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NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC–2018–0291]

RIN 3150–AK23

American Society of Mechanical Engineers Code Cases and Update Frequency

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to incorporate by reference revisions of three regulatory guides to approve new, revised, and reaffirmed code cases published by the American Society of Mechanical Engineers. This action allows 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 these regulatory guides as voluntary alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components. These engineering standards are set forth in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and American Society of Mechanical Engineers Operation and Maintenance Code, which are currently incorporated by reference into the NRC's regulations. Further, this final rule announces the availability of a related regulatory guide, not incorporated by reference into the NRC's regulations, that lists code cases that the NRC has not approved for use. Finally, this rulemaking provides more flexibility to licensees by expanding the code of record interval from ten years to two consecutive inservice testing and inservice inspection intervals.

DATES: This final rule is effective on August 16, 2024. The incorporation by reference of certain material listed in this rule is approved by the Director of the Federal Register as of August 16, 2024. The incorporation by reference of certain other material listed in the rule was approved by the Director of the Federal Register as of April 4, 2022, and November 28, 2022.

ADDRESSES: Please refer to Docket ID NRC–2018–0291 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–2018–0291. Address questions about NRC dockets to Dawn Forder; telephone: 301–415–3407; email: Dawn.Forder@nrc.gov. For technical questions, contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- *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 Web-based ADAMS 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 (ET), 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. ET, Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Tyler Hammock, Office of Nuclear Material Safety and Safeguards, telephone: 301–415–1381, email: Tyler.Hammock@nrc.gov; or Bruce Lin, Office of Nuclear Regulatory Research, telephone: 301–415–2446, Bruce.Lin@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

SUPPLEMENTARY INFORMATION:

Executive Summary

A. Need for the Regulatory Action

This rulemaking incorporates by reference the latest revisions of three regulatory guides (RGs) into the NRC's regulations. The three RGs identify new, revised, and reaffirmed code cases published by the American Society of Mechanical Engineers (ASME) that the NRC has determined are acceptable for use as voluntary alternatives to compliance with certain provisions of the ASME Boiler and Pressure Vessel Code (BPV Code) and the ASME Operation and Maintenance of Nuclear Power Plants, Division 1, OM Code: Section IST (OM Code) currently incorporated by reference into the NRC's regulations.

This rulemaking also revises the current NRC requirement for nuclear power plant licensees to update the codes of record for their inservice examination and testing (IST) and inservice inspection (ISI) programs. Currently, licensees are required to update the code of record every 10 years. This rulemaking would revise the requirement so that licensees would update the code of record after completion of an ISI and IST interval, with a maximum of two consecutive ISI and IST intervals before licensees are required to update the code of record. This revision applies to licensees that are implementing the 2017 Edition, or later editions, of the ASME OM Code and the 2017 Edition, or later editions, of the ASME BPV Code, Section XI, as incorporated by reference into § 50.55a of title 10 of the Code of Federal Regulations (10 CFR) "Codes and standards" as the codes of record of their IST/ISI programs. This revision to the NRC's regulations implements Commission direction in staff requirements memorandum (SRM)

SRM–SECY–21–0029 (dated November 8, 2021) in response to SECY–21–0029, “Rulemaking Plan on Revision of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a,” dated March 15, 2021.

Following completion of this code case rulemaking and the ASME 2021–2022 Code Editions rulemaking, the NRC plans to streamline approval of code cases that do not require conditions and are unlikely to receive significant and adverse public comments by using the direct final rule process. The code cases that either require conditions or are likely to receive significant and adverse comments will be combined with the Code Editions rulemakings, which will continue to follow the traditional proposed rule and comment rulemaking process.

B. Major Provisions

The NRC is incorporating by reference the following three RGs: 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 [OM] Code Case

Acceptability, ASME OM Code, Revision 5. This action allows 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 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 RG 1.193, “ASME Code Cases Not Approved for Use,” Revision 8, which lists code cases that the NRC has not approved for generic use and would not be incorporated by reference into the NRC’s regulations.

The NRC is revising the requirements in § 50.55a(f)(4) and (g)(4) to refer to the term “code of record interval” instead of “120-month interval.” This term, as well as others, is defined in new definitions in § 50.55a(y). Under the new rules, licensees may maintain the same code of record in their IST and ISI programs for two consecutive IST or ISI intervals. As a result of public comments on the proposed rule, the NRC made changes in the final rule to allow licensees to take advantage of this new flexibility provided their IST or ISI programs implement the 2017 Edition of

the ASME OM Code or ASME BPV Code, Section XI, respectively. Also, as a result of public comments, the NRC revised the final rule to update the language of § 50.55a(f)(4)(iv) and (g)(4)(iv) to allow licensees to use a later edition of ASME OM Code and ASME BPV Code, Section XI, as incorporated by reference into § 50.55a, at the start of a new IST or ISI interval without submitting a request to the NRC for approval. As a result of these changes, licensees have the option to update their codes of record at the end of each ISI or IST interval or after two consecutive ISI or IST intervals.

C. Costs and Benefits

The NRC prepared a final regulatory analysis to determine the expected quantitative costs and benefits of this final rule, as well as qualitative factors to be considered in the NRC’s rulemaking decision. The analysis concluded that this final 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 \$45.6 million (7-percent net present value) to \$56.2 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	55,160,000	39,020,000	48,080,000
<i>Total Industry Costs</i>	<i>55,160,000</i>	<i>39,020,000</i>	<i>48,080,000</i>
NRC Implementation	0	0	0
NRC Operation	9,300,000	6,550,000	8,070,000
<i>Total NRC Costs</i>	<i>9,300,000</i>	<i>6,550,000</i>	<i>8,070,000</i>
Net	64,460,000	45,570,000	56,150,000

The final regulatory analysis also considered the following qualitative considerations: (1) flexibility and decreased uncertainty for licensees when making modifications or preparing to perform inservice inspection or inservice testing (while continuing to ensure safety); (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 final regulatory analysis concludes that this final 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 final regulatory analysis as indicated in Section XVI, “Availability of Documents.”

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I. Background

A. 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,¹ 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 under special circumstances.

The NRC approves the ASME BPV and OM 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 RGs listing approved ASME code cases that may be used as voluntary alternatives to the BPV and OM Codes.²

This final rule is the latest in a series of rules that incorporate by reference new versions of several RGs that identify new, revised, and reaffirmed³ 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 March 3, 2022, that incorporated by reference into § 50.55a the previous versions of the RGs, which are RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 39; RG 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 20; and RG 1.192, “Operation and Maintenance Code Case Acceptability, ASME OM Code,” Revision 4.

B. Revision to Code of Record Update Requirements

The NRC staff provided SECY–21–0029 to the Commission with a proposed rulemaking plan for revising the IST and ISI code of record update requirements in § 50.55a. The Commission issued SRM–SECY–21–0029, directing the staff to proceed with the proposed rulemaking plan. In SECY–22–0075, “Staff Requirements–SECY–21–0029 Inservice Testing and Inservice Inspection Program Rulemakings Update,” dated August 10, 2022, the staff described changes from the original plan in response to new information and changed circumstances that affected the implementation of SRM–SECY–21–0029. The changes described in SECY–22–0075 included combining the ASME code case and the IST and ISI code of record update rulemakings and also making conforming and clarifying changes. One such change was adding a definition section (§ 50.55a(y)) where “code of record interval” (the period of time between the code of record updates required by § 50.55a(f)(4) and (g)(4) for the IST and ISI programs, respectively) would be differentiated from both the ISI and IST intervals (the ASME interval described by the licensee’s code of record).

In this final rulemaking, along with incorporating by reference three regulatory guides on ASME code cases, the NRC is including rule language that specifies that licensees may update their IST and ISI codes of record every two consecutive IST intervals or ISI intervals provided the licensee implements the 2017 Edition, or later edition or addenda, of ASME BPV Code and the 2017 Edition, or later edition, of the

ASME OM Code, as incorporated by reference into § 50.55a, for their IST and ISI programs, respectively. With this revised requirement to update the code of record, the NRC does not intend that the code of record interval for an IST or ISI program would exceed 25 years, even if ASME extends the IST interval or the ISI interval beyond 12 years in the ASME OM Code or the ASME BPV Code, respectively. The 25-year maximum code of record interval would allow the same code of record to be used for two consecutive ISI or IST intervals, each up to 12 years, plus the one-time 1-year extension for IST and ISI programs as specified in the ASME OM Code and ASME BPV Code, respectively. Licensees implementing the 2017 Edition, or later edition, of ASME BPV Code, Section XI and the 2017 Edition, or later edition, of ASME OM Code may immediately utilize the extended code of record interval. The starting date for the 20- or 24-year code of record update interval begins on the date that the licensee had previously incorporated the 2017 Edition, or later edition, as its code of record for the IST or ISI program. Following completion of their current IST or ISI programs, these licensees may choose to maintain the same code of record for the successive IST or ISI interval or update the edition. Licensees choosing to update the editions at the start of a new IST or ISI interval may do so without NRC approval, per the new language in § 50.55a(f)(4)(iv) and (g)(4)(iv). Licensees seeking to use a later edition in the middle of an IST or ISI interval must still submit an exemption request for NRC review and approval.

In Revision 5 to RG 1.192, the NRC is conditionally accepting ASME OM Code Case OMN–31, “Alternative to Allow Extension of ISTA–3120 Inservice Examination and Test Intervals From 10 Years to 12 Years,” as a voluntary alternative to the 10-year interval specified in the ASME OM Code for applicants and licensees implementing the 2017 Edition of the ASME OM Code or later editions, as incorporated by reference in § 50.55a, as the code of record for their IST program. In Revision 21 to RG 1.147, the NRC is conditionally accepting ASME Code Case N–921, “Alternative 12-yr Inspection Interval Duration, Section XI, Division 1,” as a voluntary alternative to the 10-year interval specified in Section XI, IWA–2400 of the ASME BPV Code for applicants and licensees implementing the 2017 Edition of the ASME BPV Code or later editions, as incorporated by reference in § 50.55a, as the code of record for their ISI program.

¹ The editions and addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants have had different titles from initial issuance and are referred to as the “OM Code” collectively in this rule.

² See *Federal Register* final rule, “Incorporation by Reference of ASME BPV and OM Code Cases” (68 FR 40469; July 8, 2003).

³ Code cases are categorized by the ASME as one of three types: new, revised, or reaffirmed. A new code case provides for a new alternative to a specific ASME Code provision or addresses a new need. The ASME defines a revised code case to be a revision (modification) to an existing code case to address, for example, technological advancements in examination techniques or to address NRC conditions imposed in one of the RGs that have been incorporated by reference into § 50.55a. The ASME defines “reaffirmed” as an OM Code Case that does not have any change to technical content but includes editorial changes.

As a result of public comments, the NRC added a new condition requiring that these code cases be implemented at the start of a new IST or ISI interval. Implementation of these code cases in the middle of an IST or ISI interval creates complications related to existing testing and examination schedules and alternatives that were approved assuming a 10-year IST or ISI interval. Licensees seeking to apply these code cases in the middle of an IST or ISI interval would need to obtain an exemption under § 50.12.

II. Discussion

A. Incorporation by Reference of Three Regulatory Guides

This final rule incorporates 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 40 supersedes the incorporation by reference of Revision 39; RG 1.147, Revision 21 supersedes the incorporation by reference of Revision 20; and RG 1.192, Revision 5 supersedes the incorporation by reference of Revision 4.

The ASME Code Cases that are the subject of this final rule are the new and revised Section III and Section XI Code Cases as listed in Supplements 2 through 7 to the 2019 Edition of the ASME BPV Code, Supplements 0 through 2 and selected code cases from Supplement 3 to the 2021 Edition of the ASME BPV Code, and the OM Code Cases listed in the 2022 Edition of the ASME OM Code. By letter dated December 22, 2021, ASME requested that the NRC consider including Code Cases N-663-1, N-885-1, and N-921 in this rulemaking. In response, the NRC included these three code cases within the scope of this rulemaking. The NRC is also including OMN-31 within the scope of this rulemaking to provide consistency between the ISI and IST programs.

- RG 1.84, Revision 40, includes new information reviewed by the NRC on the Section III Code Cases listed in Supplements 2 through 7 to the 2019 Edition, and Supplements 0 through 3 to the 2021 Edition of the ASME BPV Code.

- RG 1.147, Revision 21, includes information reviewed by the NRC on the Section XI Code Cases listed in Supplements 2 through 7 to the 2019 Edition, Supplements 0 through 2 to the 2021 Edition, and selected Code Cases from Supplement 3 to the 2021 Edition of the ASME BPV Code.

- RG 1.192, Revision 5, includes information reviewed by the NRC on OM Code Cases listed in the 2022 Edition of the OM Code and on the ASME Codes & Standards (C&S) Connect website.

The ASME publishes code cases that provide alternatives to existing code requirements that the ASME developed and approved. This final rule incorporates 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. In contrast, the ASME publishes BPV Code Cases in a separate document and at a different time than the ASME BPV Code Editions. This final rule identifies the 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 final 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 condition(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 and to update material requirements based on research results). On occasion, an inaccuracy in an equation is discovered or an examination, as practiced, is found inadequate 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 may also 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 version of the code case they originally implemented or they may apply the later version of the code case, including any NRC-specified conditions placed on its use.

Licensees that were using a code case prior to the effective date of its revision 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. Code cases apply to specific editions and addenda, and code cases may be revised if they are no longer accurate or adequate, so licensees choosing to continue using a code case into a later code of record interval (*e.g.*, after updating the edition and addenda) for the ISI or IST program must implement the latest version incorporated by reference into § 50.55a and listed in the RGs.

The ASME may annul code cases that are no longer required, are determined to be inaccurate or inadequate, or have been incorporated into the 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 for a 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 (in the case of an applicant, updates its application) 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.

B. ASME Code Cases Approved for Unconditional Use

The code cases discussed in table II are new, revised, or reaffirmed code cases in which the NRC is not imposing any conditions. The table identifies the regulatory guide listing the applicable code case that the NRC approves for use.

TABLE II—ACCEPTABLE CODE CASES

Boiler and Pressure Vessel Code Section III
(addressed in RG 1.84, Rev. 40, table 1)

Code case No.	Published with supplement	Title
N-351-1 ...	3 (2021 Edition)	Use of Standard Subsize Charpy V-Notch Impact Specimens, Section III, Division 1; Section III, Division 2; Section III, Division 3.
N-893	4 (2019 Edition)	Use of Alloy Steel Bar and Mechanical Tubing in Class 2 and 3 Patented Mechanical Joints and Fittings, Section III, Division 1.
N-900	3 (2019 Edition)	Alternative Rules for Level D Service Limits of Class 1, 2, and 3 Piping Systems, Section III, Division 1.
N-901	4 (2019 Edition)	Use of ASME SA-494 Grade M35-1 for Line Valve Bodies and Bonnets, and Bodies, Bonnets, and Yokes of Pressure Relief Valves for Class 2 and 3 Construction, Section III, Division 1.
N-902	5 (2019 Edition)	Thickness and Gradient Factors for Piping Fatigue Analyses, Section III, Division 1.
N-904	6 (2019 Edition)	Alternative Rules for Simplified Elastic-Plastic Analysis, Section III, Division 1.
N-905	6 (2019 Edition)	Alternate Design Fatigue Curves to Those Given in For Section III Appendices, Mandatory Appendix I, Figures I-9.1 and I-9.1M, Section III, Division 1.
N-908	7 (2019 Edition)	Use of Ferritic/Austenitic Wrought WPS32750/CRS32750 Fittings of Seamless or Welded Construction Conforming to SA-815, Class 3, Section III, Division 1.
N-910	7 (2019 Edition)	Use of 25Cr-7Ni-4Mo-N (Alloy UNS S32750 Austenitic/Ferritic Duplex Stainless Steel) Forgings, Plate, and Welded and Seamless Pipe and Tubing Conforming to SA-182, SA-240, SA-789, or SA-790, Section III, Division 1.
N-919	2 (2021 Edition)	Alternative Fatigue Evaluation Method to Consider Environmental Effects on Class 1 Components Section III, Division 1.
N-920	2 (2021 Edition)	Alternative Fatigue Design Curves for Ferritic Steels With Ultimate Tensile Strengths (UTS) ≤80 ksi (552 MPa) and Austenitic Steels, Section III, Division 1.

Boiler and Pressure Vessel Code Section XI
(addressed in RG 1.147, Rev. 21, table 1)

N-561-4 ...	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and High Energy Class 3 Carbon Steel Piping, Section XI, Division 1.
N-562-4 ...	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1.
N-597-5 ...	0 (2021 Edition)	Evaluation of Pipe Wall Thinning, Section XI, Division 1.
N-638-11	2 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1.
N-661-5 ...	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service Section XI, Division 1.
N-663-1 ...	3 (2021 Edition)	Alternative Requirements for Classes 1 and 2 Surface Examinations, Section XI, Division 1.
N-733-1 ...	6 (2019 Edition)	Mitigation of Flaws in NPS 3 (DN 80) and Smaller Nozzles and Nozzle Partial Penetration Welds in Vessels and Piping by Use of a Mechanical Connection Modification, Section XI, Division 1.
N-780-1 ...	1 (2021 Edition)	Alternative Requirements for Upgrade, Substitution, or Reconfiguration of Examination Equipment When Using Appendix VIII Qualified Ultrasonic Examination Systems, Section XI, Division 1.
N-786-4 ...	0 (2021 Edition)	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1.
N-789-5 ...	1 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1.
N-809-1 ...	0 (2021 Edition)	Reference Fatigue Crack Growth Rate Curves for Austenitic Stainless Steels in Pressurized Reactor Water Environments, Section XI, Division 1.
N-853-1 ...	0 (2021 Edition)	PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1.
N-865-2 ...	0 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Atmospheric Storage Tanks, Section XI, Division 1.
N-877-1 ...	5 (2019 Edition)	Alternative Characterization Rules for Multiple Subsurface Radially Oriented Planar Flaws, Section XI, Division 1.
N-882-1 ...	0 (2021 Edition)	Alternative Requirements for Attaching Nonstructural Electrical Connections to Class 2 and 3 Components, Section XI, Division 1.

TABLE II—ACCEPTABLE CODE CASES—Continued

Boiler and Pressure Vessel Code Section III (addressed in RG 1.84, Rev. 40, table 1)		
Code case No.	Published with supplement	Title
N-885-1 ...	3 (2021 Edition)	Alternative Requirements for Table IWB-2500-1, Examination Category B-N-1, Interior of Reactor Vessel, Category B-N-2, Welded Core Support Structures and Interior Attachments to Reactor Vessels, Category BN-3, Removable Core Support Structures, Section XI, Division 1.
N-888	5 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature SMAW or Machine GTAW Temper Bead Technique, Section XI, Division 1.
N-896	2 (2019 Edition)	Reference Crack Growth Rate Curves for Stress Corrosion Cracking of Low Alloy Steels in Boiling Water Reactor Environments, Section XI, Division 1.
N-911	0 (2021 Edition)	Purchase, Exchange, or Transfer of Material Between Nuclear Owners, Section XI, Division 1.
N-912	0 (2021 Edition)	Alternative Requirements for Qualification of Material Suppliers and Acceptance of Materials, Section XI, Division 1.
N-913	0 (2021 Edition)	Alternative Examination Requirements for Class 1 Pressure-Retaining Welds in Control Rod Drive Housings, Section XI, Division 1.
N-917	2 (2021 Edition)	Fatigue Crack Growth Rate Curves for Ferritic Steels in Boiling Water Reactor (BWR) Environments, Section XI, Division 1.

Operation and Maintenance Code
(addressed in RG 1.192, Rev. 5, table 1)

Code case	Most recent code edition ⁴	Title
OMN-28 ...	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation.
OMN-29 ...	2022 Edition	Pump Condition Monitoring Program.
OMN-30 ...	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700.

C. ASME Code Cases 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 to provide an acceptable level of quality

and safety. Accordingly, the NRC imposed conditions on the use of these code cases to modify, limit, or clarify their requirements. The conditions 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 RG 1.84, RG 1.147, and RG 1.192. This section provides the NRC's evaluation of the code cases and the reasons for the NRC's conditions. Notations indicate the conditions duplicated from previous versions of the RG.

TABLE III—CONDITIONALLY ACCEPTABLE CODE CASES

Boiler and Pressure Vessel Code Section III (addressed in RG 1.84, Rev. 40, table 2)		
Code case No.	Published with supplement	Title
N-71-21 ...	0 (2021 Edition)	Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1.
N-570-3 ...	0 (2021 Edition)	Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1.

Boiler and Pressure Vessel Code Section XI
(addressed in RG 1.147, Rev. 21, table 2)

N-711-2 ...	6 (2019 Edition)	Alternative Examination Coverage Requirements for Examination Category B F, B J, C-F-1, C-F-2, and R-A Piping Welds, Section XI, Division 1.
N-716-3 ...	5 (2019 Edition)	Alternative Classification and Examination Requirements, Section XI, Division 1.
N-754-2 ...	0 (2021 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1.
N-766-4 ...	0 (2021 Edition)	Nickel Alloy Reactor Coolant Inlay and Onlay for Mitigation of PWR Full Penetration Circumferential Nickel Alloy Dissimilar Metal Welds in Class 1 Items, Section XI, Division 1.
N-847-1 ...	0 (2021 Edition)	Partial Excavation and Deposition of Weld Metal for Mitigation of Class 1 Items, Section XI, Division 1.
N-880-1 ...	0 (2021 Edition)	Alternative to Procurement Requirements of IWA-4143 for Nonstandard Welded Fittings, Section XI, Division 1.

⁴ Each code case or ASME Applicability Index List indicates the ASME OM Code editions and addenda to which the code case applies, except

where a condition is specified in § 50.55a or RG 1.192 related to technical content or applicability.

This table indicates the latest OM Code edition at the time of this rulemaking.

TABLE III—CONDITIONALLY ACCEPTABLE CODE CASES—Continued

Boiler and Pressure Vessel Code Section III (addressed in RG 1.84, Rev. 40, table 2)		
Code case No.	Published with supplement	Title
N-899	3 (2019 Edition)	Weld Residual Stress Distributions for Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082, UNS W86182, UNS N06052, or UNS W86152 Weld Filler Material, Section XI, Division 1.
N-906	7 (2019 Edition)	Flaw Evaluation Procedure for Cast Austenitic Stainless Steel Piping and Adjacent Fittings, Section XI, Division 1.
N-921	3 (2021 Edition)	Alternative 12-yr Inspection Interval Duration, Section XI, Division 1.
Operation and Maintenance Code (addressed in RG 1.192, Rev. 5, table 2)		
Code case No.	Most recent OM code edition ⁵	Title
OMN-31 ...	2022 Edition	Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years.

ASME BPV Code, Section III Code Cases (RG 1.84)

Code Case N-71-21 [Supplement 0, 2021 Edition]

Type: Revised

Title: Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1

The conditions on Code Case N-71-21 are the same as the conditions on N-71-20 that were approved by the NRC in Revision 39 of RG 1.84. When the ASME revised N-71, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the condition is retained in Revision 40 of RG 1.84.

Code Case N-570-3 [Supplement 0, 2021 Edition]

Type: Revised

Title: Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1

Code Case N-570-3 updated references made to ANSI/AISC N690-1994 and ANSI/AISC N690-1994 (R2004) Supplement 2 with ANSI/AISC N690-18. A difference between ANSI/AISC N690-18 and ANSI/AISC N690-1994 (R2004) is that ANSI/AISC N690-18 allows the use of the Load and Resistance Factor Design (LRFD) method or the Allowable Strength

Design (ASD) method, versus the allowable stress design method or plastic design method contained in the ANSI/AISC N690-1994 (R2004) edition. Code Case N-570-2 explicitly stated in paragraph 3.11, that the plastic design method in part 2 of ANSI/AISC N690-1994 (R2004) shall not be used. It is the NRC's understanding that the alternative requirements of Code Case N-570-3 for design are also intended to be limited to the design for strength using the ASD method of ANSI/AISC N690-18, which is similar to the allowable stress design method used in N-570-2; however, the code case does not include such explicit qualifiers regarding the use of ANSI/AISC N690-18. The alternative requirements for design in Code Case N-570-3 would be limited to the design for strength using the ASD method of ANSI/AISC N690-18. To provide clarity, the NRC is imposing a condition: "This Code Case shall not be used with the Load and Resistance Factor Design method of ANSI/AISC N690-18."

ASME BPV Code, Section XI Code Cases (RG 1.147)

Code Case N-711-2 [Supplement 6, 2019 Edition]

Type: Revised

Title: Alternative Examination Coverage Requirements for Examination Category B-F, B-J, C-F-1, C-F-2, and R-A Piping Welds, Section XI, Division 1

The condition on Code Case N-711-2 is identical to the condition on N-711-1 that was approved by the NRC in Revision 20 of RG 1.147. When the ASME revised N-711, the code case was not modified in a way that would make it possible for the NRC to remove the

condition. Therefore, the condition is retained in Revision 21 of RG 1.147.

Code Case N-716-3 [Supplement 5, 2019 Edition]

Type: Revised

Title: Alternative Classification and Examination Requirements, Section XI, Division 1

Code Case N-716 provides rules for alternative classification and examination requirements for piping welds and components. Revision 3 to Code Case N-716 removes the provision for plants issued an operating license after January 1, 2012, to submit the application of this code case for regulatory approval. The NRC is cognizant of the ASME Code's desire to eliminate the provision for newly constructed plants to submit first time applications of N-716 to the NRC. ASME adopted a general policy to make ASME standards, including this code case, more generally applicable internationally. However, the NRC's opinion is that the new designs may introduce additional variables, which in the absence of substantial operating experience with these new plants, may introduce uncertainty on the applicability of this code case to the new plants. Hence, the NRC has determined there is a need to review the initial proposals for new plants for applications of N-716. The review would confirm the absence of new degradation mechanisms and evaluate any available operating experience, as well as any risk-related information for the new plants, prior to the initial application of the code case to new plants. Therefore, the NRC is imposing a condition that this code case is not approved for use by plants issued an

⁵ Each code case or ASME Applicability Index List indicates the ASME OM Code editions and addenda to which the code case applies, except where a condition is specified in § 50.55a or RG 1.192 related to technical content or applicability. This table indicates the latest OM Code edition at the time of this rulemaking. Conditions specified for other OM Code Cases listed in Table 2 of RG 1.192 have not changed in this rulemaking other than updating to the latest OM Code edition.

operating license or combined license after January 1, 2012. However, plants issued an operating license or combined license after January 1, 2012, may submit an alternative to use this code case in accordance with § 50.55a(z) for review and approval prior to implementation.

Code Case N-754-2 [Supplement 0, 2021 Edition]

Type: Revised

Title: Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1

The NRC is revising the conditions on N-754-1 to remove the reference to the NRC's safety evaluation for the topical report "Materials Reliability Program (MRP): Technical Basis for Preemptive Weld Overlays for Alloy 82/182 Butt Welds in PWRs" (MRP-169) and to clarify the examination requirements.

The first condition deals with the use of this code case on a pipe that implements NRC-approved leak-before-break (LBB) methodology. The application of the LBB concept to a pipe is that if a flaw develops in a pipe with certain favorable material properties, the pipe will most likely leak first before it fails catastrophically. The existing leakage detection system in the nuclear plant will detect the leakage and alert the operator. The operator would have sufficient time to shut down the plant safely to perform corrective actions. The NRC has approved LBB for certain Class 1 reactor coolant system piping in pressurized water reactor plants based on the plant-specific and piping-specific LBB analysis, which shows that the probability of the piping rupture is extremely low under conditions consistent with the design basis for the piping as required in General Design Criterion 4 of 10 CFR part 50, appendix A. The LBB methodology and analysis, including specific safety margins, are reviewed and approved via the license amendment process. The LBB implementation is documented in the plant final safety analysis report. When an optimized weld overlay is installed onto pipes that are approved for LBB, the licensee must verify that the safety margins specified in the original LBB analysis are still satisfied.

The second condition states that the preservice and inservice examinations of the overlaid pipe using this code case must be performed in accordance with § 50.55a(g)(6)(ii)(F). Paragraph 3(c) of N-754-2 states that "In lieu of all other Preservice and Inservice inspection requirements, the examination requirements in accordance with N-770-2 (or later in accordance with

[Paragraph] 5) shall be met. Alternately, the requirements of [subparagraphs] (1) through (3) below may be used to modify the provisions of N-770-2 (or later in accordance with [Paragraph] 5)." As stated, if the inspection of the overlaid pipe performed in accordance with N-770-2 cannot be met or performed, alternatives of paragraphs 3(c)(1), 3(c)(2) and 3(c)(3) of N-754-2 could be used. The NRC identified the following issues regarding the statement in paragraph 3(c):

- Paragraphs 3(c)(2) and 3(c)(3) of N-754-2 are related to the design and analysis, not the inspection of the overlaid pipe. Therefore, it is not clear how these two paragraphs can be used to modify the inspection provisions of N-770-5.

- The inspection provisions of paragraph 3(c)(1) can be different from the provisions of Note 14, Preservice Inspection for Optimized Weld Overlays, and Note 18, Inservice Inspection of Optimized Weld Overlays, of table 1 of N-770. The NRC notes that 10 CFR 50.55a(g)(6)(ii)(F) mandates the use of N-770, as conditioned, for the examination requirements for optimized weld overlays in dissimilar metal butt welds. Therefore, for regulatory clarity regarding preservice and inservice inspection requirements, the condition is provided.

- Section 50.55a(g)(6)(ii)(F) mandates the implementation of N-770-5, rather than N-770-2.

Therefore, the NRC is imposing this condition to clarify the examination requirements in Paragraph 3 of N-754-2 and to ensure that N-770-5 is implemented as required by § 50.55a(g)(6)(ii)(F).

Code Case N-766-4 [Supplement 0, 2021 Edition]

Type: Revised

Title: Nickel Alloy Reactor Coolant Inlay and Onlay for Mitigation of PWR Full Penetration Circumferential Nickel Alloy Dissimilar Metal Welds in Class 1 Items, Section XI, Division 1

The conditions on Code Case N-766-4 are identical to the conditions on N-766-3 that were approved by the NRC in the previous revision of RG 1.147. When the ASME revised N-766, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions are retained in Revision 21 of RG 1.147.

Code Case N-847-1 [Supplement 0, 2021 Edition]

Type: Revised

Title: Partial Excavation and Deposition of Weld Metal for Mitigation of Class 1 Items, Section XI, Division 1

The conditions on Code Case N-847-1 are identical to the conditions on N-847 that were approved by the NRC in the previous revision of RG 1.147. When the ASME revised N-847, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions are retained in Revision 21 of RG 1.147.

Code Case N-880-1 [Supplement 0, 2021 Edition]

Type: Revised

Title: Alternative to Procurement Requirements of IWA-4143 for Nonstandard Welded Fittings, Section XI, Division 1

Code Case N-880-1 removes the size limitation in N-880 by eliminating the NPS 2 size limit. The NRC does not agree with removing the small size limitation (NPS 2 and under). The NRC is imposing a condition to continue to limit the scope of the code case to NPS 2 (DN 50) or smaller fittings because there is insufficient technical basis to expand the application to items larger than NPS 2 (DN 50). The only justification provided for this change was that it is an arbitrary limitation. However, the limitation to NPS 2 (DN 50) and under was based on the capacity of the reactor coolant makeup system being able to safely shutdown the plant if these fittings fail, and therefore, is not an arbitrary limitation.

Without a condition, approval of the code case would allow the use of these non-standard or specialized fittings in any Class 1, 2, and 3 systems, including the reactor coolant makeup system. Therefore, the failure of these fittings, which lack operating experience to demonstrate their reliability, could also affect the reactor coolant makeup system's ability to provide sufficient makeup capacity. Therefore, the NRC is imposing a new condition to limit the use of Code Case N-880-1 to NPS 2 (DN 50) or smaller fittings.

Conditions 2 and 3 are identical to the conditions on N-880 that were approved by the NRC in a previous revision of RG 1.147. When the ASME revised N-880, the code case was not modified in a way that would make it possible for the NRC to remove Conditions 2 and 3. Therefore, those conditions are retained in Revision 21 of RG 1.147.

Code Case N-899 [Supplement 3, 2019 Edition]

Type: New

Title: Weld Residual Stress Distributions for Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082, UNS W86182, UNS N06052, or UNS W86152 Weld Filler Material, Section XI, Division 1

Code Case N-899 provides an alternative method for calculating the values of weld residual stress as a function of distance through the wall thickness for dissimilar metal butt welds in the reactor coolant pressure boundary. The NRC notes that Code Case N-899 may be used in conjunction with methodologies similar to those in Section XI, Nonmandatory Appendix A, Article A-3000 to calculate the crack tip stress intensity factor, K_I , for inside surface connected flaws in piping or vessel nozzle butt welds fabricated with UNS N06082, UNS W86182, UNS N06052, or UNS W86152 weld filler material.

In many cases, plants do not have information on the actual repairs performed to Alloy 82/182 butt welds. However, operating experience and records indicate that repairs were common, including some welds being repaired multiple times. Weld repairs generally cause the weld residual stress to become more severe. Given the uncertainty in whether a weld repair exists or not, the NRC has generally found that it is appropriate to assume that a repair is present for the purposes of flaw evaluation. Therefore, consistent with the established NRC position for the weld residual stress distribution analysis for the subject welds of this code case, the inside surface repair residual stress distributions of Code Case N-899 are acceptable for use provided all known and documented repairs are bounded by the 50-percent through wall repair assumed in the case. Based on the above discussion, the NRC is imposing the condition that only the standard weld residual stress distributions with repairs in paragraphs -2331 and -2332 would be approved for use and only if they bound all known or documented repairs previously performed on the subject weld.

Similarly, the NRC also notes that when Paragraph -3000, "Calculation of Residual Stress Using Finite Element Analysis," is applied as an option to use finite element analysis to calculate weld residual stress distributions, the weld residual stress analysis should incorporate a minimum of a 50 percent through-wall inside surface connected weld repair as part of the analysis. This is consistent with the NRC position on repairs and weld residual stress calculations stated above. If documentation of a repair is found or a

previous repair is known, the weld residual stress analysis must be evaluated to determine if it is bounded by the 50-percent repair by modeling or flaw evaluation. The more conservative of either 50-percent repair assumption or the combination of all known previous repairs should be used in the development of the weld residual stress distribution. Therefore, the NRC is imposing the following condition: when developing a plant specific weld residual stress distribution, the finite element analysis calculation of the weld residual stress distribution must use the more bounding of either an assumed previous inside surface repair of 50 percent through-wall or the combination of all known or documented previous repairs.

Code Case N-906 [Supplement 7, 2019 Edition]

Type: New

Title: Flaw Evaluation Procedure for Cast Austenitic Stainless Steel Piping and Adjacent Fittings, Section XI, Division 1

Code Case N-906 provides a flaw evaluation procedure for cast austenitic stainless steel piping and fittings adjacent to girth welds as alternatives to the methods in Nonmandatory Appendix C, C-4210 and C-6330. Paragraph 1(b) of Code Case N-906 states that the provisions of this Case shall be applied to operating temperatures of 500 °F to 625 °F (260 °C to 330 °C). The paragraph also states that, if a thermal transient below this range of temperatures occurs at the flaw location, the appropriate toughness, J_c , at the minimum transient temperature shall be used along with the applied stresses at that minimum transient temperature. Accordingly, if a thermal transient occurs below the specified temperature range, the code case requires that the flaw evaluation use the fracture toughness and applied stresses at the minimum transient temperature.

However, the limiting fracture toughness and relevant applied stress for the flaw under the thermal transient may not be those at the minimum transient temperature. For example, Figure 32 of NUREG/CR-4513, Revision 2, "Estimation of Fracture Toughness of Cast Stainless Steels during Thermal Aging in LWR Systems," shows that the fracture toughness of a cast austenitic stainless steel material at room temperature may be higher than that at an elevated temperature. Therefore, the NRC is imposing a condition to delete the reference to the minimum transient temperature that is associated with the appropriate fracture toughness and applied stresses for the flaw evaluation.

The condition also clarifies that the flaw evaluation must use the fracture toughness and applied stresses that are limiting for the flaw.

Code Case N-921 [Supplement 3, 2021 Edition]

Type: New

Title: Alternative 12-Year Inspection Interval Duration, Section XI, Division 1

Code Case N-921 increases the inservice inspection interval defined in Section XI, IWA-2400 from 10 years to 12 years. Section XI, IWA-2400 requires that licensees have an inservice inspection program that includes, for example, inspection plans, inservice inspection interval dates, and identification of code cases to be applied during the interval. While IWA-2400 requires that licensees specify the edition or addenda of Section XI that will be applied during the interval, Section XI does not prescribe what constitutes an appropriate edition or addenda. In fact, IWA-2410 states that edition or addenda is "as required by the regulatory authority having jurisdiction at the plant site." The regulation at § 50.55a(g)(4)(ii) determines which edition or addenda the licensee should apply to inservice inspection programs for a successive ISI interval. This regulation, along with the definitions in § 50.55a(y), assumes a 10-year inservice inspection interval, unless the licensee's code of record is the 2017 Edition of ASME BPV Section XI or later.

A licensee applying this code case is, therefore, required by § 50.55a(4)(g)(ii) to update the code of record every 10 years. The inservice inspection interval and the code of record update interval should be synchronized to promote order and predictability in licensee inservice inspection programs.

The proposed rule applied the flexibilities of this code case to licensees using the 2019 Edition of Section XI or later. However, in response to multiple commenters, the NRC performed an analysis between the 2019 Edition of Section XI and the 2017 Edition of Section XI and determined that no safety significant changes exist between the two editions. Because no safety significant changes were identified between the 2019 and 2017 editions, the NRC concluded that it would be appropriate to extend the flexibility to licensees on the 2017 Edition.

In response to a comment, the NRC is adding a requirement that licensees implement Code Case N-921 only at the beginning of an ISI interval. For licensees already using the 2017 Edition, or later, of Section XI,

implementation of Code Case N-921 must wait until the start of the next ISI interval. There are complications associated with extending the ISI interval mid-interval. For instance, licensees wanting to extend the ISI interval mid-interval would need to evaluate all NRC-approved alternatives to determine if they should be resubmitted, especially considering that NRC may have granted the alternative assuming a 10-year ISI interval. See Section II.F, "Mid-Interval Discussion and Example," for a more detailed discussion of performing mid-interval updates. Further, Code Case N-921 specifies requirements in terms of three 4-year periods, so licensees would need to reconcile their inspection schedules accordingly. Therefore, this final rule specifies that Code Case N-921 can only be implemented following a routine update of the ISI program (*i.e.*, cannot be implemented mid-interval) and requires the licensee's ISI code of record to be the 2017 Edition, or later, of the BPV Code.

In response to a public comment, the NRC added a condition on Code Case N-921 to allow the exceptions described in Section XI, IWB-2411(a), IWC-2411(a), and IWD-2411(a). These provisions provide exceptions to the inspection period requirements of tables IWB-2411-1, IWC-2411-1, and IWD-2411-1, respectively. These exceptions, which are in the Code provisions applicable to this alternative, were left out of the code case. The NRC approved these exceptions in the original code provisions through incorporation by reference of ASME BPV Code Section XI, without conditions. Therefore, the NRC agreed with the commenter and added a condition that the same exceptions of IWB-2411(a), IWC-2411(a), and IWD-2411(a) should apply to table 1 of Code Case N-921.

In response to a public comment, the NRC added a condition on Code Case N-921 that the code case cannot be used to modify examination schedules for augmented inspections under § 50.55a(g)(6)(ii). Code Case N-921 only provides alternative to Section XI requirements, not NRC regulations. Licensees must continue implementing the augmented inspections as specified in § 50.55a(g)(6)(ii) and the associated code cases. The NRC staff intends to continue participating in ASME Code committee discussions on this matter. The NRC may revisit the relationship between Code Case N-921 and the augmented inspection program in a future rulemaking.

ASME Operation and Maintenance Code Cases (RG 1.192)

Code Case OMN-31 [2022 Edition]

Type: New

Title: Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years

For the same reasons explained for Section XI Code Case N-921 above, including the response to public comments, the NRC is restricting the use of OMN-31 to licensees implementing the ASME OM Code, 2017 Edition, or later, as the code of record for the IST Program, as well as imposing a condition that licensees may only begin implementing Code Case OMN-31 at the beginning of an IST interval as specified in ASME OM Code, paragraph ISTA-3120. See Section II.F, "Mid-Interval Discussion and Example," for a more detailed discussion of performing mid-interval updates.

As indicated in RG 1.192, this OM Code Case may be applied by licensees implementing the 2017 Edition, or later, of the ASME OM Code incorporated by reference in § 50.55a, as the code of record for the IST Program, contrary to the ASME OM Code Case Applicability Index, dated July 1, 2022. The NRC is also imposing a condition that licensees may only begin implementing Code Case OMN-31 at the beginning of an IST interval as specified in ASME OM Code, paragraph ISTA-3120.

Other OM Code Cases in Table 2 of Revision 5 to RG 1.192

No changes were made to the OM Code Cases listed in table 2 of the Revision 5 to RG 1.192 (except for new Code Case OMN-31, discussed previously) from the versions that were listed in OM Code Cases listed in table 2 of Revision 4 to RG 1.192. Therefore, the conditions on the OM Code Cases listed in table 2 of the Revision 5 to RG 1.192 (except for new Code Case OMN-31) are identical to the conditions on those OM Code Cases that were approved by the NRC in Revision 4 of RG 1.192. The OM Code Cases listed in table 2 of the Revision 5 to RG 1.192 were re-affirmed by the ASME for the 2022 Edition of the OM Code with no change to those OM Code Cases. Therefore, the conditions on the OM Code Cases in table 2 are retained in Revision 5 of RG 1.192.

D. ASME Code Cases Not Approved for Use (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. Regulatory Guide 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.

E. Revision to Code of Record Update Requirements

Nuclear power plant licensees maintain their IST and ISI programs, respectively, in accordance with the requirements of the ASME OM Code and ASME BPV Code, Section XI, as incorporated by reference in § 50.55a. The initial concept of a 10-year ISI interval first appeared in the 1970 Edition of the ASME BPV Code, Section XI, in paragraph IS-240. This 10-year interval (referred to as the ISI interval) is only related to ASME ISI requirements. There is a corresponding 10-year IST interval for the OM Code requirements.

Later, in a final rule published in February 1976 (41 FR 6256), the NRC revised § 50.55a to require IST code of record updates every 20 months and ISI code of record updates every 40 months. This requirement was (and still is) independent from the ISI and IST intervals defined by the respective codes. In the early years of the development of ISI and IST programmatic requirements, the NRC requirement to update the codes of record was not synchronized with the ASME concept of an IST or ISI interval. In January 1979 (44 FR 3719), the NRC proposed changes to § 50.55a to extend the 20- and 40-month update intervals to 120 months (10 years), to promote consistency with the 10-year interval in the ASME codes. The corresponding final rule was published in October 1979 (44 FR 57912).

Paragraph IWA-2420 of the 1989 Edition and later of ASME BPV Code, Section XI, requires that nuclear plant owners prepare inspection plans and schedules for each ISI interval. These plans should include a listing of all code cases to be applied during the ISI interval and alternatives authorized under § 50.55a(z). The revision to § 50.55a in this rulemaking does not alter those requirements. In defining the inspection program, paragraph IWA-2410 of ASME BPV Code, Section XI,

states, “The Code Edition and Addenda for preservice inspection and for initial and successive inservice inspection intervals shall be as required by the regulatory authority having jurisdiction at the plant site.” Therefore, while ASME BPV Code, Section XI, requires plant owners to declare which edition of Section XI will be applied during each ISI interval, the code does not specify what constitutes an appropriate edition of Section XI.

Similarly, Paragraph ISTA–3110, “Test and Examination Plans,” in the 2020 Edition of the ASME OM Code requires that nuclear plant owners prepare test plans for the preservice test period, initial IST intervals, and subsequent IST intervals. These plans should include a listing of all code cases to be applied during the IST interval, relief granted under § 50.55a(f), and alternatives authorized under § 50.55a(z). Paragraph ISTA–3110 requires in subparagraph (a) that each IST plan shall include “the edition and addenda of this Section that apply to the required tests and examinations.” Therefore, while the ASME OM Code requires nuclear power plant owners to declare which edition and addenda of the OM Code will be applied during each IST interval, the OM Code does not specify what constitutes an appropriate edition and addenda of the OM Code.

Therefore, neither ASME BPV Code, Section XI nor the OM Code specify which edition to use. Rather, the NRC’s regulations in § 50.55a determine the appropriate edition and addenda of the ASME BPV Code, Section XI or OM Code to be applied in each ISI or IST interval, respectively. The changes to these code of record requirements in this rulemaking are focused on that aspect alone.

The NRC does not intend the extension of the code of record interval to affect the orderly implementation of IST and ISI programs. Therefore, the final rule is designed to synchronize the requirements of ASME Codes and § 50.55a as much as possible. For licensees with codes of record prior to ASME BPV Code, Section XI, 2017 Edition, and OM Code, 2017 Edition, as incorporated by reference in § 50.55a, the final rule specifies that the code of record interval for the ISI and IST programs shall be the same as the ISI interval or IST interval. This is consistent with the current requirements. For licensees with codes of record of ASME BPV Code, Section XI, 2017 Edition, or later editions and addenda, and ASME OM Code, 2017 Edition, or later editions, as incorporated by reference in § 50.55a, the final rule specifies that the code of

record interval for the ISI and IST programs is two consecutive ISI or IST intervals, respectively.

With this revised requirement to update the code of record, the NRC does not intend that the code of record interval for an IST or ISI program will exceed 25 years, even if ASME extends the IST interval or the ISI interval beyond 12 years in the ASME OM Code or the ASME BPV Code, respectively. The 25-year maximum code of record interval allows the same code of record to be used for two consecutive ISI or IST intervals, each up to 12 years, plus the one-time, 1-year extension for IST and ISI programs as specified in the ASME OM Code and ASME BPV Code, respectively. The Commission has not approved extending the code of record intervals beyond the 25-year maximum in this rulemaking. If future editions of the ASME OM Code or ASME BPV Code or future code cases extend the IST interval or ISI interval, respectively, beyond 12 years, the NRC would need to maintain the 25-year maximum code of record interval.

In response to public comments, the NRC does not intend for licensees with codes of record of ASME BPV Code, Section XI, 2017 Edition, or later editions and addenda, and ASME OM Code, 2017 Edition, or later editions, as incorporated by reference into § 50.55a, to be required to maintain the same code of record for the two consecutive ASME intervals. Accordingly, the NRC modified § 50.55a(f)(4)(iv) and (g)(4)(iv) to ensure that licensees and applicants maintain the ability to update their code of record at the end of each ASME interval without NRC approval. These licensees also may implement the extended code of record interval immediately when the rule becomes effective. The code of record interval for these licensees, per the definitions in § 50.55a(y), is two consecutive IST or ISI intervals (not 20 or 24 years). Therefore, these licensees may update their code of record either at the end of the current IST or ISI interval or at the end of the subsequent IST or ISI interval.

The concept of a 120-month interval is referenced repeatedly in § 50.55a. However, the current language is not consistent or well-defined. As such, the NRC provided clarifying language by introducing certain definitions in § 50.55a(y). The definitions include IST code of record, ISI code of record, code of record interval, IST interval, ISI program, IST program, and ISI interval. The NRC updated the language throughout § 50.55a to be consistent with the definitions.

The NRC requested feedback on the proposed definitions and if more

definitions were warranted. In general, commenters supported the proposed definitions. One commenter recommended that the definition for code of record be two specific definitions (IST code of record and ISI code of record) and requested that the NRC determine where the snubber program should be discussed. As a response to these specific comments, the NRC is providing two definitions for code of record: IST code of record and ISI code of record. Also, the NRC modified the IST code of record definition to include the snubber program.

In the 2006 Addenda of the ASME BPV Code, Section XI, ASME moved the requirements for snubbers to Subsection ISTD, “Preservice and Inservice Requirements for Dynamic Restraints (Snubbers) in Water-Cooled Reactor Nuclear Power Plants,” of the OM Code. Inservice examination, testing, and service life monitoring of dynamic restraints (snubbers) must meet the inservice examination and testing requirements set forth in the applicable ASME OM Code or ASME BPV Code, Section XI, as specified in § 50.55a(b)(3)(v)(A) and (B). When using the 2006 Addenda or later of the ASME BPV Code, Section XI, the inservice examination, testing, and service life monitoring requirements for dynamic restraints (snubbers) must meet the requirements set forth in the applicable ASME OM Code as specified in § 50.55a(b)(3)(v)(B). When using the 2005 Addenda or earlier edition or addenda of the ASME BPV Code, Section XI, ASME OM Code, 1995 Edition through latest edition and addenda may be used for the inservice examination, testing, and service life monitoring requirements for dynamic restraints (snubbers), in place of the requirements of the applicable ASME BPV Code, Section XI, as specified in § 50.55a(b)(3)(v). Nuclear power plant licensees are transitioning to the 2006 Addenda and later editions of the ASME OM Code at their next IST Code of Record update. Licensees are encouraged to discuss their plans regarding the snubber programs with their NRC project manager when preparing to implement IST programs with extended intervals.

With respect to relief from impractical IST requirements as requested in accordance with § 50.55a(f)(5)(iv), neither the rulemaking language regarding the code of record interval nor application of Code Cases OMN–31 or N–921 extend the approval timeframe for previously granted relief requests. At the end of the Inservice Examination and Test Interval, the licensee would

reassess whether the IST requirement continues to be impractical and submit an updated relief request as necessary. The NRC is implementing similar revisions for the ISI requirements in § 50.55a(g)(5)(iii) and (iv).

With respect to alternative requests in accordance with § 50.55a(z), the NRC will address the duration of each new authorized alternative in the safety evaluation, describing its review of the request consistent with the current procedures for evaluating alternative requests. Existing NRC-approved alternatives were likely authorized based on the IST or ISI interval. Neither the rulemaking language regarding the code of record interval nor application of Code Cases OMN-31 or N-921 extend the approval timeframe for existing alternatives. Licensees should refer to the NRC safety evaluation to determine the timeframe for which the alternative is authorized and resubmit the request in an appropriate timeframe to maintain compliance with IST and ISI requirements. Licensees may request future alternatives based upon the code of record interval.

In addition, the NRC updated references to the 10-year service period in appendix J to 10 CFR part 50 to be consistent with the definitions in § 50.55a(y), in which the NRC is allowing the ISI period to be extended to 12 years. The current rules for Type A tests under Option A (prescriptive requirements) explicitly reference the 10-year service period required in § 50.55a for inservice inspections. Consistent with the NRC's stated goal of maintaining consistency across all NRC rules regarding ISI and IST programs, the NRC is revising appendix J to directly reference the interval defined in 10 CFR 50.55a, to accommodate a 12-year ISI interval. For the reasons stated in SECY-22-0075, the NRC made this revision without changing the intent or basis for the Type A test requirement in appendix J.

Licensees are currently required to submit various documents, such as IST plans and schedules or Section XI flaw evaluations, to the NRC each IST or ISI interval. The language in this rulemaking regarding the code of record intervals does not alter those submittal requirements in any way. Therefore, licensees should carefully distinguish requirements that apply to the code of record interval from those that apply to the IST or ISI interval. For example, § 50.55a(f)(7) requires IST plans to be submitted within 90 days of their implementation for the applicable 120-month IST program interval. This rule would revise the terms used in paragraph (f)(7) for consistency with the

new definitions, but submittal of IST plans would still be required within 90 days of their implementation for the applicable IST interval.

F. Mid-Interval Discussion and Example

The NRC recognizes that a licensee might consider updating its code of record for the ISI/IST program to a more recent Code edition (such as 2017 Edition or later) during an ISI/IST interval to take advantage of the allowance in the rule to double the code of record interval. Similarly, a licensee might consider implementing Code Case N-921 during an ISI interval or Code Case OMN-31 during an IST interval. The staff notes that complications may arise because of reconciling Section XI and OM Code requirements and requests that were granted or authorized for a 10-year ISI/IST interval relative to the edition previously specified in the licensee's ISI/IST program. The NRC will review mid-interval requests by licensees to update to a more recent edition of the ASME Code as the new code of record for the ISI/IST program per the existing process described in 10 CFR 50.55a(g)(4)(iv) or 50.55a(f)(4)(iv) and Regulatory Issue Summary 2004-12. Licensees making such requests should evaluate the impact of updating the code of record on their ISI/IST program, including the completed ISI/IST activities and planned ISI/IST activities. Licensees should review previously authorized alternatives under 10 CFR 50.55a(z) and determine if they need to be resubmitted because of the specific duration specified in the request and authorization. The licensee should also review any previously granted relief requests for their duration and the need for resubmittal, as applicable. If such reviews and approvals are completed, licensees may take advantage of the extended code of record interval afforded by the rule.

The staff notes that the code of record interval is defined as two consecutive ISI/IST Intervals (rather than 20 or 24 years). A licensee that updates the code of record during an ISI/IST interval would be able to maintain the same code of record for the remainder of the current ISI/IST interval and the entirety of the subsequent ISI/IST interval. At the end of the subsequent ISI/IST interval, however, the licensee must update its code of record, since two consecutive ISI/IST intervals have passed. For example, a licensee begins a new ISI/IST interval in January 2020. In 2025, the licensee requests to implement the 2017 edition of ASME BPV Code Section XI or OM Code under 10 CFR 50.55a(g)(4)(iv) or (f)(4)(iv). If the NRC approves the request, the ISI/

IST interval would end in January 2030 (*i.e.*, 10 years from January 2020 when the ISI/IST interval began), while the code of record interval would extend to 2040. If the licensee chooses to implement Code Case N-921 or OMN-31 in January 2030, the ISI/IST interval and the code of record interval would extend to 2042.

Upon the effective date of this final rule, a licensee already implementing the 2017 Edition, or later edition, of the ASME Code for the ISI/IST program would continue with its ongoing 10-year ISI/IST interval with the 2017 Edition, or later edition, as the code of record for the ISI/IST program. At the end of the ongoing 10-year ISI/IST interval, the licensee would assess the ISI/IST program as required in the ASME Code, including the need to resubmit requests for alternatives or relief that expired at the end of the 10-year ISI/IST interval. At that time, the licensee could remain on the same Code edition as the code of record for the subsequent ISI/IST interval, and NRC approval would not be required to do so. At the end of that ISI/IST interval, the licensee would update its code of record to the latest Code edition incorporated by reference in 10 CFR 50.55a 18 months before the beginning date of the next ISI/IST interval and submit any alternative or relief requests for the next ISI/IST interval.

III. Opportunities for Public Participation

The proposed rule was published in the **Federal Register** on March 6, 2023 (88 FR 13717) for a 60-day comment period ending May 5, 2023. On May 3, 2023, the NRC published notification in the **Federal Register** (88 FR 27712) extending the public comment period by an additional 42 days to end on June 16, 2023. The NRC held a public meeting on March 20, 2023, and developed a public meeting summary (ML23083B303).

IV. Public Comment Analysis

The NRC published the proposed rule and noticed the draft regulatory guides for public comment in the **Federal Register**. The NRC received 13 comment submissions. A *comment submission* is a communication or document submitted to the NRC by an individual or entity, with one or more individual comments addressing a subject or issue. Private citizens provided two comment submissions, nuclear industry organizations provided seven comment submissions, business/trade associations provided three comment submissions, and one comment

submission was submitted anonymously.

The comment submissions generally addressed the code cases and their proposed conditions. Many of the comments objected to the proposed conditions for Code Case N-921 (five comments), Code Case OMN-31 (three comments), and the rule language associated with the code edition requirements for implementing the extended code of record intervals (four comments). The NRC received two comments objecting to the fact that the proposed rule language on the extended code of record interval did not allow for licensees and applicants to update their code of record following completion of a single IST or ISI interval without first receiving NRC approval. The NRC received one comment that was outside the scope of this rulemaking.

The public comment submittals are available from the Federal e-Rulemaking website at <https://www.regulations.gov> under Docket ID NRC-2018-0291. The NRC prepared a summary and analysis of public comments received on the proposed rule and draft regulatory guides, which is available as indicated in Section XVI, "Availability of Documents," of this document. Responses to the public comments, including a summary of how the final rule text or the regulatory guides changed as a result of the public comments, can be found in the public comment analysis.

For more information about the associated guidance documents, see Section XVI, "Availability of Guidance," of this document.

V. Section-by-Section Analysis

This section describes the primary revisions made by this final rule; minor editorial and administrative corrections to correct spacing, administrative errors, and typos are not identified in this analysis.

The NRC revised the following paragraphs in § 50.55a as follows:

Paragraph (a)(3)(i)

This final rule revises the reference to "NRC Regulatory Guide 1.84, Revision 39," by removing "Revision 39" and adding in its place "Revision 40" and changing the month and year for the document's revision date.

Paragraph (a)(3)(ii)

This final rule revises the reference to "NRC Regulatory Guide 1.147, Revision 20" by removing "Revision 20" and adding in its place "Revision 21" and changing the month and year for the document's revision date.

Paragraph (a)(3)(iii)

This final rule revises the reference to "NRC Regulatory Guide 1.192, Revision 4" by removing "Revision 4" and adding in its place "Revision 5" and changing the month and year for the document's revision date.

Paragraph (b)(5)(ii)

This final rule amends paragraph (b)(5)(ii) by replacing the text "120-month interval" with "code of record interval" and "120-month ISI program intervals" with the text "code of record intervals."

Paragraph (b)(5)(iii)

This final rule amends paragraph (b)(5)(iii) by replacing the text "120-month interval" with the text "code of record interval."

Paragraph (b)(6)(ii)

This final rule amends paragraph (b)(6)(ii) by replacing the text "120-month interval" and "120-month ISI program intervals" with the text "code of record intervals."

Paragraph (b)(6)(iii)

This final rule amends paragraph (b)(6)(iii) by replacing the text "120-month interval" with the text "code of record interval."

Paragraph (f)(4)(i)

This final rule revises the heading and text of paragraph (f)(4)(i) by replacing the text "120-month" with the text "code of record." This final rule also inserts the text "no more than" to clarify that licensees may consider ASME OM Code editions incorporated by reference less than 18 months before the date of issuance of the operating license or before the date of initial fuel load.

Paragraph (f)(4)(ii)

This final rule revises the heading and text of paragraph (f)(4)(ii) by replacing the text "120-month" with the text "code of record." This final rule also inserts the text "no more than" to clarify that licensees may consider ASME OM Code editions incorporated by reference less than 18 months before the start of the code of record interval.

Paragraph (f)(4)(iv)

This final rule revises paragraph (f)(4)(iv) by adding language describing when licensees may update their code of record without NRC approval.

Paragraph (f)(5)(iv)

This final rule amends paragraph (f)(5)(iv) by replacing the text "120-month interval of operation" with the

text "inservice examination and test interval."

Paragraph (f)(7)

This final rule amends paragraph (f)(7) by replacing the text "120-month IST program interval" with the text "inservice examination and test interval".

Paragraph (g)(4) Introductory Text

This final rule amends paragraph (g)(4) introductory text by inserting the text "BPV" into the text "ASME Code Class 1, Class 2, and Class 3" to clarify the language.

Paragraph (g)(4)(i)

This final rule revises paragraph (g)(4)(i) to replace the text "120-month interval" with the text "code of record interval," replace the text "120-month inspection interval" with the text "code of record interval," replace the text "120-month ISI interval" with the text "code of record interval," insert the text "BPV" into the text "ASME Code incorporated by reference" to clarify the language, and insert the text "no more than" to clarify that licensees may use ASME BPV Code, Section XI, editions incorporated by reference less than 18 months before the start of the code of record interval.

Paragraph (g)(4)(ii)

This final rule revises paragraph (g)(4)(ii) by replacing the text "120-month intervals" with "code of record intervals," replacing the text "120-month inspection interval" with "code of record interval," inserting the text "BPV" into the text "ASME Code incorporated by reference" to clarify the language, and inserting the text "no more than" to clarify that licensees may use ASME BPV Code, Section XI, editions incorporated by reference less than 18 months before the start of the code of record interval.

Paragraph (g)(4)(iv)

This final rule revises paragraph (g)(4)(iv) by adding language describing when licensees may update their code of record without NRC approval.

Paragraph (g)(5)(i)

This final rule amends the heading for paragraph (g)(5)(i) by replacing the text "ISI Code editions and addenda" with the text "ISI code of record."

Paragraph (g)(5)(ii)

This final rule amends paragraph (g)(5)(ii) by replacing the text "period" with the text "code of record interval."

Paragraph (g)(5)(iii)

This final rule amends paragraph (g)(5)(iii) by replacing the text “120-month inspection interval” with “inservice inspection interval.”

Paragraph (g)(5)(iv)

This final rule amends paragraph (g)(5)(iv) by replacing the text “120-month inspection interval” with “inservice inspection interval.”

Paragraph (y)

This final rule adds paragraph (y) to provide definitions of important terms used in § 50.55a: *code of record interval, inservice examination and test (IST) code of record, inservice examination and test (IST) interval, inservice examination and testing (IST) program, inservice inspection (ISI) code of record, inservice inspection (ISI) interval, and inservice inspection (ISI) program.*

Appendix J to 10 CFR Part 50

This final rule revises paragraph D.1.(a) in section III of option A to replace the text “10-year service period” with the text “inservice inspection interval, as defined in 10 CFR 50.55a(y),” and replace the text “10-year plant” with the text “final plant”. This final rule also removes footnote 2 and redesignates footnote 3 as footnote 2.

VI. Regulatory Flexibility Certification

Under the Regulatory Flexibility Act (5 U.S.C. 605(b)), the NRC certifies that this rule does not have a significant economic impact on a substantial number of small entities. This final 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).

VII. Regulatory Analysis

The NRC has prepared a final regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The regulatory analysis is available as indicated in the “Availability of Documents” section of this document.

VIII. Backfitting and Issue Finality

The provisions in this final rule 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 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. For these reasons, the NRC finds that this final 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.

Code of Record Update Backfitting Considerations: Section XI of the ASME BPV Code and the ASME OM Code

The revisions to the code of record intervals of Section XI of the ASME BPV Code and the ASME OM Code are related to the ISI and IST programs of operating reactors. However, the Backfit Rule generally does not apply to incorporation by reference of later editions and addenda of the ASME BPV Code (Section XI) and OM Code. The NRC’s longstanding regulatory practice has been to incorporate later versions of the ASME Codes into § 50.55a. Under the former § 50.55a, licensees were required to revise their ISI and IST programs every 120 months to the latest edition and addenda of Section XI of the ASME BPV Code and the ASME OM Code incorporated by reference into § 50.55a 18 months before the start of a new 120-month ISI and IST interval. Thus, when the NRC approves and requires the use of a later version of the Code for ISI and IST, it is implementing this longstanding regulatory practice and requirement. The NRC revised this requirement to allow licensees to update to the latest edition and addenda before the start of every other ISI and IST interval. The NRC also revised § 50.55a(f)(4)(iv) and (g)(4)(iv) to allow licensees to use a later edition of ASME BPV Code Section XI or ASME OM Code without submitting a request for NRC approval, provided that the licensee implements the later edition at the start of a new ISI or IST interval. These revisions, taken together, constitute a voluntary relaxation, and thus not a backfit, because licensees will continue to have the option to voluntarily update before the start of each ISI or IST interval under § 50.55a(f)(4)(iv) or (g)(4)(iv).

Conclusion

The NRC finds that the incorporation by reference into § 50.55a of the three RGs containing the latest NRC-approved code cases and the revision of § 50.55a

to allow the extended code of record interval, does not constitute backfitting or represent an inconsistency with any issue finality provisions in 10 CFR part 52.

IX. 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).

X. Environmental Assessment and Final Finding of No Significant Environmental Impact

The Commission 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. The NRC did not receive public comments regarding any aspect of this environmental assessment.

As voluntary alternatives to the ASME Code, NRC-approved code cases provide an equivalent level of safety. The IST and ISI code of record update frequency is changing the update frequency of a program. Therefore, the probability or consequences of accidents is not changed. 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 offsite impact to the public from this action.

XI. Paperwork Reduction Act

This final rule contains new or amended collections of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). The collections of information were approved by the Office of Management and Budget, approval number 3150–0264.

The burden to the public for the information collection(s) is estimated to average 162 hours per response, including the time for reviewing

instructions, searching existing data sources, gathering, and maintaining the data needed, and completing and reviewing the information collection.

The information collection is being conducted to document the plans for a select number of newly licensed operating power reactors to implement Code Case N-716-3. Information will be used by the NRC to verify applicability of the code case to the new plants including absence of degradation mechanisms and evaluate with any available operating experience, as well as risk-related information for the new plants, prior to application of the Code Case. Responses to this collection of information are voluntary under § 50.55a(z).

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

- *Federal rulemaking website:* Go to <https://www.regulations.gov> and search for Docket ID NRC-2018-0291.
- *Mail comments to:* FOIA, Library, and Information Collections Branch, Office of the Chief Information Officer, Mail Stop: T6-A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or to the OMB reviewer at: OMB Office of Information and Regulatory Affairs (3150-0011), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503.

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.

X. Congressional Review Act

This final rule is a rule as defined in the Congressional Review Act (5 U.S.C. 801-808). However, the Office of Management and Budget has not found it to be a major rule as defined in the Congressional Review Act.

XIII. 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 final rule, 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. As discussed in Section II.A. of this document, 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 40; RG 1.147, Revision 21; and RG 1.192, Revision 5. The RGs list the ASME Code Cases that the NRC has approved for use. The ASME Code Cases are national consensus standards as defined in the National Technology Transfer and Advancement Act of 1995 and OMB Circular A-119. The ASME Code Cases constitute voluntary consensus standards, in which all interested parties (including the NRC and licensees of nuclear power plants) participate.

NUREG-2228, "Weld Residual Stress Finite Element Analysis Validation: Part II—Proposed Validation Procedure," published July 2020 (including errata issued on September 22, 2021), referenced in the amendatory text of this rule, was previously approved for incorporation by reference in § 50.55a. The ASME BPV Code, Section XI, and ASME OM Code, referenced in the amendatory text of this rule, were previously approved for incorporation by reference in § 50.55a.

XIV. Incorporation by Reference—Reasonable Availability to Interested Parties

The NRC is incorporating by reference three NRC RGs that list the 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. These regulatory guides are RG 1.84, Revision 40; RG 1.147, Revision 21; and RG 1.192, Revision 5.

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. The discussion in this section complies with the requirement for rules as set forth in 1 CFR 51.5(b)(2).

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 10 CFR 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 the 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 is incorporating by reference in order to participate in the rulemaking.

The three RGs that the NRC is incorporating by reference in this final rule are available without cost and can be read online or downloaded online. The three 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 access to the three final RGs is available in various forms at no cost, the NRC determines that the three final RGs (RG 1.84, Revision 40; RG 1.147, Revision 21; and RG 1.192, Revision 5) are reasonably available to all interested parties.

TABLE IV—REGULATORY GUIDES TO BE INCORPORATED BY REFERENCE IN 10 CFR 50.55a

Document	Adams accession No./Federal Register citation
RG 1.84, Design, Fabrication, and Materials Code Case Acceptability, ASME Section III, Revision 40	ML23291A008
RG 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Revision 21	ML23291A003
RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 5	ML23291A006

XV. Availability of Guidance

The NRC is issuing revised guidance, RG 1.193, “ASME Code Cases Not Approved for Use,” Revision 8, for the implementation of the requirements in this final rule. The guidance is available as indicated in Section XVI,

“Availability of Documents,” of this document. You may access information and comment submissions related to the guidance by searching on <https://www.regulations.gov> under Docket ID NRC–2018–0291.

The regulatory guide lists code cases that the NRC has not approved for

generic use and will not be incorporated by reference into the NRC’s regulations.

XVI. 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.

TABLE V—AVAILABILITY OF DOCUMENTS

Document	Adams accession No./Federal Register citation
RG 1.84, Design, Fabrication, and Materials Code Case Acceptability, ASME Section III, Revision 40, dated March, 2024.	ML23291A008
RG 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Revision 21, dated March, 2024	ML23291A003
RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 5, dated March, 2024	ML23291A006
RG 1.193, ASME Code Cases Not Approved for Use, Revision 8, dated March, 2024	ML23291A007
Rulemaking—Proposed Rule—Draft Regulatory Analysis for American Society of Mechanical Engineers Code Cases, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev. 5; RG 1.193, Rev. 8, dated January 2023.	ML22243A006
Final Rule: Final Regulatory Analysis, American Society of Mechanical Engineers Code Cases RG 1.84 Rev 40, RG 1.147 Rev 21, RG 1.192 Rev 5, and Revision of Inservice Inspection and Inservice Testing Code of Record Frequency Update dated March, 2024.	ML23291A333
Final Rule: NRC Responses to Public Comments, American Society of Mechanical Engineers Code Cases RG 1.84 Rev 40, RG 1.147 Rev 21, RG 1.192 Rev 5, and Revision of Inservice Inspection and Inservice Testing Code of Record Frequency Update, dated March, 2024.	ML23291A328
Rulemaking—Proposed Rule— Federal Register Notice—American Society of Mechanical Engineers Code Cases and Update Frequency, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev 5, dated February 2023.	ML22243A005
Proposed Rule—American Society of Mechanical Engineers Code Cases and Update Frequency, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192, Rev 5, dated March 6, 2023.	88 FR 13717
SRM–SECY–21–0029, “Rulemaking Plan on Relaxation of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a,” dated November 8, 2021.	ML21312A490
SECY–21–0029, “Rulemaking Plan on Relaxation of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a,” dated March 15, 2021.	ML20273A286
SECY–22–0075, “Staff Requirements—SECY–21–0029 Inservice Testing and Inservice Inspection Program Rulemakings Update [NRC–2018–0291/3150–AK23],” dated August 10, 2022.	ML22124A178
Regulatory Issue Summary 2004–12, “Clarification on Use of Later Editions and Addenda to the ASME OM Code and Section XI,” dated July 28, 2004.	ML042090436
Public Meeting Summary for Proposed Rule: ASME Code Cases 40–21–5 and Update Frequency, dated March 20, 2023.	ML23083B303
Rulemaking—Proposed Rule—OMB Supporting Statement for American Society of Mechanical Engineers Code Cases, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev. 5; RG 1.193, Rev. 8, dated February 2023.	ML22243A007
Rulemaking—Final Rule—OMB Supporting Statement for American Society of Mechanical Engineers Code Cases, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev. 5; RG 1.193, Rev. 8, dated December 2023.	ML23291A341
ASME OM Code Case Applicability Index, dated July 1, 2022	ML22279A967
ASME Letter to NRC, “ASME Request for Including Specific Code Cases in Draft Revision 21 of Regulatory Guide 1.147,” dated December 22, 2021.	ML22046A112
NUREG–2228, “Weld Residual Stress Finite Element Analysis Validation: Part II—Proposed Validation Procedure,” dated July 2020.	ML20212L592
Final Rule—“Codes and Standards for Nuclear Power Plants and Technical Information,” February 12, 1976	41 FR 6256
Proposed Rule—“Domestic Licensing of Production and Utilization Facilities Codes and Standards for Nuclear Powerplants,” January 18, 1979.	44 FR 3719
Final Rule—“Domestic Licensing of Production and Utilization Facilities; Codes and Standards for Nuclear Powerplants,” October 9, 1979.	44 FR 57912
Codes and Standards for Nuclear Power Plants; Subsection IWE and Subsection IWL, August 8, 1996	61 FR 41303
Proposed Rule—Industry Codes and Standards; Amended Requirements, September 22, 1999	64 FR 51370
Final Rule—Industry Codes and Standards; Amended Requirements, September 26, 2002	67 FR 60520
Final Rule—“Incorporation by Reference of ASME BPV and OM Code Cases,” July 8, 2003	68 FR 40469
Final Rule—“Approval of American Society of Mechanical Engineers Code Cases,” March 3, 2022	87 FR 11934
Final Rule—“American Society of Mechanical Engineers 2019–2020 Code Editions Incorporation by Reference,” October 27, 2022.	87 FR 65128

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 amending 10 CFR part 50 as follows:

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

■ 1. The authority citation for part 50 continues 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; Sec. 109, Pub. L. 96–295, 94 Stat. 783.

■ 2. In § 50.55a:

- a. Revise the introductory text of paragraph (a);
- b. Revise and republish paragraph (a)(3);
- c. Revise paragraphs (b)(5) and (6);
- d. Revise paragraphs (f)(4)(i) and (ii), and (f)(4)(iv);
- e. In paragraph (f)(5)(iv), remove the text “120-month interval of operation”, wherever it appears, and add, in its place, the text “inservice examination and test interval”;
- f. In paragraph (f)(7), remove the text “120-month IST Program interval”, and add, in its place, the text “inservice examination and test interval”;
- g. Revise paragraphs (g)(4) and (5); and
- h. Add paragraph (y).

The revisions and additions read as follows:

§ 50.55a Codes and standards.

(a) *Documents approved for incorporation by reference.* The material listed in this paragraph (a) is incorporated by reference into this section with the approval of the Director

of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the Nuclear Regulatory Commission (NRC) and at the National Archives and Records Administration (NARA). Contact the NRC at NRC Technical Library, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301–415–7000; email: Library.Resource@nrc.gov. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov. The material may be obtained from the following sources in this paragraph (a).

* * * * *

(3) U.S. Nuclear Regulatory Commission (NRC): Public Document Room, 11555 Rockville Pike, Rockville, Maryland 20852; telephone: 1–800–397–4209; email: pdr.resource@nrc.gov; <https://www.nrc.gov/reading-rm/doc-collections/reg-guides/>. The use of code cases listed in the NRC regulatory guides in paragraphs (a)(3)(i) through (iii) of this section is acceptable with the specified conditions in those guides when implementing the editions and addenda of the ASME BPV Code and ASME OM Code incorporated by reference in paragraph (a)(1) of this section. The NRC report in paragraph (a)(3)(iv) of this section is acceptable as specified in the conditions when implementing code cases listed in the NRC regulatory guides in paragraphs (a)(3)(i) through (iii) of this section.

(i) *NRC Regulatory Guide 1.84, Revision 40.* NRC Regulatory Guide 1.84, Revision 40, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” issued March 2024, with the requirements in paragraph (b)(4) of this section.

(ii) *NRC Regulatory Guide 1.147, Revision 21.* NRC Regulatory Guide 1.147, Revision 21, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” issued March 2024, 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 5.* NRC Regulatory Guide 1.192, Revision 5, “Operation and Maintenance Code Case Acceptability, ASME OM Code,” issued March 2024, 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 21.

* * * * *

(b) * * *

(5) *Conditions on inservice inspection Code Cases.* Licensees may apply the ASME BPV Code Cases listed in NRC Regulatory Guide 1.147, as incorporated by reference in paragraph (a)(3)(ii) of this section, without prior NRC approval, subject to the following:

(i) *ISI Code Case condition: Applying Code Cases.* When a licensee initially applies a listed Code Case, the licensee must apply the most recent version of that Code Case incorporated by reference in paragraph (a) of this section.

(ii) *ISI Code Case condition: Applying different revisions of Code Cases.* If a licensee has previously applied a Code Case and a later version of the Code Case is incorporated by reference in paragraph (a) of this section, the licensee may continue to apply, to the end of the current code of record interval, the previous version of the Code Case, as authorized, or may apply the later version of the Code Case, including any NRC-specified conditions placed on its use. Licensees who choose to continue use of the Code Case during subsequent code of record intervals will be required to implement the latest version incorporated by reference into this section as listed in tables 1 and 2 of NRC Regulatory Guide 1.147, as incorporated by reference in paragraph (a)(3)(ii) of this section.

(iii) *ISI Code Case condition: Applying annulled Code Cases.* Application of an annulled Code Case is prohibited unless a licensee previously applied the listed Code Case prior to it being listed as annulled in NRC Regulatory Guide 1.147. If a licensee has applied a listed Code Case that is later listed as annulled in NRC Regulatory Guide 1.147, the licensee may continue to apply the Code Case to the end of the current code of record interval.

(6) *Conditions on ASME OM Code Cases.* Licensees may apply the ASME OM Code Cases listed in NRC Regulatory Guide 1.192, as incorporated by reference in paragraph (a)(3)(iii) of this section, without prior NRC approval, subject to the following:

(i) *OM Code Case condition: Applying Code Cases.* When a licensee initially applies a listed Code Case, the licensee must apply the most recent version of that Code Case incorporated by reference in paragraph (a) of this section.

(ii) *OM Code Case condition: Applying different revisions of Code*

Cases. If a licensee has previously applied a Code Case and a later version of the Code Case is incorporated by reference in paragraph (a) of this section, the licensee may continue to apply, to the end of the current code of record interval, the previous version of the Code Case, as authorized, or may apply the later version of the Code Case, including any NRC-specified conditions placed on its use. Licensees who choose to continue use of the Code Case during subsequent code of record intervals will be required to implement the latest version incorporated by reference into this section as listed in tables 1 and 2 of NRC Regulatory Guide 1.192, as incorporated by reference in paragraph (a)(3)(iii) of this section.

(iii) *OM Code Case condition:*

Applying annulled Code Cases.

Application of an annulled Code Case is prohibited unless a licensee previously applied the listed Code Case prior to it being listed as annulled in NRC Regulatory Guide 1.192. If a licensee has applied a listed Code Case that is later listed as annulled in NRC Regulatory Guide 1.192, the licensee may continue to apply the Code Case to the end of the current code of record interval.

* * * * *

(f) * * *

(4) * * *

(i) *Applicable IST Code: Initial code of record interval.* Inservice tests to verify operational readiness of pumps and valves, whose function is required for safety, conducted during the initial code of record interval must comply with the requirements in the latest edition and addenda of the ASME OM Code incorporated by reference in paragraph (a)(1)(iv) of this section on the date no more than 18 months before the date of issuance of the operating license under this part, or no more than 18 months before the date scheduled for initial loading of fuel under a combined license under part 52 of this chapter (or the optional ASME OM Code Cases listed in NRC Regulatory Guide 1.192, as incorporated by reference in paragraph (a)(3)(iii) of this section, subject to the conditions listed in paragraph (b) of this section).

(ii) *Applicable IST Code: Successive code of record intervals.* Inservice examination of components and system pressure tests conducted during successive code of record intervals must comply with the requirements of the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section no more than 18 months before the start of the code of record interval (or the optional ASME Code Cases listed in NRC

Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section), subject to the conditions listed in paragraph (b) of this section. However, a licensee whose inservice inspection interval commences during the 12 through 18-month period after June 3, 2020, may delay the update of their Appendix VIII program by up to 18 months after June 3, 2020. Alternatively, licensees may, at any time in their code of record interval, elect to use the Appendix VIII in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section, subject to any applicable conditions listed in paragraph (b) of this section. Licensees using this option must also use the same edition and addenda of Appendix I, Subarticle I–3200, as Appendix VIII, including any applicable conditions listed in paragraph (b) of this section.

* * * * *

(iv) *Applicable IST Code: Use of later Code editions and addenda.* Inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (a)(1)(iv) of this section, subject to the conditions listed in paragraph (b) of this section, and subject to NRC approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met. NRC approval is not required when updating the IST code of record before the start of an IST interval in which the updated IST code of record will be used and when using the latest edition incorporated by reference in (a)(1)(iv) of this section in its entirety, subject to the conditions listed in paragraph (b) of this section (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147 or NRC Regulatory Guide 1.192 as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section, respectively).

* * * * *

(g) * * *

(4) *Inservice inspection standards requirement for operating plants.* Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) that are classified as ASME BPVC Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions and addenda of the ASME BPV Code that become effective subsequent to editions

specified in paragraphs (g)(2) and (3) of this section and that are incorporated by reference in paragraph (a)(1)(ii) or (iv) of this section for snubber examination and testing of this section, to the extent practical within the limitations of design, geometry, and materials of construction of the components. Components that are classified as Class MC pressure retaining components and their integral attachments, and components that are classified as Class CC pressure retaining components and their integral attachments, must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of the ASME BPV Code and addenda that are incorporated by reference in paragraph (a)(1)(ii) of this section subject to the condition listed in paragraph (b)(2)(vi) of this section and the conditions listed in paragraphs (b)(2)(viii) and (ix) of this section, to the extent practical within the limitation of design, geometry, and materials of construction of the components. When using the 2006 Addenda or later of the ASME BPV Code, Section XI, the inservice examination, testing, and service life monitoring requirements for dynamic restraints (snubbers) must meet the requirements set forth in the applicable ASME OM Code as specified in paragraph (b)(3)(v)(B) of this section. When using the 2005 Addenda or earlier edition or addenda of the ASME BPV Code, Section XI, the inservice examination, testing, and service life monitoring requirements for dynamic restraints (snubbers) must meet the requirements set forth in either the applicable ASME OM Code or ASME BPV Code, Section XI as specified in paragraph (b)(3)(v) of this section.

(i) *Applicable ISI Code: Initial code of record interval.* Inservice examination of components and system pressure tests conducted during the initial code of record interval must comply with the requirements in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section on the date no more than 18 months before the date of issuance of the operating license under this part, or no more than 18 months before the date scheduled for initial loading of fuel under a combined license under part 52 of this chapter (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section, respectively), subject to the conditions

listed in paragraph (b) of this section. Licensees may, at any time in their code of record interval, elect to use the Appendix VIII in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section, subject to any applicable conditions listed in paragraph (b) of this section. Licensees using this option must also use the same edition and addenda of Appendix I, Subarticle I-3200, as Appendix VIII, including any applicable conditions listed in paragraph (b) of this section.

(ii) *Applicable ISI Code: Successive code of record intervals.* Inservice examination of components and system pressure tests conducted during successive code of record intervals must comply with the requirements of the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section no more than 18 months before the start of the code of record interval (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section), subject to the conditions listed in paragraph (b) of this section. However, a licensee whose inservice inspection interval commences during the 12 through 18-month period after June 3, 2020, may delay the update of their Appendix VIII program by up to 18 months after June 3, 2020. Alternatively, licensees may, at any time in their code of record interval, elect to use the Appendix VIII in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section, subject to any applicable conditions listed in paragraph (b) of this section. Licensees using this option must also use the same edition and addenda of Appendix I, Subarticle I-3200, as Appendix VIII, including any applicable conditions listed in paragraph (b) of this section.

(iii) *Applicable ISI Code: Optional surface examination requirement.* When applying editions and addenda prior to the 2003 Addenda of Section XI of the ASME BPV Code, licensees may, but are not required to, perform the surface examination systems specified in Table IWB-2500-1, Examination Category B-J, Item Numbers B9.20, B9.21, and B9.22.

(iv) *Applicable ISI Code: Use of subsequent Code editions and addenda.* Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are

incorporated by reference in paragraph (a) of this section, subject to the conditions listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met. NRC approval is not required when updating the ISI code of record before the start of an ISI interval in which the updated ISI code of record will be used and when using the latest edition incorporated by reference in (a)(1)(iv) of this section in its entirety, subject to the conditions listed in paragraph (b) of this section (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147 or NRC Regulatory Guide 1.192 as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section, respectively).

(v) *Applicable ISI Code: Metal and concrete containments.* For a boiling or pressurized water-cooled nuclear power facility whose construction permit under this part or combined license under part 52 of this chapter was issued after January 1, 1956, the following are required:

(A) *Metal and concrete containments: First provision.* Metal containment pressure retaining components and their integral attachments must meet the inservice inspection, repair, and replacement requirements applicable to components that are classified as ASME Code Class MC;

(B) *Metal and concrete containments: Second provision.* Metallic shell and penetration liners that are pressure retaining components and their integral attachments in concrete containments must meet the inservice inspection, repair, and replacement requirements applicable to components that are classified as ASME Code Class MC; and

(C) *Metal and concrete containments: Third provision.* Concrete containment pressure retaining components and their integral attachments, and the post-tensioning systems of concrete containments, must meet the inservice inspections, repair, and replacement requirements applicable to components that are classified as ASME Code Class CC.

(5) *Requirements for updating ISI programs—(i) ISI program update: Applicable ISI code of record.* The inservice inspection program for a boiling or pressurized water-cooled nuclear power facility must be revised by the licensee, as necessary, to meet the requirements of paragraph (g)(4) of this section.

(ii) *ISI program update: Conflicting ISI Code requirements with technical specifications.* If a revised inservice inspection program for a facility

conflicts with the technical specifications for the facility, the licensee must apply to the Commission for amendment of the technical specifications to conform the technical specifications to the revised program. The licensee must submit this application, as specified in § 50.4, at least six months before the start of the code of record interval during which the provisions become applicable, as determined by paragraph (g)(4) of this section.

(iii) *ISI program update: Notification of impractical ISI Code requirements.* If the licensee has determined that conformance with a Code requirement is impractical for its facility the licensee must notify the NRC and submit, as specified in § 50.4, information to support the determinations.

Determinations of impracticality in accordance with this section must be based on the demonstrated limitations experienced when attempting to comply with the Code requirements during the inservice inspection interval for which the request is being submitted. Requests for relief made in accordance with this section must be submitted to the NRC no later than 12 months after the expiration of the initial or subsequent inservice inspection interval for which relief is sought.

(iv) *ISI program update: Schedule for completing impracticality determinations.* Where the licensee determines that an examination required by Code edition or addenda is impractical, the basis for this determination must be submitted for NRC review and approval not later than 12 months after the expiration of the initial or subsequent inservice inspection interval for which relief is sought.

* * * * *

(y) *Definitions.* As used in this section:

Code of record interval means the period of time between the code of record updates required by paragraphs (f)(4) and (g)(4) of this section for the inservice examination and test programs and inservice inspection programs, respectively.

(1) For licensees with codes of record prior to ASME BPV Code, Section XI, 2017 Edition, and OM Code, 2017 Edition, as incorporated by reference in paragraph (a) of this section, the code of record interval is the same as the inservice inspection interval or inservice examination and test interval.

(2) For licensees with codes of record of ASME BPV Code, Section XI, 2017 Edition and OM Code, 2017 Edition, or later, as incorporated by reference in

paragraph (a) of this section, the code of record interval is two consecutive inservice inspection or inservice examination and test intervals.

Inservice examination and test (IST) code of record means the specific edition(s) and addenda of the ASME OM Code required by (f)(4)(i) or (ii) of this section, subject to the conditions listed in paragraph (b) of this section, and applicable NRC endorsed code cases, for inservice test to verify operational readiness of pumps, valves, and dynamic restraints, whose function is required for safety.

Inservice examination and test (IST) interval means the inservice examination and test interval described by the licensee's code of record (paragraph ISTA-3120 of the ASME OM Code, 2001 Edition through 2009 Edition, or paragraph ISTA-3120 of the ASME OM Code, 2012 Edition and later).

Inservice examination and testing (IST) program means the requirements for preservice and inservice examination and testing of pumps, valves, and dynamic restraints within the scope of this section to assess their operational readiness in nuclear power plants, including but not limited to:

(1) The requirements specified in the ASME OM Code, as incorporated by reference in this section, such as for test or examination, responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating the results, corrective action, personnel qualification, and recordkeeping.

(2) Relief requested under paragraph (f)(5)(iii) of this section and granted under paragraph (f)(6)(i) of this section.

(3) Augmented IST requirements as applied by the Commission under paragraph (f)(6)(ii) of this section.

(4) Alternatives authorized under paragraph (z) of this section.

Inservice inspection (ISI) code of record means the specific edition(s) and addenda of the ASME BPV Code, Section XI, required by paragraphs (g)(4)(i) or (ii) of this section, subject to the conditions listed in paragraph (b) of this section, and applicable NRC endorsed code cases, for the inservice examination of components and system pressure tests.

Inservice inspection (ISI) interval means the inservice inspection interval described in Article IWA-2432 of ASME BPV Code, Section XI, 1989 Edition with 1991 Addenda through the 2008 Addenda, or Article IWA-2431 of ASME BPV Code, Section XI, 2009 Addenda and later.

Inservice inspection (ISI) program means the set of all administrative and

technical requirements pertaining to periodic examination of nuclear components, as specified in ASME BPV Code, Section XI, and this section, including but not limited to:

(1) The requirements of IWA-2400 of ASME BPV Code, Section XI, 1991 Addenda and later.

(2) Relief requested under paragraph (g)(5)(iii) of this section and granted under paragraph (g)(6)(i) of this section.

(3) The augmented inspection program described in paragraph (g)(6)(ii) of this section.

(4) Alternatives authorized under paragraph (z) of this section.

* * * * *
■ 3. In appendix J to part 50, in section III of option A:

- a. Remove footnote 2;
- b. Redesignate footnote 3 as new footnote 2; and
- c. Revise paragraph D.1.(a).
The revision reads as follows:

Appendix J to Part 50—Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors

* * * * *

Option A—Prescriptive Requirements

* * * * *

III. * * *

D. * * * 1. * * *

(a) After the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each inservice inspection interval, as defined in § 50.55a(y). The third test of each set shall be conducted when the plant is shut down for the final plant inservice inspections of the inservice inspection interval.

* * * * *

Dated: July 5, 2024.
Nuclear Regulatory Commission.

Andrea Veil,
Director, Office of Nuclear Reactor Regulation.

[FR Doc. 2024-15288 Filed 7-16-24; 8:45 am]

BILLING CODE 7590-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0756; Project Identifier MCAI-2023-00549-T; Amendment 39-22769; AD 2024-12-05]

RIN 2120-AA64

Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2021-25-12 and AD 2022-11-11, which applied to certain De Havilland Aircraft of Canada Limited Model DHC-8-401 and -402 airplanes. AD 2021-25-12 required repetitive lubrications of the trailing arm of the nose landing gear (NLG). AD 2021-25-12 also required revising the existing maintenance or inspection program to include new and revised airworthiness limitations. AD 2022-11-11 required a modification to the NLG shock strut assembly. This AD continues to require the actions specified in AD 2021-25-12 and AD 2022-11-11 and requires replacement of the pivot pin and tow fitting assembly with a new, improved pivot pin and tow fitting assembly and prohibits the installation of affected parts. This AD was prompted by a determination that the pivot pin and tow fitting assembly of the NLG must be replaced. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 21, 2024.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 21, 2024.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of July 8, 2022 (87 FR 33627, June 3, 2022).

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of January 5, 2022 (86 FR 72174, December 21, 2021).

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2024-0756; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For De Havilland material identified in this AD, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone North America (toll-free): 855-310-1013, Direct: 647-277-5820;