped Components.* Applicants or licensees applying the provisions of NCA-8151, NCA-8500 and Nonmandatory Appendix NN in the 2021 Edition of Section III through the latest edition and addenda incorporated by reference in paragraph (a)(1)(i) of this section are required to meet all of the requirements in Nonmandatory Appendix NN.

(xv) *Section III condition: Protection from Deterioration of Radiographic Film and Lifetime Record Retention.*

(A) Protection from deterioration of radiographic film specified in Note (3) of Table NCA-4134.17-1 of the 2023 Edition of Section III shall include the provisions specified in NCA-4134.17(c), and the reproduction must be retained as a lifetime record in accordance with Table NCA-4134.17-1 of Section III.

(B) Protection from deterioration of radiographic film specified in Note (1) of Table NCA-4134.17-2 of the 2023 Edition of Section III shall include the provisions specified in NCA-4134.17(c), and the reproduction must be retained as a nonpermanent record in accordance with Table NCA-4134.17-2 of Section III.

(2) * * *

(xii) *Section XI condition: Underwater welding.* The provisions in IWA-4660, "Underwater Welding," of Section XI, 2001 Edition through the 2021 Edition, are approved for use on irradiated material with the following conditions:

* * * * *

(xviii) *Section XI condition: NDE personnel certification* –

(A) [Reserved]

* * * * *

(D) *NDE personnel certification: Fourth provision.* The use of Appendix VII, Table VII-4110-1 and Appendix VIII, Subarticle VIII-2200 of the 2011 Addenda through the latest edition incorporated by reference in paragraph (a)(1)(ii) of this section is prohibited. When using ASME BPV Code, Section XI editions and addenda later than the 2010 Edition, licensees and applicants must use the prerequisites for ultrasonic examination personnel certifications described in (1) and (2) below or the Appendix VII, Table VII-4110-1 and Appendix VIII, Subarticle VIII-2200 in the 2010 Edition.

* * * * *

(xxv) *Section XI Condition: Mitigation of defects by modification.* Use of the provisions of IWA-4340 must be subject to the following conditions:

* * * * *

(xxviii) *Section XI condition: Analysis of flaws.* Licensees using the 2021 Edition or earlier of the ASME BPV Code, Section XI, Appendix A, must use the following conditions when implementing Equation (2) in A-4300(b)(1). Licensees using the 2023 Edition of the ASME BPV Code, Section XI, Appendix A, must use the following conditions when implementing Equation (2) in Y-3100(c):

* * * * *

(xxxi) *Section XI condition: Mechanical clamping devices.* When installing a mechanical clamping device on an ASME BPV Code class piping system, the following conditions apply.

(A) Appendix W of Section XI shall be treated as a mandatory appendix and all of the provisions of Appendix W shall be met for the mechanical clamping device being installed.

(B) Use of IWA-4131.1(c) of the 2010 Edition of Section XI and IWA-4131.1(d) of the 2011 Addenda of the 2010 Edition and later versions of Section XI is prohibited on small item Class 1 piping and portions of a piping system that form the containment boundary.

(C) The use of Nonmandatory Appendix W for ASME Class 1 piping is prohibited.

(D) The use of Nonmandatory Appendix W for portions of a piping system that forms the containment boundary is prohibited.

(E) The use of Nonmandatory Appendix W for piping larger than NPS 2 (DN 50) when the nominal operating temperature or pressure exceeds 200 °F (95 °C) or 275 pounds per square inch gauge (1,900 kilopascals) is prohibited.

(F) The use of Nonmandatory Appendix W for piping larger than NPS 6 (DN 150) is prohibited.

* * * * *

(xxxiv) * * *

(B) Use of Nonmandatory Appendix U, Supplement U-S1 of the ASME BPV Code, Section XI, 2021 Edition through the 2023 Edition is prohibited.

* * * * *

(xliv) *Section XI condition: Nonmandatory Appendix Y.* When using Nonmandatory Appendix Y of the ASME BPV Code, Section XI, 2021 Edition through the 2023 Edition, the following conditions apply:

(A) Use of Nonmandatory Appendix Y, Subarticle Y-2200 is prohibited.

(B) Use of Nonmandatory Appendix Y, Subarticle Y-2400 is prohibited.

(C) Use of Nonmandatory Appendix Y, Subarticle Y-3200 is prohibited.

(D) Use of Nonmandatory Appendix Y, Paragraph Y-4322 is prohibited.

(xlv) *Section XI condition: Pressure Testing of Containment Penetration Piping After Repair/Replacement Activities.* Applicants or licensees applying the provision of IWA-4540(a) and (e) of the 2021 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(ii) of the ASME Code, Section XI, are required to perform a VT-2 examination of the area affected by the repair/replacement activity during the Type C test in appendix J to this part.

(xlvi) *Section XI condition: Contracted Repair/Replacement Organization Fabricating Items Offsite of the Owner's Facility.* When applicants or licensees apply the provision of IWA-4143 in the 2021 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(ii) of Section XI of the ASME Code, a contracted Repair/Replacement Organization fabricating ASME Code, Section III parts, appurtenances, piping subassemblies, and supports offsite of the Owner's facility (e.g., vendor facility) without an ASME Certificate of Authorization and without applying an ASME Stamp/Certification Mark is prohibited.

* * * * *

(xlviii) *Section XI condition: Analytical Evaluations of Degradation.* Applicants or licensees using the 2021 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(ii) of Section XI of the ASME Code must submit analytical evaluations performed as required by IWB-3132.3 and IWC-3122.3 to the Nuclear Regulatory Commission.

* * * * *

(li) *Section XI condition: Pressure Testing Following Repair/Replacement Activity.* The use of the provisions in IWA-4540(d)(7) of the 2023 Edition of Section XI for exemption of performing a pressure test for Class 2 and 3 welds that have had a surface or volumetric examination performed is prohibited.

(lii) *Section XI condition: Preservice and Inservice Volumetric Examination of Nozzles Fabricated from Weld Buildups.* When using provisions in Figure IWB-2500-7(d) of the 2023 Edition of Section XI, preservice and inservice volumetric examination of

nozzles fabricated from weld buildups is required. The volumetric examination (ultrasonic) of weld buildups shall be performed with procedures and personnel in accordance with Mandatory Appendix VIII using acceptance criteria of IWB-3514 for Category B-F welds.

(liii) *Section XI condition: Protection from Deterioration of Radiographic Film and Lifetime Record Retention.* Protection from deterioration of radiographic film specified in provision IWA-6310(b) of the 2023 Edition of Section XI shall include the provisions specified in IWA-6320, and the reproduction must be retained as a lifetime record in accordance with IWA-6330, IWA-6340, and IWA-6350.

* * * * *

(g) * * *

(6) * * *

(ii) * * *

(D) * * *

(*9*) *Volumetric Qualifications.* Volumetric examinations of Table 1 of ASME Code Case N-729-6 may be qualified in accordance with Section XI, Division 1, Mandatory Appendix VIII, Supplement 15, in the 2021 Edition through the latest edition and addenda incorporated by reference in paragraph (a)(1)(i) of this section, in lieu of subparagraphs (a) through (j) of 2500 of ASME Code Case N-729-6.

* * * * *

(F) * * *

(2) * * *

(iv) All other butt welds that rely on Alloy 82/182 for structural integrity shall be categorized as Inspection Items A-1, A-2, B-1, B-2, or B-3, as appropriate.

(v) Paragraph -1100(e) of ASME BPV Code Case N-770-7 shall not be used to exempt welds that rely on Alloy 82/182 for structural integrity from any requirement of this section.

* * * * *

(*4*) *Examination coverage.* When implementing Paragraph -2500(a) of ASME BPV Code Case N-770-7, essentially 100 percent of the required volumetric examination coverage shall be obtained, including greater than 90 percent of the volumetric examination coverage for circumferential flaws. Licensees are prohibited from using Paragraphs -2500(c) and -2500(d) of ASME BPV Code Case N-770-7 to meet examination requirements.

* * * * *

(*10*) *Examination technique.* Note 14(b) of Table 1 and Note (b) of Figure 5(a) of ASME BPV Code Case N-770-7 may only be implemented if the requirements of Note 14(a) of Table 1 of ASME BPV Code Case N-770-7 cannot be met.

* * * * *

(*13*) *Encoded ultrasonic examination.* Ultrasonic examinations of non-mitigated or cracked mitigated dissimilar metal butt welds in the reactor coolant pressure boundary must be performed in accordance with the requirements of Table 1 for Inspection Item A-1, A-2, B-1, B-2, B-3, E, F-2, J, K, N-1, N-2 and O. Essentially 100 percent of the required inspection volume shall be examined using an encoded method.

* * * * *

Dated: February 10, 2026.

For the Nuclear Regulatory Commission.

Jeremy Groom, Acting Director,
Office of Nuclear Reactor Regulation.

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