investigative techniques, procedures, and evidence.

(ix) From subsection (g) (Civil Remedies) to the extent that the system is exempt from other specific subsections of the Privacy Act.

Jonathan R. Cantor,

Acting Chief Privacy Officer, Department of Homeland Security.

[FR Doc. 2020–04991 Filed 3–13–20; 8:45 am]

BILLING CODE 9111–14–P

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC–2017–0024]

RIN 3150–AJ93

Approval of American Society of Mechanical Engineers' Code Cases

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to incorporate by reference the latest revisions of three regulatory guides approving new, revised, and reaffirmed Code Cases published by the American Society of Mechanical Engineers. This action allows licensees and applicants 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 Codes and American Society of Mechanical Engineers' Operation and Maintenance Codes, 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.

DATES: This final rule is effective on April 15, 2020. The incorporation by reference of certain publications listed in the regulation is approved by the Director of the Federal Register as of April 15, 2020.

ADDRESSES: Please refer to Docket ID NRC–2017–0024 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–2017–0024. Address questions about NRC dockets to Carol Gallagher; telephone: 301–415–3463; email: *Carol.Gallagher@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 ''ADAMS Public Documents'' and then 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, 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.

FOR FURTHER INFORMATION CONTACT: Yanely Malave, Office of Nuclear Material Safety and Safeguards, telephone: 301–415–1519, email: *Yanely.Malave@nrc.gov;* and Bruce Lin, Office of Nuclear Regulatory Research, telephone: 301–415–2446; email: *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

The purpose of this regulatory action is to incorporate by reference into the NRC's regulations the latest revisions of three regulatory guides (RGs). The three RGs identify new, revised, and reaffirmed Code Cases published by the American Society of Mechanical Engineers (ASME), which the NRC has determined are acceptable for use as voluntary alternatives to compliance with certain provisions of the ASME Boiler and Pressure Vessel (BPV) Code and ASME Operation and Maintenance (OM) Code currently incorporated by reference into the NRC's regulations.

B. Major Provisions

The three RGs that the NRC is incorporating by reference are RG 1.84, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' Revision 38; RG 1.147, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' Revision 19; and RG 1.192, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' Revision 3. This final rule allows nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to voluntarily use the Code Cases, newly listed in these revised RGs, as alternatives to engineering standards for the design, construction, inservice inspection (ISI) and inservice testing (IST), and repair/replacement of nuclear power plant components. In this document, the NRC also notifies the public of the availability of RG 1.193, ''ASME Code Cases Not Approved for Use,'' Revision 6, which lists Code Cases that the NRC has not approved for generic use and will not be incorporated by reference into the NRC's regulations.

The NRC prepared a regulatory analysis (ADAMS Accession No. ML19156A178) to identify the benefits and costs associated with this final rule. The regulatory analysis prepared for this final rule was used to determine if the rule is cost-effective, overall, and to help the NRC evaluate potentially costly conditions placed on specific provisions of the ASME Code Cases, which are the subject of this final rule. In addition, qualitative factors to be considered in the NRC's rulemaking decision are considered in the regulatory analysis. The analysis concluded that this rule would result in net savings to the industry and the NRC. Table 1 shows the estimated total net benefit relative to the regulatory baseline, the quantitative benefits outweigh the costs by a range from approximately $6.34 million (7 percent net present value (NPV)) to $7.20 million (3 percent NPV).

TABLE 1—COST BENEFIT SUMMARY

Attribute	Total averted costs (costs)		
	Undiscounted	7% NPV	3% NPV
Industry Implementation	$0	$0	$0
Industry Operation	5,620,000	4,470,000	5,080,000
Total Industry Costs	5,620,000	4,470,000	5,080,000
NRC Implementation	0	0	0
NRC Operation	2,350,000	1,870,000	2,120,000
Total NRC Cost	2,350,000	1,870,000	2,120,000
Net	7,970,000	6,340,000	7,200,000

The regulatory analysis also considered the following qualitative considerations: (1) Flexibility and decreased uncertainty for licensees when making modifications or preparing to perform ISI or IST; (2) consistency with the provisions of the National Technology Transfer and Advancement Act of 1995 (NTTAA), 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 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.

Table of Contents

I. Background

The ASME develops and publishes the ASME BPV Code, which contains requirements for the design, construction, and ISI examination of nuclear power plant components, and the ASME OM Code,[1] which contains requirements for IST 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 of title 10 of the *Code of Federal Regulations* (10 CFR), ''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, 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 identifying new, revised, and reaffirmed,[3] and unconditionally or conditionally acceptable ASME Code Cases that the NRC approves for use. In developing these RGs, the NRC reviews 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 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 January 17, 2018 (83 FR 2331) that incorporated by reference into § 50.55a the previous versions of these RGs, which are: RG 1.84, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' Revision 37; RG 1.147, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' Revision 18; and RG 1.192, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' Revision 2.

II. Discussion

This final rule incorporates by reference the latest revisions of the NRC's RGs that list ASME BPV and OM Code Cases that the NRC finds to be acceptable, or acceptable with NRC-specified conditions (''conditionally acceptable''). Regulatory Guide 1.84, Revision 38, supersedes the incorporation by reference of Revision

[1] The editions and addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants have had different titles from 2005 to 2017, and are referred to collectively in this rule as the ''OM Code.''

[2] See **Federal Register** notification (FRN), ''Incorporation by Reference of ASME BPV and OM Code Cases'' (68 FR 40469; July 8, 2003).

[3] Code Cases are categorized by ASME as one of three types: New, revised, or reaffirmed. A new Code Case provides for a new alternative to specific ASME Code provisions 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.

37; RG 1.147, Revision 19, supersedes the incorporation by reference of Revision 18; and RG 1.192, Revision 3, supersedes the incorporation by reference of Revision 2.

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 Supplement 11 to the 2010 BPV Code through Supplement 7 to the 2013 BPV Code, and the OM Code Cases published at the same time as the 2017 Edition. Additional Section XI Code Cases published from the 2015 Edition and the 2017 Edition of the BPV Code are also included at the request of the ASME.

The latest editions and addenda of the ASME BPV and OM Codes that the NRC approved for use are referenced in § 50.55a. The ASME also publishes Code Cases that provide alternatives to existing Code requirements that the ASME developed and approved. This final rule incorporates by reference RGs 1.84, 1.147, and 1.192 allowing 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, ISI, and IST of nuclear power plant components. The ASME publishes OM Code Cases at the same time as the specific editions of the ASME OM Code. However, the ASME OM Code Cases are published in a separate document from the ASME OM Code Editions. The ASME publishes BPV Code Cases in a separate document and at a different time from ASME BPV Code Editions. This final rule identifies Code Cases by the edition of the ASME BPV Code or ASME OM Code under which they were published by ASME. This final rule only accepts Code Cases for use in lieu of the specific editions and addenda of the ASME BPV and OM Codes incorporated by reference in § 50.55a.

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 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 an NRC RG constitutes acceptance of its technical position for applications that are not precluded by regulatory or other requirements or by the recommendations in these or other RGs. The applicant and/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 may revise Code Cases for many reasons. For example, the ASME may revise a Code Case to incorporate operational examination and testing experience or to update material requirements based on research results. On occasion, an inaccuracy in an equation is discovered or an examination, as practiced, is found not to be adequate to detect a newly discovered degradation mechanism. Therefore, when an applicant or a licensee initially implements a Code Case, § 50.55a requires that the applicant or the licensee implement the most recent version of that Code Case, as listed in the RGs incorporated by reference. Code Cases superseded by revision are no longer acceptable for new applications unless otherwise indicated.

Section III of the ASME BPV Code applies only to new construction (*i.e.,* 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). Hence, if a Section III Code Case is implemented by an applicant or a licensee and a later version of the Code Case is incorporated by reference into § 50.55a and listed in the RG, the applicant or the licensee may use either version of the Code Case (subject, however, to whatever change requirements apply to its licensing basis (*e.g.,* § 50.59)) until the next mandatory ISI or IST update.

A licensee's ISI and IST programs must be updated every 10 years to the latest edition and addenda of ASME BPV Code, Section XI, and the OM Code, respectively, that were incorporated by reference into § 50.55a and in effect 12 months prior to the start of the next inspection and testing interval. Licensees that were using a Code Case prior to the effective date of its revision may continue to use the previous version for the remainder of the 120 month ISI or IST interval. 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., Licensees choosing to continue using a Code Case during the subsequent ISI or IST interval 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 the first time.

If an applicant or a licensee applied a Code Case before it was listed as superseded, 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 120 month ISI or IST update interval 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.

A. ASME Code Cases Approved for Unconditional Use

The Code Cases discussed in Table I are new, revised, or reaffirmed Code Cases which the NRC approves for use without conditions. The table identifies the regulatory guide listing the applicable Code Case that the NRC approves for use.

TABLE I

Code Case No.	Published with supplement	Title
	Boiler and Pressure Vessel Code Section III (addressed in RG 1.84, Table 1)	
N–60–6	11 (2010 Edition)	Material for Core Support Structures, Section III, Division 1.
N–249–15	7 (2013 Edition)	Additional Materials for Subsection NF, Classes 1, 2, 3, and MC Supports Fabricated Without Welding, Section III, Division 1.
N–284–4	11 (2010 Edition)	Metal Containment Shell Buckling Design Methods, Class MC, TC, and SC Construction, Section III, Divisions 1 and 3.
N–520–6	1 (2013 Edition)	Alternative Rules for Renewal of Active or Expired N-type Certificates for Plants Not in Active Construction, Section III, Division 1.
N–801–1	11 (2010 Edition)	Rules for Repair of N-Stamped Class 1, 2, and 3 Components, Section III, Division 1.
N–822–2	7 (2013 Edition)	Application of the ASME Certification Mark, Section III, Divisions 1, 2, 3, and 5.
N–833	1 (2013 Edition)	Minimum Non-prestressed Reinforcement in the Containment Base Mat or Slab Required for Concrete Crack Control, Section III, Division 2.
N–834	3 (2013 Edition)	ASTM A988/A988M–11 UNS S31603, Subsection NB, Class 1 Components, Section III, Division 1.
N–836	3 (2013 Edition)	Heat Exchanger Tube Mechanical Plugging, Class 1, Section III, Division 1.
N–841	4 (2013 Edition)	Exemptions to Mandatory Post Weld Heat Treatment (PWHT) of SA–738 Grade B for Class MC Applications, Section III, Division 1.
N–844	5 (2013 Edition)	Alternatives to the Requirements of NB–4250(c), Section III, Division 1.
	Boiler and Pressure Vessel Code Section XI (addressed in RG 1.147, Table 1)	
N–513–4	6 (2013 Edition)	Evaluation of Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping, Section XI, Division 1.
N–528–1	5 (1998 Edition)	Purchase, Exchange, or Transfer of Material Between Nuclear Plant Sites, Section XI, Division 1.
N–661–3	6 (2015 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service, Section XI, Division 1.
N–762–1	3 (2013 Edition)	Temper Bead Procedure Qualification Requirements for Repair/Replacement Activities without Postweld Heat Treatment, Section XI, Division 1.
N–789–2	5 (2015 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–823–1	4 (2013 Edition)	Visual Examination, Section XI, Division 1.
N–839	7 (2013 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature SMAW[1] Temper Bead Technique, Section XI, Division 1.
N–842	4 (2013 Edition)	Alternative Inspection Program for Longer Fuel Cycles, Section XI, Division 1.
N–853	6 (2015 Edition)	PWR[2] 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–854	1 (2015 Edition)	Alternative Pressure Testing Requirements for Class 2 and 3 Components Connected to the Class 1 Boundary, Section XI, Division 1.
	OM Code (addressed in RG 1.192, Table 1)	
OMN–16 Revision 2	2017 Edition	Use of a Pump Curve for Testing.
OMN–21	2017 Edition	Alternative Requirements for Adjusting Hydraulic Parameters to Specified Reference Points.

[1] Shielded metal arc welding.
[2] Pressurized water reactor.

B. ASME Code Cases Approved for Use With Conditions

The NRC determined that certain Code Cases, as issued by ASME, are generally acceptable for use, but that the alternative requirements specified in those Code Cases must be supplemented in order to provide an acceptable level of quality and safety. Accordingly, the NRC imposes 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 II, 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.

It should also be noted that this section only addresses those Code Cases for which the NRC imposes condition(s), which are listed in the RG for the first time.

TABLE II

Code Case No.	Published with supplement	Title
		Boiler and Pressure Vessel Code Section III (addressed in RG 1.84, Table 2)
N–71–19	0 (2013 Edition)	Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1.
		Boiler and Pressure Vessel Code Section XI (addressed in RG 1.147, Table 2)
N–516–4	7 (2013 Edition)	Underwater Welding, Section XI, Division 1.
N–597–3	5 (2013 Edition)	Evaluation of Pipe Wall Thinning, Section XI, Division 1.
N–606–2	2 (2013 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW [1] Temper Bead Technique for BWR [2] CRD [3] Housing/Stub Tube Repairs, Section XI, Division 1.
N–638–7	2 (2013 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1.
N–648–2	7 (2013 Edition)	Alternative Requirements for Inner Radius Examinations of Class 1 Reactor Vessel Nozzles, Section XI, Division 1.
N–695–1	0 (2015 Edition)	Qualification Requirements for Dissimilar Metal Piping Welds, Section XI, Division 1.
N–696–1	6 (2013 Edition)	Qualification Requirements for Mandatory Appendix VIII Piping Examination Conducted from the Inside Surface, Section XI, Division 1.
N–702	12 (2001 Edition)	Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds, Section XI, Division 1.
N–705 (Errata)	11 (2010 Edition)	Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 or 3 Vessels and Tanks, Section XI, Division 1.
N–711–1	0 (2017 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–754–1	1 (2013 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1.
N–766–1	1 (2013 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–799	4 (2010 Edition)	Dissimilar Metal Welds Joining Vessel Nozzles to Components, Section XI, Division 1.
N–824	11 (2010 Edition)	Ultrasonic Examination of Cast Austenitic Piping Welds From the Outside Surface, Section XI, Division 1.
N–829	0 (2013 Edition)	Austenitic Stainless Steel Cladding and Nickel Base Cladding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1.
N–830	7 (2013 Edition)	Direct Use of Master Fracture Toughness Curve for Pressure-Retaining Materials of Class 1 Vessels, Section XI, Division 1.
N–831	0 (2017 Edition)	Ultrasonic Examination in Lieu of Radiography for Welds in Ferritic Pipe, Section XI, Division 1.
N–838	2 (2015 Edition)	Flaw Tolerance Evaluation of Cast Austenitic Stainless Steel Piping, Section XI, Division 1.
N–843	4 (2013 Edition)	Alternative Pressure Testing Requirements Following Repairs or Replacements for Class 1 Piping between the First and Second Injection Isolation Valves, Section XI, Division 1.
N–849	7 (2013 Edition)	In situ VT–3 Examination of Removable Core Support Structures Without Removal, Section XI, Division 1.
		OM Code (addressed in RG 1.192, Table 2)
OMN–1 Revision 2	2017 Edition	Alternative Rules for Preservice and Inservice Testing of Active Electric Motor.
OMN–3	2017 Edition	Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR [4] Power Plants.
OMN–4	2017 Edition	Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants.
OMN–9	2017 Edition	Use of a Pump Curve for Testing.
OMN–12	2017 Edition	Alternative Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants (OM-Code 1998, Subsection ISTC).
OMN–13	2017 Edition	Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at [light water reactor] LWR Power Plants.
OMN–18	2017 Edition	Alternate Testing Requirements for Pumps Tested Quarterly Within ±20% of Design Flow.
OMN–19	2017 Edition	Alternative Upper Limit for the Comprehensive Pump Test.
OMN–20	2017 Edition	Inservice Test Frequency.

[1] Gas tungsten arc welding.
[2] Boiling water reactor.
[3] Control rod drive.
[4] Light water reactor.

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

Code Case N–71–19 [Supplement 0, 2013 Edition]

Type: Revised.

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

The first condition on Code Case N–71–19 is identical to the first condition on Code Case N–71–18 that was first approved by the NRC in Revision 33 of RG 1.84 in August 2005. The condition stated that the maximum measured ultimate tensile strength of the component support material must not exceed 170 ksi in view of the susceptibility of high strength materials to brittleness and stress corrosion cracking. When ASME revised N–71, the Code Case was not modified in a way that would make it possible for the NRC to remove the first condition. Therefore, the first condition is retained in Revision 38 of RG 1.84.

The second condition on Code Case N–71–18 is removed because it is related to materials of up to 190 ksi and the first condition has an ultimate tensile strength limit of 170 ksi on materials. The NRC is not aware of any materials listed in this Code Case to which this condition would apply, so the condition is removed and the subsequent conditions renumbered.

The second condition on Code Case N–71–19 is an update to the third condition on Revision 18 of the Code Case. This condition has been modified so that it references the correct sentence and paragraph of the revised Code Case and now refers to paragraph 5.2 of the Code Case, instead of paragraph 5.5 to reference ''5.3.2.3, 'Alternative Atmosphere Exposure Time Periods Established by Test,' of the AWS [American Welding Society] D1.1 Code for the evidence presented to and accepted by the Authorized Inspector concerning exposure of electrodes for a longer period of time.'' The basis for this change is that the paragraph of the Code Case identified by this condition has been renumbered and is now 5.2. When ASME revised N–71, the Code Case was not modified in a way that would make it possible for the NRC to remove the second condition. Therefore, the second condition is retained in Revision 38 of RG 1.84.

The third condition on Code Case N–71–19 is substantively the same as the fourth condition on Code Case N–71–18 that was first approved by the NRC in Revision 33 of RG 1.84 in August 2005, except that it now references the renumbered paragraphs of the revised Code Case. The condition now states that paragraph 16.2.2 of Code Case N–71–19 is not acceptable as written and must be replaced with the following: ''When not exempted by 16.2.1 above, the post weld heat treatment must be performed in accordance with NF–4622 except that ASTM A–710 Grade A Material must be at least 1000 °F (540 °C) and must not exceed 1150 °F (620 °C) for Class 1 and 2 material and 1175 °F (640 °C) for Class 3 material.'' When ASME revised N–71, the Code Case was not modified in a way that would make it possible for the NRC to remove the third condition. Therefore, the third condition is retained in Revision 38 of RG 1.84.

The fourth condition on Code Case N–71–19 is identical to the fifth condition on Code Case N–71–18 that was first approved by the NRC in Revision 33 of RG 1.84 in August 2005. The condition stated that the new holding time-at-temperature for weld thickness (nominal) must be 30 minutes for welds ½ inch or less in thickness, 1 hour per inch of thickness for welds over ½ inch to 5 inches, and for thicknesses over 5 inches, 5 hours plus 15 minutes for each additional inch over 5 inches. When ASME revised N–71, the Code Case was not modified in a way that would make it possible for the NRC to remove the fourth condition. Therefore, the fourth condition is retained in Revision 38 of RG 1.84.

The fifth condition on Code Case N–71–19 is identical to the sixth condition on Code Case N–71–18 that was first approved by the NRC in Revision 33 of RG 1.84 in August 2005. The condition stated that the fracture toughness requirements apply only to piping supports and not to Class 1, 2 and 3 component supports. When ASME revised N–71, the Code Case was not modified in a way that would make it possible for the NRC to remove the fifth condition. Therefore, the fifth condition is retained in Revision 38 of RG 1.84.

The sixth condition is a new condition, which states that when welding P-Number materials listed in the Code Case, the corresponding S-Number welding requirements shall apply. Previous revisions of the Code Case assigned every material listed in the Code Case an S-Number designation. Welding requirements for materials in the Code Case are specified based on the S-Number. The current version of the Code Case was modified to assign corresponding P-Numbers to those Code Case materials, which are also listed in ASME Code Section IX and have a P-Number designation. However, the Code Case was not modified to make clear that the Code Case requirements for welding S-Number materials are also applicable to the P-Number materials, all of which were previously listed with S-Numbers. Therefore, as written, if a user applies this Code Case and uses a P-Number material listed in the tables, it is not clear that the corresponding S-Number welding requirements apply. To clarify the application of S-Number welding requirements to P-Number materials, the NRC imposes the sixth condition as stated. This new condition does not impose any additional restrictions on the use of this Code Case from those placed on the previous revisions.

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

Code Case N–516–4 [Supplement 7, 2013 Edition]

Type: Revised.

Title: Underwater Welding, Section XI, Division 1.

The previously approved revision of this Code Case, N–516–3, was conditionally accepted in RG 1.147 to require that licensees obtain NRC approval in accordance with § 50.55a(z) regarding the technique to be used in the weld repair or replacement of irradiated material underwater. The rationale for this condition was that it was known that materials subjected to high neutron fluence could not be welded without cracking (this is discussed in more detail in the next paragraph). However, the condition applied to Code Case N–516–3 did not provide any guidance on what level of neutron irradiation could be considered a threshold for weldability.

The technical basis for imposing conditions on the welding of irradiated materials is that neutrons can generate helium atoms within the metal lattice through transmutation of various isotopes of boron and/or nickel. At high temperatures, such as those during welding, these helium atoms rapidly diffuse though the metal lattice, forming helium bubbles. In sufficient concentration, these helium atoms can cause grain boundary cracking that occurs in the fusion zones and heat affected zones during the heatup/cooldown cycle.

In the final rule for the 2009–2013 Editions of the ASME Code, the NRC adopted conditions that should be applied to Section XI, Article IWA–4660 when performing underwater welding on irradiated materials. These conditions provide guidance on what level of neutron irradiation and/or helium content would require approval by the NRC because of the impact of neutron fluence on weldability. These

conditions provide separate criteria for three generic classes of material: Ferritic material, austenitic material other than P-No. 8 (*e.g.,* nickel based alloys), and austenitic P-No. 8 material (*e.g.,* stainless steel alloys). These conditions are currently located in § 50.55a(b)(2)(xii). Although these conditions apply to underwater welding performed in accordance with IWA–4660, they do not apply to underwater welding performed in accordance with Code Case N–516–4.

Consequently, the NRC approves Code Case N–516–4 with the following conditions for underwater welding. The first condition captures the § 50.55a(b)(2)(xii) requirement for underwater welding of ferritic materials, and states that licensees must obtain NRC approval in accordance with § 50.55a(z) regarding the welding technique to be used prior to performing welding on ferritic material exposed to fast neutron fluence greater than 1×10^{17} n/cm^2 (E > 1 MeV). The second condition captures the § 50.55a(b)(2)(xii) requirement for underwater welding of austenitic material other than P-No. 8, and states that licensees must obtain NRC approval in accordance with § 50.55a(z) regarding the welding technique to be used prior to performing welding on austenitic material other than P-No. 8, exposed to thermal neutron fluence greater than 1×10^{17} n/cm^2 (E < 0.5 eV). The third condition captures the § 50.55a(b)(2)(xii) requirement for underwater welding of austenitic P-No. 8 material, and states that licensees must obtain NRC approval in accordance with § 50.55a(z) regarding the welding technique to be used prior to performing welding on austenitic P-No. 8 material exposed to thermal neutron fluence greater than 1×10^{17} n/cm^2 (E < 0.5 eV) and measured or calculated helium concentration of the material greater than 0.1 atomic parts per million.

Code Case N–597–3 [Supplement 5, 2013 Edition]

Type: Revised.

Title: Evaluation of Pipe Wall Thinning, Section XI, Division 1.

The NRC revised the conditions to clarify their intent. The conditions on N–597–3 are all carryovers from the previous version of this Code Case N–597–2. The first condition on Code Case N–597–3 addresses the NRC's concerns regarding how the corrosion rate and associated uncertainties will be determined when N–597–3 is applied to evaluate the wall thinning in pipes for degradation mechanisms other than flow accelerated corrosion. Therefore, the NRC imposes a condition that requires the corrosion rate be reviewed and approved by the NRC prior to the use of the Code Case.

The second condition on Code Case N–597–3 has two parts that allow the use of this Code Case to mitigate flow accelerated corrosion, but only if both of the requirements of the condition are met. Due to the difficulty inherent in calculating wall thinning, the first part of Condition 2 requires that the use of N–597–3 on flow-accelerated corrosion piping must be supplemented by the provisions of Electric Power Research Institute (EPRI) Nuclear Safety Analysis Center Report 202L– 2, ''Recommendations for an Effective Flow Accelerated Corrosion Program,'' April 1999, which contain rigorous provisions to minimize wall thinning.

The first part of Condition 2 (*i.e.,* (2)(a)) on Code Case N–597–3 is identical to the first condition on Code Case N–597–2 that was first approved by the NRC in Revision 15 of RG 1.147 in October 2007. The condition stated that the Code Case must be supplemented by the provisions of EPRI Nuclear Safety Analysis Center Report (NSAC) 202L– 2, ''Recommendations for an Effective Flow Accelerated Corrosion Program'' (Ref. 7), April 1999, for developing the inspection requirements, the method of predicting the rate of wall thickness loss, and the value of the predicted remaining wall thickness. As used in NSAC–202L–R2, the term ''should'' is to be applied as ''shall'' (*i.e.,* a requirement). When ASME revised N–597, the Code Case was not modified in a way that would make it possible for the NRC to remove the first part of Condition 2. Therefore, the first part of Condition 2 is retained in Revision 19 of RG 1.147.

The second part of Condition 2 (*i.e.,* (2)(b)) on Code Case N–597–3 is identical to the second condition on Code Case N–597–2 that was first approved by the NRC in Revision 15 of RG 1.147 in October 2007. The condition stated that components affected by flow-accelerated corrosion to which this Code Case are applied must be repaired or replaced in accordance with the construction code of record and owner's requirements or a later NRC approved edition of Section III, ''Rules for Construction of Nuclear Power Plant Components,'' of the ASME Code prior to the value of t_p reaching the allowable minimum wall thickness, t_{min}, as specified in –3622.1(a)(1) of the Code Case. Alternatively, use of the Code Case is subject to NRC review and approval per § 50.55a(z). When ASME revised N–597, the Code Case was not modified in a way that would make it possible for the NRC to remove the second part of Condition 2. Therefore, the second part of Condition 2 is retained in Revision 19 of RG 1.147.

The third condition on Code Case N–597–3 is identical to the fourth condition on Code Case N–597–2 that was first approved by the NRC in Revision 15 of RG 1.147 in October 2007. The condition stated that for those components that do not require immediate repair or replacement, the rate of wall thickness loss is to be used to determine a suitable inspection frequency, so that repair or replacement occurs prior to reaching allowable minimum wall thickness. When ASME revised N–597, the Code Case was not modified in a way that would make it possible for the NRC to remove the third condition. Therefore, the third condition is retained in Revision 19 of RG 1.147.

The fourth condition on Code Case N–597–3 is updated from the sixth condition on Code Case N–597–2 that was first approved by the NRC in Revision 17 of RG 1.147 in August 2014. This condition allows the use of Code Case N–597–3 to calculate wall thinning for moderate-energy Class 2 and 3 piping (using criteria in Code Case N–513–2) for temporary acceptance (until the next refueling outage). When ASME revised N–597, the Code Case was not modified in a way that would make it possible for the NRC to remove the fourth condition. Therefore, the fourth condition is retained in Revision 19 of RG 1.147.

The fifth condition is also updated from the sixth condition on Code Case N–597–2 that was first approved by the NRC in Revision 17 of RG 1.147 in August 2014. This condition prohibits the use of this Code Case in evaluating through-wall leakage in high energy piping due to the consequences and safety implications associated with pipe failure. When ASME revised N–597, the Code Case was not modified in a way that would make it possible for the NRC to remove the fifth condition. Therefore, the fifth condition is retained in Revision 19 of RG 1.147.

Code Case N–606–2 [Supplement 2, 2013 Edition]

Type: Revised.

Title: Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique for BWR CRD Housing/Stub Tube Repairs, Section XI, Division 1.

The condition on Code Case N–606–2 is identical to the condition on Code Case N–606–1 that was first approved by the NRC in Revision 13 of RG 1.147 in January 2004. The condition stated that prior to welding, an examination or

verification must be performed to ensure proper preparation of the base metal, and that the surface is properly contoured so that an acceptable weld can be produced. This verification is required to be in the welding procedure. When ASME revised N–606, 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 19 of RG 1.147.

Code Case N–638–7 [Supplement 2, 2013 Edition]

Type: Revised.

Title: Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1.

The condition on Code Case N–638–7 is identical to the condition on Code Case N–638–6 that was first approved by the NRC in Revision 18 of RG 1.147 in the January 2018 final rule and states that demonstration for ultrasonic examination of the repaired volume is required using representative samples, which contain construction type flaws. When ASME revised N–638, 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 19 of RG 1.147.

Code Case N–648–2 [Supplement 7, 2013 Edition]

Type: Revised.

Title: Alternative Requirements for Inner Radius Examinations of Class 1 Reactor Vessel Nozzles, Section XI, Division 1.

The NRC imposes one condition for this Code Case related to preservice inspections. The condition on N–648–2 is that this Code Case shall not be used to eliminate the preservice or inservice volumetric examination of plants with a combined operating license pursuant to 10 CFR part 52, or a plant that receives its operating license after October 22, 2015.

The requirements for examinations of inner nozzle radii in several components were developed in the ASME BPV Code in reaction to the discovery of thermal fatigue cracks in the inner-radius section of boiling water reactor feedwater nozzles in the late 1970's and early 1980's. Significant inspections and repairs were required in the late 1970s and early 1980s to address these problems. The redesign of safe end/thermal sleeve configurations and feedwater spargers, coupled with changes in operating procedures, has been effective to date. No further occurrences of nozzle fatigue cracking have been reported for PWRs or BWRs. In addition to operating experience, fatigue analysis for a variety of plants shows that there is reasonable assurance that there will not be significant cracking at the nozzle inner radii before the end of the operating licenses of the nuclear power plants.

The NRC's position regarding this Code Case is that the required preservice volumetric examinations should be performed on all vessel nozzles for comparison with volumetric examinations later, if indications of flaws are found. Eliminating the volumetric preservice or inservice examination is predicated on good operating experience for the existing fleet, which has not found any inner radius cracking in the nozzles within the scope of the Code Case. In addition to good operating experience, flaw tolerance evaluation and fatigue analysis of the nozzle inner radius were performed for each of the limiting sizes, geometries and operating conditions, including transients for the existing fleet that demonstrated large margins to failure and extremely low fatigue usage factors. At this time, the new reactor designs have no inspection history or operating experience available to support eliminating the periodic volumetric examination of the nozzles in question. Also, new reactors could have different geometries, sizes and operating conditions, including transients, that may not be bounded by the analysis performed for the existing fleet, and therefore would not have large margins to failure and extremely low fatigue usage factors that contributed in removing the requirement of volumetric examination of the nozzle inner radius. Use of Code Case N–648–2 would not eliminate preservice examinations for the existing fleet since all plants have already completed a preservice examination.

Code Case N–695–1 [Supplement 0, 2015 Edition]

Type: Revised.

Title: Qualification Requirements for Dissimilar Metal Piping Welds, Section XI, Division 1.

The NRC approves Code Case N–695–1 with the following condition. Examiners qualified using the 0.25 root mean square (RMS) error for measuring the depths of flaws using N–695–1 are not qualified to depth-size inner diameter (ID) surface breaking flaws greater than 50 percent through-wall in dissimilar metal welds 2.1 inches or greater in thickness. When an examiner qualified using N–695–1 measures a flaw as greater than 50 percent through-wall in a dissimilar metal weld from the ID, the flaw shall be considered to have an indeterminate depth.

Code Case N–695–1 provides alternative rules for ultrasonic examinations of dissimilar metal welds from the inner and outer surfaces. Code Case N–695 was developed to allow for examinations from the inner surface in ASME Code Section XI editions prior to 2007. However, no examination vendor was able to meet the depth-sizing requirements of 0.125 inch RMS error of the original N–695. The NRC has granted relief to several licensees to allow the use of alternate depth-sizing requirements. The NRC reviewed the depth-sizing results at the Performance Demonstration Initiative (PDI) for procedures able to achieve an RMS error over 0.125 inches but less than 0.25 inches. The review found that the examiners tend to oversize small flaws and undersize deep flaws. The flaws sized by the examiners as 50 percent though-wall or less were accurately or conservatively measured. There were, however, some instances of very large flaws being measured as significantly smaller than the true state, but they were not measured as less than 50 percent through-wall.

Code Case N–695–1 changes the depth sizing requirements for inner-surface examinations of test blocks of 2.1 inches or greater thickness to 0.25 inches RMS error. This change is in line with the granted relief requests and with the NRC's review of the PDI test results.

The depth-sizing capabilities of the examinations do not provide sufficient confidence in the ability of an inspector qualified using a 0.25 inch RMS error to accurately measure the depth of deep flaws. The NRC imposes a condition on Code Case N–695–1 in that any surface-connected flaw sized over 50 percent through-wall should be considered of indeterminate depth.

Code Case N–696–1 [Supplement 6, 2013 Edition]

Type: Revised.

Title: Qualification Requirements for Mandatory Appendix VIII Piping Examination Conducted from the Inside Surface, Section XI, Division 1.

The NRC approves Code Case N–696–1 with the following condition. Examiners qualified using the 0.25 RMS error for measuring the depths of flaws using N–696–1 in dissimilar metal or austenitic welds are not qualified to depth-size ID surface breaking flaws greater than 50 percent through-wall in dissimilar metal welds or austenitic weld metal welds 2.1 inches or greater in thickness. When a qualified examiner, uses N–696–1 and measures a flaw greater than 50 percent through-

wall in a dissimilar metal weld or austenitic weld metal from the ID, the flaw shall be considered to have an indeterminate depth. Code Case N–696–1 provides alternative rules for ultrasonic examinations of Supplement 2, 3 and 10 welds from the inner and outer surfaces. Code Case N–696 was developed to allow for examinations for welds from the inner surface in ASME Code Section XI editions prior to 2007. However, no examination vendor was able to meet the depth-sizing requirements of 0.125 inch RMS error required by the original N–696. The NRC granted relief to several licensees to allow the use of alternate depth-sizing requirements. The NRC reviewed the depth-sizing results at the PDI for procedures able to achieve an RMS error over 0.125 inches but less than 0.25 inches. The review found that the examiners tend to oversize small flaws and undersize deep flaws. The flaws sized by the examiners as 50 percent though-wall or less were accurately or conservatively measured. There were, however, some instances of very large flaws being measured as significantly smaller than the true state, but they were not measured as less than 50 percent through-wall.

Code Case N–696–1 changes the depth sizing requirements for inner-surface examinations of test blocks of 2.1 inches or greater thickness to 0.25 inch RMS error. This change is consistent with the granted relief requests and with the NRC review of the PDI test results. The depth-sizing capabilities of the examinations does not provide sufficient confidence in the ability of an examiner qualified using a 0.25 inch RMS error to accurately measure the depth of deep flaws. Therefore, the NRC imposes a condition on Code Case N–696–1 that any surface-connected flaw sized over 50 percent through-wall should be considered of indeterminate depth.

Code Case N–702 [Supplement 12, 2001 Edition]

Type: Revised.

Title: Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds, Section XI, Division 1.

The NRC previously accepted with conditions Code Case N–702 in RG 1.147, Revision 18. For Revision 19 of RG 1.147 the NRC has revised the conditions on Code Case N–702. The original conditions in RG 1.147, Revision 17, were consistent with the established review procedure for applications for use of Code Case N–702 before August 2014 for the original 40 years of operation. The previous conditions on Code Case N–702 required licensees to prepare and submit for NRC review and approval an evaluation demonstrating the applicability of Code Case N–702 prior to the application of Code Case N–702. Subsequent reviews by the NRC of requests to utilize the provisions of Code Case N–702 show that all licensees have adequately evaluated the applicability of Code Case N–702 during the original 40 years of operation. Therefore, future review by the NRC is not needed. For the period of extended operation, the application of Code Case N–702 is not approved. Licensees that wish to use Code Case N–702 in the period of extended operation may submit relief requests based on BWRVIP–241, Appendix A, ''BWR Nozzle Radii and Nozzle-to-Vessel Welds Demonstration of Compliance with the Technical Information Requirements of the License Renewal Rule (10 CFR 54.21),'' approved on April 26, 2017, or plant-specific probabilistic fracture mechanics analyses. Therefore, the NRC has revised the RG 1.147, Revision 17, condition to reflect these changes.

Consistent with the safety evaluations for all prior ASME Code Case N–702 requests, a condition on visual examination is being added to clarify that the NRC is not relaxing the licensees' practice on VT–1 on nozzle inner radii.

The revised conditions on Code Case N–702 states that the applicability of Code Case N–702 for the first 40 years of operation must be demonstrated by satisfying the criteria in Section 5.0 of NRC Safety Evaluation regarding BWRVIP–108 dated December 18, 2007, (ADAMS Accession No. ML073600374) or Section 5.0 of NRC Safety Evaluation regarding BWRVIP–241 dated April 19, 2013 (ADAMS Accession No. ML13071A240).

The use of Code Case N–702 in the period of extended operation is not approved. If VT–1 is used, it shall utilize ASME Code Case N–648–2, ''Alternative Requirements for Inner Radius Examination of Class 1 Reactor Vessel Nozzles, Section XI Division 1,'' with the associated required conditions specified in Regulatory Guide 1.147.

Code Case N–705 (Errata) [Supplement 11, 2010 Edition]

Type: Revised.

Title: Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 or 3 Vessels and Tanks, Section XI, Division 1.

The NRC has already accepted Code Case N–705 in Regulatory Guide 1.147, Revision 16, without conditions. The revised Code Case in Supplement 11 contains only editorial changes. However, the NRC has identified an area of concern. The Code Case is applicable to the temporary acceptance of degradation, which could be a through wall leak, and would permit a vessel or tank to leak coolant for 26 months without repair or replacement. Paragraph 1(d) of Code Case N–705 states that the evaluation period is the operational time for which the temporary acceptance criteria are satisfied (*i.e.,* evaluation period $\leq t_{allow}$) but not greater than 26 months from the initial discovery of the condition. As discussed later in the comment resolution section the NRC finds that flaws, which are not through-wall, that have been evaluated in accordance with the Code Case should be allowed to remain in service for the entire length of the period evaluated by the Code Case (*i.e.* up to 26 months). The evaluation methods of the Code Case reasonably assure that the structural integrity of the component will not be impacted during the period of the evaluation. However, the NRC finds that through-wall flaws accepted in accordance with the Code Case should be subject to repair/replacement at the next refueling outage. Therefore, the NRC imposes the following condition on Code Case N–705: The ASME Code repair or replacement activity temporarily deferred under the provisions of this Code Case shall be performed no later than the next scheduled refueling outage for through-wall flaws. This is consistent with the current regulations for the use of ASME Code, Section XI, Non-Mandatory Appendix U which is where the ASME Code has incorporated this case into ASME Section XI.

Code Case N–711–1 [Supplement 0, 2017 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.

Code Case N–711 was first listed as unacceptable for use by the NRC in Revision 3 of RG 1.193 in October 2010. Code Case N–711–1 was created to incorporate several NRC conditions for the use of Code Case N–711. This Code Case provides requirements for determining an alternative required examination volume, which is defined as the volume of primary interest based on the postulated degradation mechanism in a particular piping weld.

The NRC finds Code Case N–711–1 acceptable with one condition. The Code Case shall not be used to redefine the required examination volume for

preservice examinations or when the postulated degradation mechanism for piping welds is primary water stress corrosion cracking (PWSCC) or crevice corrosion. For PWSCC, the NRC finds that the examination volume must meet the requirements of ASME Code Case N–770–1 as conditioned by § 50.55a(g)(6)(ii)(F). For crevice corrosion, the Code Case does not define a volume of primary interest and therefore it cannot be used for this degradation mechanism. The Code Case requires selection of an alternative inspection location within the same risk region or category if it will improve the examination coverage of the volume of primary interest. Use of the Code Case must be identified in the licensee's 90-day post outage report of activities identifying the examination category, weld number, weld description, percent coverage and a description of limitation. The NRC determined that the Code Case provides a suitable process for identifying the appropriate volume of primary interest based on the degradation mechanism postulated by the degradation mechanism analysis, except as noted in the condition.

The NRC determined that the case should not be used to reduce the required examination volume for preservice examinations because for newer reactors 50.55a regulations require new plants be designed for accessibility for inservice inspection. For preservice examinations related to repair/replacements activities ASME Section XI, IWA–4000 makes it clear that preservice exams are required and IWA–1400 says the owner's responsibility includes design and arrangement of system components to include adequate access and clearances for conduct of examination and tests.

Code Case N–754–1 [Supplement 1, 2013 Edition]

Type: Revised.

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

The first condition on Code Case N–754–1 is the same as the first condition on N–754 that was first approved by the NRC in Revision 18 of RG 1.147 in January 2018. The condition stated that the conditions imposed on the optimized weld overlay design in the NRC safety evaluation for MRP–169, Revision 1–A (ADAMS Accession Nos. ML101620010 and ML101660468) must be satisfied. When ASME revised N–754, the Code Case was not modified in a way that would make it possible for the NRC to remove the first condition. Therefore, the first condition is retained in Revision 19 of RG 1.147.

The second condition on Code Case N–754–1 is the same as the second condition on N–754 that was first approved by the NRC in Revision 18 of RG 1.147 in January 2018. The condition stated that the preservice and inservice inspections of the overlaid weld must satisfy 10 CFR 50.55a(g)(6)(ii)(F). When ASME revised N–754, the Code Case was not modified in a way that would make it possible for the NRC to remove the second condition. Therefore, the second condition is retained in Revision 19 of RG 1.147.

The proposed rule included a third condition. The NRC has decided not to include that condition in the final rule. The basis for removing the proposed third condition is discussed in the Public Comment Analysis section.

Code Case N–766–1 [Supplement 1, 2013 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.

Code Case N–766–1 contains provisions for repairing nickel-based Alloy 82/182 dissimilar metal butt welds in Class 1 piping using weld inlay and onlay. The NRC notes that the Code Case provides adequate requirements on the design, installation, pressure testing, and examinations of the inlay and onlay. The NRC finds that the weld inlay and onlay using the Code Case provides reasonable assurance that structural integrity of the repaired pipe will be maintained. However, certain provisions of the Code Case are inadequate and therefore the NRC imposes five new conditions. The NRC notes that the preservice and inservice inspection requirements of inlay and onlay are specified in Code Case N–770–1, as stated in Section 3(e) of Code Case N–766–1.

The first condition on Code Case N–766–1 prohibits the reduction of preservice and inservice inspection requirements specified by this Code Case for inlays or onlays applied to Alloy 82/182 dissimilar metal welds, which contain an axial indication that has a depth of more than 25 percent of the pipe wall thickness and a length of more than half axial width of the dissimilar metal weld, or a circumferential indication that has a depth of more than 25 percent of the pipe wall thickness and a length of more than 20 percent of the circumference of the pipe. Paragraph 1(c)(1) of the Code Case states that:

> . . . Indications detected in the examination of 3(b)(1) that exceed the acceptance standards of IWB–3514 shall be corrected in accordance with the defect removal requirements of IWA–4000. Alternatively, indications that do not meet the acceptance standards of IWB–3514 may be accepted by analytical evaluation in accordance with IWB–3600 . . .

This alternative would allow a flaw with a maximum depth of 75 percent through wall to remain in service in accordance with the ASME Code, Section XI, IWB–3643. Even if the inlay or onlay will isolate the dissimilar metal weld from the reactor coolant to minimize the potential for stress corrosion cracking, the NRC finds that having a 75 percent flaw in the Alloy 82/182 weld does not provide reasonable assurance of structural integrity of the affected pipe. The NRC finds that the indication in the Alloy 82/182 weld needs to be limited in size to ensure structural integrity of the weld.

The second condition on Code Case N–766–1 modifies the Code Case to require that pipe with any thickness of inlay or onlay must be evaluated for weld shrinkage, pipe system flexibility, and additional weight of the inlay or onlay. Paragraph 2(e) of the Code Case states that:

> . . . If the inlay or onlay deposited in accordance with this Case is thicker than 1/8t, where t is the original nominal DMW [Dissimilar Metal Weld] thickness, the effects of any change in applied loads, as a result of weld shrinkage from the entire inlay or onlay, on other items in the piping system (*e.g.,* support loads and clearances, nozzle loads, and changes in system flexibility and weight due to the inlay or onlay) shall be evaluated. Existing flaws previously accepted by analytical evaluation shall be evaluated in accordance with IWB–3640 . . .

The NRC finds that a pipe with any thickness of inlay or onlay must be evaluated for weld shrinkage, pipe system flexibility, and additional weight of the inlay or onlay.

The third condition on Code Case N–766–1 sets re-examination requirements for inlay or onlay when applied to an Alloy 82/182 dissimilar metal weld with any indication that the weld exceeds the acceptance standards of IWB–3514 and is accepted for continued service in accordance with IWB–3132.3 or IWB–3142.4. This condition states that the subject weld must be inspected in three successive examinations after the installation of the inlay or onlay. The NRC notes that the Code Case permits indications exceeding IWB–3514 to remain in service after inlay or onlay installation, based on analytical

evaluation of IWB–3600. The IWB–2420 requires three successive examinations for indications that are permitted to remain in service per IWB–3600. The Code Case does not discuss the three successive examinations. The NRC finds that if an inlay or onlay is applied to an Alloy 82/182 dissimilar metal weld that contains an indication that exceeds the acceptance standards of IWB–3514 and is accepted for continued service in accordance with IWB–3132.3 or IWB–3142.4, the subject weld must be inspected in three successive examinations after inlay or onlay installation. The NRC imposes this condition to ensure that the three successive examinations will be performed such that structural integrity of the affected pipe is maintained.

The fourth condition on Code Case N–766–1 prohibits an inlay or onlay with detectable subsurface indication discovered by eddy current testing in the acceptance examinations from remaining in service. Operational experience has shown that subsurface flaws on Alloy 52 welds for upper heads may be very near the surface. However, these flaws are undetectable by liquid dye penetrant, as there are no surface breaking aspects during initial construction. Nevertheless, in multiple cases, after a plant goes through one or two cycles of operation, these defects become exposed to the primary coolant. The exposure of these subsurface defects to primary coolant challenges the effectiveness of the Alloy 52 weld mitigation of only 3 mm in total thickness. In the repair of reactor vessel upper head nozzle penetrations, these welds are inspected each outage after the repair. In order to allow the extension of the inspection frequency to that defined by § 50.55a(g)(6)(ii)(F), the NRC found that all detectable subsurface indications by eddy current examination should be removed from the Alloy 52 weld layer.

The fifth condition on Code Case N–766–1 requires that the flaw analysis of paragraph 2(d) of the Code Case shall also consider primary water stress corrosion cracking growth in the circumferential and axial directions, in accordance with IWB–3640. The postulated flaw evaluation in the Code Case only requires a fatigue analysis. Conservative generic analysis by the NRC has raised the concern that a PWSCC flaw could potentially grow through the inner Alloy 52 weld layer and into the highly susceptible Alloy 82/182 weld material, to a depth of 75 percent through-wall, within the period of reexamination frequency required by § 50.55a(g)(6)(ii)(F). Therefore, users of this Code Case will verify, for each weld, that a primary water stress corrosion crack will not reach a depth of 75 percent through-wall within the required re-inspection interval.

Code Case N–799 [Supplement 4, 2010 Edition]

Type: Revised.

Title: Dissimilar Metal Welds Joining Vessel Nozzles to Components, Section XI, Division 1.

The January 2018 final rule included a response to a public comment about Code Case N–799 (83 FR 2348). In the public comment response, the NRC described how the conditions on Code Case N–799 were being changed to four conditions. However the change to the conditions were not reflected in Revision 18 to RG 1.147. As an administrative correction, the conditions on N–799 are corrected in Revision 19 to RG 1.147, Table 2, as described in the January 2018 final rule.

Code Case N–824 [Supplement 11, 2010 Edition]

Type: New.

Title: Ultrasonic Examination of Cast Austenitic Piping Welds From the Outside Surface, Section XI, Division 1.

Code Case N–824 is a new Code Case for the examination of cast austenitic piping welds from the outside surface. The NRC, using NUREG/CR–6933 and NUREG/CR–7122, determined that inspections of cast austenitic stainless steel (CASS) materials are very challenging, and sufficient technical basis exists to condition the Code Case to bring the Code Case into agreement with the NUREG/CR reports. The NUREG/CR reports also show that CASS materials produce high levels of coherent noise. The noise signals can be confusing and mask flaw indications.

The optimum inspection frequencies for examining CASS components of various thicknesses are described in NUREG/CR–6933 and NUREG/CR–7122. For this reason, the NRC added a condition to require that ultrasonic examinations performed to implement ASME BPV Code Case N–824 on piping greater than 1.6 inches thick shall use a phased array search unit with a center frequency of 500 kHz with a tolerance of +/- 20 percent.

The NUREG/CR–6933 shows that the grain structure of CASS can reduce the effectiveness of some inspection angles, namely angles including, but not limited to, 30 to 55 degrees with a maximum increment of 5 degrees. For this reason, the NRC imposes a condition to require that ultrasonic examinations performed to implement ASME BPV Code Case N–824 shall use angles including, but not limited to, 30 to 55 degrees with a maximum increment of 5 degrees. Therefore, the NRC finds Code Case N–824 acceptable with the following conditions: (1) Instead of paragraph 1(c)(1)(–c)(–2), licensees shall use a search unit with a center frequency of 500 kHz with a tolerance of ± 20 percent, and (2) instead of Paragraph 1(c)(1)(–d), the search unit must produce angles including, but not limited to, 30 to 55 degrees with a maximum increment of 5 degrees.

Existing regulations in § 50.55a(a)(1)(iii)(E) and (b)(2)(xxxvii) discuss N–824 and the associated conditions. The NRC previously incorporated Code Case N–824 by reference directly in § 50.55a and provided conditions for its use in a final rule dated July 18, 2017 (82 FR 32934), to allow licensees to use recent advances in inspection technology and perform effective inservice inspection of CASS components. Because N–824 will now be incorporated in RG 1.147, the existing requirements are redundant. These paragraphs are removed.

Code Case N–829 [Supplement 0, 2013 Edition]

Type: New.

Title: Austenitic Stainless Steel Cladding and Nickel Base Cladding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1.

Code Case N–829 is a new Code Case for the use of automatic or machine GTAW temper bead technique for the repair of stainless steel cladding and nickel-base cladding without the specified preheat or postweld heat treatment in Section XI, Paragraph IWA–4411.

The NRC finds the Code Case acceptable on the condition that the provisions of Code Case N–829, paragraph 3(e)(2) or 3(e)(3) may only be used when it is impractical to use the interpass temperature measurement methods described in 3(e)(1), such as in situations where the weldment area is inaccessible (*e.g.,* internal bore welding) or when there are extenuating radiological conditions. The NRC determined that interpass temperature measurement is critical to obtaining acceptable corrosion resistance and/or notch toughness in a weld. Only in areas which are totally inaccessible to temperature measurement devices or when there are extenuating radiological conditions shall alternate methods be allowed such as the calculation method from section 3(e)(2) in ASME Code Case N–829 or the weld coupon test method shown in section 3(e)(3) in ASME Code Case N–829.

Code Case N–830 [Supplement 7, 2013 Edition]

Type: New.

Title: Direct Use of Master Fracture Toughness Curve for Pressure-Retaining Materials of Class 1 Vessels, Section XI, Division 1.

Code Case N–830 is a new Code Case introduced in the 2013 Edition of the ASME Code. This Code Case outlines the use of a material specific master curve as an alternative fracture toughness curve for crack initiation, K_{IC}, in Section XI, Division 1, Appendices A and G, for Class 1 pressure retaining materials, other than bolting.

The NRC finds the Code Case acceptable with one condition to prohibit the use of the provision in Paragraph (f) of the Code Case that allows for the use of an alternative to limiting the lower shelf of the 95 percent lower tolerance bound Master Curve toughness, $K_{JC\text{-}lower\ 95\%}$, to a value consistent with the current K_{IC} curve. Code Case N–830 contains provisions for using the $K_{JC\text{-}lower\ 95\%}$ curve and the master curve-based reference temperature T_o as an alternative to the K_{IC} curve and the nil-ductility transition reference temperature RT_{NDT} in Appendices A and G of the ASME Code, Section XI. T_o is determined in accordance with ASTM International Standard E 1921, ''Standard Test Method for the Determination of Reference Temperature, T_o, for Ferritic Steels in the Transition Range,'' from direct fracture toughness testing data. The RT_{NDT} is determined in accordance with ASME Code, Section III, NB–2330, ''Test Requirements and Acceptance Standards,'' from indirect Charpy V-notch testing data, and RG 1.99, Revision 2, ''Radiation Embrittlement of Reactor Vessel Materials.'' Considering the entire test data at a wide range of $T–RT_{NDT}$ (-400 °F to 100 °F), the NRC found that the current K_{IC} curve also represents approximately a 95 percent lower tolerance bound for the data. Thus, using the $K_{JC\text{-}lower\ 95\%}$ curve based on the Master Curve is acceptable. However, since Paragraph (f) provides a significant deviation from the $K_{JC\text{-}lower\ 95\%}$ curve for $(T–T_o)$ below -115 °F in a non-conservative manner without justification, the NRC determined that Paragraph (f) of N–830 must not be applied when using N–830.

Code Case N–831 [Supplement 0, 2017 Edition]

Type: New.

Title: Ultrasonic Examination in Lieu of Radiography for Welds in Ferritic Pipe, Section XI, Division 1.

Code Case N–831 is a new Code Case, which provides an alternative to radiographic testing when it is required by the construction code for Section Xl repair/replacement activities. This Code Case describes the requirements for inspecting ferritic welds for fabrication flaws using Ultrasonic Testing as an alternative to the current requirements to use radiography. The Code Case describes the scanning methods, recordkeeping and performance demonstration qualification requirements for the ultrasonic procedures, equipment, and personnel.

The NRC finds the Code Case acceptable with the condition that it is prohibited for use in new reactor construction. History has shown that the combined use of radiographic testing for weld fabrication examinations followed by the use of Ultrasonic Testing for pre-service inspections and ISI ensures that workmanship is maintained (with radiographic testing) while potentially critical planar fabrication flaws are not put into service (with Ultrasonic Testing). Until studies are completed that demonstrate the ability of Ultrasonic Testing to replace radiographic testing (repair/replacement activity), the NRC will not generically allow the substitute of Ultrasonic Testing in lieu of radiographic testing for weld fabrication examinations. In addition, ultrasonic examinations are not equivalent to radiographic examinations as they use different physical mechanisms to detect and characterize discontinuities. These differences in physical mechanisms result in several key differences in sensitivity and discrimination capability. As a result of these differences, as well as in consideration of the inherent strengths of each of the methods, the two methods are not considered to be interchangeable, but are considered complementary. In addition, using ultrasonic examinations instead of radiographic testing has a particular advantage for operating plants that is not present during new reactor construction. Operating plants must take into account the additional dose from irradiated plant equipment, which may present challenges to keeping radiological dose (man-rem) as low as reasonably achievable. In contrast, there is no irradiated plant equipment present during new reactor construction. Thus, the additional dose that may be received during radiographic testing in operating plants may present a hardship or unusually difficulty without an equal compensating increase in the level of quality or safety for operating plants, but does not justify the reduction in quality assurance for new construction. In addition, performing ultrasonic examination under a repair or replacement activity for operating plants allows the ultrasonic examination results to be available for comparison in future inservice inspections that use ultrasonic examination. Therefore, the NRC has determined that this Code Case is not acceptable for use on new reactor construction.

Code Case N–838 [Supplement 2, 2015 Edition]

Type: New.

Title: Flaw Tolerance Evaluation of Cast Austenitic Stainless Steel Piping, Section XI, Division 1.

The NRC approves Code Case N–838 with the following condition: Code Case N–838 shall not be used to evaluate flaws in cast austenitic stainless steel piping where the delta ferrite content exceeds 25 percent.

Code Case N–838 contains provisions for performing a postulated flaw tolerance evaluation of ASME Class 1 and 2 CASS piping with delta ferrite exceeding 20 percent. The Code Case provides a recommended target flaw size for the qualification of nondestructive examination methods, along with an approach that may be used to justify a larger target flaw size, if needed. The Code Case is intended for the flaw tolerance evaluation of postulated flaws in CASS base metal adjacent to welds, in conjunction with license renewal commitments. The NRC notes that the Code Case is limited in application and provides restrictions so that the Code Case will not be misused. For example, the Code Case is applicable to portions of Class 1 and 2 piping comprised of SA–351 statically- or centrifugally-cast Grades CF3, CF3A, CF3M, CF8, CF8A and CF8M base metal with delta ferrite exceeding 20 percent and niobium or columbium content not greater than 0.2 weight percent. This Code Case is limited to be applied to thermally aged CASS material types as listed with normal operating temperatures between 500 °F and 662 °F. The Code Case is not applicable for evaluation of detected flaws. Section 3 of the Code Case provides specific analytical evaluation procedures for the pipe mean-radius-to-thickness ratio greater than 10 and for those with a ratio less than 10. Tables 1 through 4 provide the maximum tolerable flaw depth-to-thickness ratio for circumference and axial flaws.

However, the NRC finds paragraph 3(c) of the Code Case to be inadequate. Paragraph 3(c) specifies that for delta ferrite exceeding 25 percent, or pipe mean-radius-to-thickness ratio exceeding 10, the flaw tolerance evaluation shall be performed, except

that representative data shall be used to determine the maximum tolerable flaw depths applicable to the CASS base metal and mean-radius-to-thickness ratio, in lieu of Tables 1 through 4 of the Code Case.

The NRC notes that there are insufficient fracture toughness data for cast austenitic stainless steel that is greater than 25 percent in the open source literature. As such, the NRC needs to review flaw tolerance evaluations to ensure that they are performed with adequate conservatism. Therefore, the NRC imposes a condition to prohibit the use of this Code Case where delta ferrite in cast austenitic stainless steel piping exceeds 25 percent.

Code Case N–843 [Supplement 4, 2013 Edition]

Type: New.

Title: Alternative Pressure Testing Requirements Following Repairs or Replacements for Class 1 Piping between the First and Second Inspection Isolation Valves, Section XI, Division 1.

Code Case N–843 is consistent with alternatives that have been granted by the NRC. The NRC is concerned about return lines being included that could allow significantly lower pressures to be used on Class 1 portions of return lines. Therefore, the NRC imposes a condition to ensure that the injection lines are tested at the highest pressure of the line's intended safety function. If the portions of the system requiring pressure testing are associated with more than one safety function, the pressure test and visual examination VT–2 shall be performed during a test conducted at the higher of the operating pressures for the respective system safety functions.

Code Case N–849 [Supplement 7, 2013 Edition]

Type: New.

Title: In Situ VT–3 Examination of Removable Core Support Structures Without Removal, Section XI, Division 1.

Code Case N–849 is a new Code Case introduced in the 2013 Edition of ASME Code. This Code Case is meant to provide guidelines for allowing the VT–3 inspection requirements of Table IWB–2500–1 for preservice or inservice inspections of the core support structures to be performed without the removal of the core support structure. The NRC finds the Code Case acceptable with two new conditions.

The first condition on Code Case N–849 limits the use of the Code Case to plants that are designed with accessible core support structures to allow for *in situ* inspection. Code Case N–849 allows the performance of VT–3 preservice or inservice visual examinations of removable core support structures *in situ* using a remote examination system. A provision of the Code Case is that all surfaces accessible for examination when the structure is removed shall be accessible when the structure is *in situ,* except for load bearing and contact surfaces, which would only be inspected when the core barrel is removed. Designs for new reactors, such as certain small modular reactors, may include accessibility of the annulus between the core barrel and the reactor vessel. Unlike some new reactor designs, currently operating plants were not designed to allow *in situ* VT–3 examinations. There are no industry survey results of the current fleet to provide an evaluation of operating plant inspection findings. Therefore, applicability to the designs of currently operating plants has not been satisfactorily addressed.

The second condition on Code Case N–849 requires that prior to initial plant startup, the VT–3 preservice examination shall be performed with the core support structure removed, as required by ASME Section XI, IWB–2500–1, and shall include all surfaces that are accessible when the core support structure is removed, including all load bearing and contact surfaces. The NRC has concerns that a preservice examination would not be performed on the load bearing and contact surfaces even though the surfaces would be accessible prior to installing the core support structure. There is also no evidence that the *in situ* examination will achieve the same coverage as the examination with the core support structure removed.

3. ASME Operation and Maintenance Code Cases (RG 1.192)

Code Case OMN–1 Revision 2 [2017 Edition]

Type: Revised.

Title: Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants.

The conditions on Code Case OMN–1, Revision 2 [2017 Edition] are identical to the conditions on OMN–1 Revision 1 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–1, 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 3 of RG 1.192.

Code Case OMN–3 [2017 Edition]

Type: Reaffirmed.

Title: Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants.

The conditions on Code Case OMN–3 [2017 Edition] are identical to the conditions on OMN–3 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–3, 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 3 of RG 1.192.

Code Case OMN–4 [2017 Edition]

Type: Reaffirmed.

Title: Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants.

The conditions on Code Case OMN–4 [2017 Edition] are identical to the conditions on OMN–4 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–4, 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 3 of RG 1.192.

Code Case OMN–9 [2017 Edition]

Type: Reaffirmed.

Title: Use of a Pump Curve for Testing.

The conditions on Code Case OMN–9 [2017 Edition] are identical to the conditions on OMN–9 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–9, 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 3 of RG 1.192.

Code Case OMN–12 [2017 Edition]

Type: Reaffirmed.

Title: Alternative Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants (OM–Code 1998, Subsection ISTC).

The conditions on Code Case OMN–12 [2017 Edition] are identical to the conditions on OMN–12 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–12, 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 3 of RG 1.192.

Code Case OMN–13 Revision 2 [2017 Edition]

Type: Reaffirmed.
Title: Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants.

The NRC has moved Code Case OMN–13, Revision 2 (2017 Edition) to Table 2 in RG 1.192 to clarify its acceptance for use with all editions and addenda of the OM Code listed in § 50.55a(a)(1)(iv).

Code Case OMN–18 [2017 Edition]

Type: Reaffirmed.
Title: Alternate Testing Requirements for Pumps Tested Quarterly Within ±20 Percent of Design Flow.

The conditions on Code Case OMN–18 [2017 Edition] are identical to the conditions on OMN–18 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–18, 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 3 of RG 1.192.

Code Case OMN–19 [2017 Edition]

Type: Reaffirmed.
Title: Alternative Upper Limit for the Comprehensive Pump Test.

The conditions on Code Case OMN–19 [2017 Edition] are identical to the conditions on OMN–19 [2012 Edition] that were approved by the NRC in Revision 2 of RG 1.192 in January 2018. When ASME revised OMN–19, 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 3 of RG 1.192.

Code Case OMN–20 [2017 Edition]

Type: Reaffirmed.
Title: Inservice Test Frequency.

This Code Case is applicable to the editions and addenda of the OM Code listed in § 50.55a(a)(1)(iv).

With the acceptance of Code Case OMN–20 in RG 1.192, Revision 3, paragraphs (a)(1)(iii)(G) and (b)(3)(x) in § 50.55a accepting Code Case OMN–20 are unnecessary. The paragraphs in § 50.55a are removed with this final rule.

C. ASME Code Cases not Approved for Use (RG 1.193)

The ASME Code Cases that are currently issued by 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 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. The NRC is not adopting any of the Code Cases listed in RG 1.193.

III. Opportunities for Public Participation

The proposed rule and draft RGs were published in the **Federal Register** on August 16, 2018 (83 FR 40685), for a 75-day comment period. The public comment period closed on October 30, 2018. The NRC did not seek public comments on the draft revision to RG 1.193. Any reconsideration for approval by the NRC of such Code Cases will include an opportunity for public comment.

IV. Public Comment Analysis

The NRC received a total of five comment submissions on the proposed rule and draft RGs, for a total of 20 comments. The NRC reviewed every comment submission and identified 12 unique comments requiring the NRC's consideration and response. Comment summaries and the NRC's responses are presented in this section. At the beginning of each summary, the individual comments represented by the summary are identified in the form [XX–YY] where XX represents the Submission ID in Table III and YY represents the sequential comment within the submission. Multiple comments expressed general support for the rulemaking. Those comments are listed at the bottom of Table III, but no specific changes were made to the final rule in response to those comments.

TABLE III

Submission ID	Sequential comment No.	Commenter	Code case	ADAMS Accession No.
Public Comments To Modify the Rule or RGs				
NRC–2017–0024–0006	6–1	Jungbao Zhang	N–841	ML18282A102
NRC–2017–0024–0007	7–1	Glen Palmer	OMN–13	ML18298A186
NRC–2017–0024–0008	8–1	Christian Sanna of ASME Board on Nuclear Codes and Standards.	n/a	ML18303A362
NRC–2017–0024–0008	8–10	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–831	ML18303A362
NRC–2017–0024–0008	8–11	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–795	ML18303A362
NRC–2017–0024–0008	8–4	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–702	ML18303A362
NRC–2017–0024–0008	8–5	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–705	ML18303A362
NRC–2017–0024–0008	8–7	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–711–1	ML18303A362
NRC–2017–0024–0008	8–8	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–711–1	ML18303A362
NRC–2017–0024–0008	8–9	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–831	ML18303A362
NRC–2017–0024–0009	9–1	Douglas Kull & Carl Latiolias of EPRI	N–695–1	ML18303A377
NRC–2017–0024–0009	9–2	Douglas Kull & Carl Latiolias of EPRI	N–711–1	ML18303A377
NRC–2017–0024–0009	9–3	Douglas Kull & Carl Latiolias of EPRI	N–711–1	ML18303A377
NRC–2017–0024–0009	9–4	Douglas Kull & Carl Latiolias of EPRI	N–754–1	ML18303A377
NRC–2017–0024–0009	9–5	Douglas Kull & Carl Latiolias of EPRI	N–831	ML18303A377

TABLE III—Continued

Submission ID	Sequential comment No.	Commenter	Code case	ADAMS Accession No.
NRC–2017–0024–0010	10–1	Justin Wheat of SNO—Southern Nuclear Operating Company.	N–702	ML18304A266
Public Comments Supporting the Rule				
NRC–2017–0024–0008	8–12	Christian Sanna of ASME Board on Nuclear Codes and Standards.	n/a	ML18303A362
NRC–2017–0024–0008	8–2	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–661–3, N–789–2, N–853, and N–854.	ML18303A362
NRC–2017–0024–0008	8–3	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–516–4, N–695–1, N–696–1.	ML18303A362
NRC–2017–0024–0008	8–6	Christian Sanna of ASME Board on Nuclear Codes and Standards.	N–711–1	ML18303A362

Regulatory Guide 1.84, Revision 38 (Draft Regulatory Guide (DG) 1345)

Code Case N–841 Exemptions to Mandatory Post Weld Heat Treatment (PWHT) of SA–738 Grade B for Class MC Applications Section III, Division 1

Comment [6–1]: The comment raises issues with the use of shielded metal arc welding (SMAW) electrodes identified with a diffusible hydrogen content of H–8 or lower and states that, ''Currently, for pressure vessels, diffusible hydrogen designator is H4 or lower.'' The comment also raises issues with the minimum heat input of 66,000 Joules/inch (26,000 Joules/Centimeter) and states, ''For ensuring HAZ [heat affected zone] properties, the heat input shall be as low as possible, normally, 14,000–30,000 Joules/centimeter.'' The comment recommends moving N–841 to Table 2 and adding a condition which states, ''when using the SMAW process the welding electrodes are identified with a diffusible hydrogen designator of H4 or lower and the heat input shall be specified according to the PQR.''

NRC Response: The NRC disagrees with this comment. Concerning the use of electrodes identified with diffusible hydrogen content of H4 or lower, ASME Code, Section III, Subsection NE (Class MC components), does not require the use of H4 or lower designated SMAW electrodes. Subsection NB (Class 1 components) does require the use of H4 or lower designated SMAW electrodes when employing the temper bead welding technique at ambient temperature. Code Case N–841 is for Class MC, does not entail the use of the temper bead welding technique, nor does it permit welding at ambient temperature. For SMAW welding, the Code Case requires a minimum preheat of 250 °F.

Concerning minimum heat input comment, during the development of the Code Case, Y-groove testing was performed using the SMAW process. The testing performed showed that weld heat input below 66,000 Joules/inch with a preheat below 250 °F can increase the probability of HAZ cracking.

No change was made to this final rule as a result of this comment.

Regulatory Guide 1.147, Revision 19 (DG–1342)

Generic Comment Clarification of the Term ''Superseded''

Comment [8–1]: One comment asked whether the word ''superseded'' used in RG 1.147, applies to those Code Cases that are superseded by ASME or those Code Cases that are listed as superseded in Table 5 of Regulatory Guide 1.147. The comment recommended revising the second sentence of this paragraph to clarify that the older or superseded version of the Code Case, if listed in Table 5, cannot be applied by the licensee or applicant for the first time.

NRC Response: The NRC agrees with this comment. The proposed additional text will clarify the information presented in Table 5. The introductory paragraph to Table 5 in RG 1.147 has been revised to include the statement, ''The versions of the Code Cases listed in Table 5 cannot be applied by the licensee or applicant for the first time after the effective date of this RG.'' at the end of the explanatory text above Table 5.

Code Case N–696–1 Qualification Requirements for Mandatory Appendix VIII Piping Examinations Conducted From the Inside Surface, Section XI, Div. 1

Condition: Inspectors qualified using the 0.25 RMS error for measuring the depths of flaws using N–695–1 are not qualified to depth-size inner diameter (ID) surface breaking flaws greater than 50 percent through-wall in dissimilar metal welds 2.1 inches or greater in thickness. When an inspector qualified using N–695–1 measures a flaw as greater than 50 percent through-wall in a dissimilar metal weld from the ID, the flaw shall be considered to have an indeterminate depth.

Comment [9–1]: The discussion of the condition as found in the **Federal Register** Vol. 83, No. 159, focused mainly on dissimilar metal welds (DMW) whereas the condition defined in DG–1342 applies to the coordinated implementation of Supplements 2, 3, & 10 from the ID surface. Section 3.3 of the Code Case require users to follow Supplement 10 (Alt. CC N–695–1) for DMW and Supplement 3 for ferritic welds. As conditioned, Code Case N–695–1, includes depth sizing acceptance criteria of 0.25 RMS and Supplement 3 depth sizing acceptance criteria remains unchanged at 0.125. As written the proposed condition on Code Case N–696–1 would require examiners qualified to depth size flaws in ferritic and austenitic welds, from the ID surface, to report flaws greater than 50 percent through wall as having an indeterminate depth, which is inconsistent with discussion included in the **Federal Register** Vol. 83, No. 159, and in the regulatory analysis for the proposed rule.

NRC Response: The NRC agrees with the comment. The FRN for the proposed rule only mentioned dissimilar metal welds when ASME Code Case N–696–1 applies to ferritic, dissimilar metal welds, and austenitic welds. The condition is intended for procedures, equipment, and personnel qualified to examine dissimilar and austenitic welds greater than 2.1 inches. In response to this comment, the condition on N–696–1 in RG 1.147 has been revised to clarify the weld types to which the condition applies.

Code Case N–702 Alternative Requirements for Boiling Water Reactor (BWR) Nozzle Inner Radius and Nozzle-to-Shell Welds, Section XI, Division 1

Condition: The applicability of Code Case N–702 for the first 40 years of operation must be demonstrated by satisfying the criteria in Section 5.0 of NRC Safety Evaluation regarding BWRVIP–108 dated December 18, 2007 (ML073600374) or Section 5.0 of NRC Safety Evaluation regarding BWRVIP–241 dated April 19, 2013 (ML13071A240). The use of Code Case N–702 in the period of extended operation is prohibited.

Comment (8–4, 10–1): The proposed conditions on Code Case N–702 state, in part, that ''The use of Code Case N–702 in the period of extended operation is prohibited.'' Two comment submissions suggest that the proposed condition be revised to provide better guidance to licensees on how this case may be used during the period of extended operation, rather than to simply prohibit its use. Specifically, one comment suggests that the above condition be replaced with the following to better describe the explanation provided in the **Federal Register** document for the proposed rule:

''The use of Code Case N–702 after the first 40 years of operation is not approved. Licensees that wish to use Code Case N–702 after the first 40 years of operation may submit relief requests based on BWRVIP–241, Appendix A, 'BWR Nozzle Radii and Nozzle-to-Vessel Welds Demonstration of Compliance with the Technical Information Requirements of the License Renewal Rule (10 CFR 54.21).' ''

NRC Response: The NRC disagrees with the comment. Because all licensees may propose an alternative to the code requirements under § 50.55a(z) ''Alternatives to codes and standards requirements,'' there is no need to repeat that option here. The language proposed in the comment could be viewed as limiting the potential alternatives that could be proposed by licensees.

No change was made to this final rule as a result of this comment.

Code Case N–705 Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 or 3 Vessels and Tanks Section XI, Division 1

Condition: The ASME Code repair or replacement activity temporarily deferred under the provisions of this Code Case shall be performed during the next scheduled refueling outage. If a flaw is detected during a scheduled shutdown, an ASME Code repair is required before plant restart.

Comment [8–5]: In the proposed rule, the NRC has indicated a concern with use of this case to permit a component with through-wall leakage to operate for up to 26 months before repairs are made. However, the proposed condition applies to all applications of this case, including those where through-wall leakage has not occurred. One comment suggests that the proposed condition could be revised to read as follows to address this concern:

''The ASME Code repair or replacement activity temporarily deferred under the provisions of this Code Case shall be performed during the next scheduled refueling outage for any through-wall flaws. If a through-wall flaw is detected during a scheduled shutdown, an ASME code repair is required before plant restart.''

NRC Response: The NRC agrees with the comment. Flaws that are not through-wall and have been evaluated in accordance with the Code Case should be allowed to remain in service the entire length of the period evaluated by the Code Case (*i.e.,* up to 26 months). The evaluation methods of the Code Case reasonably assure the structural integrity of the component will not be impacted during the period of the evaluation. The NRC believes through wall flaws accepted in accordance with the Code Case should be subject to repair/replacement at the next refueling outage. The NRC also removed the second sentence in the proposed condition, which would have required an ASME code repair of the tank before plant restart if a through-wall flaw is detected during a scheduled shutdown. The NRC finds that the second sentence of the proposed condition is not necessary because the time period evaluated under the Code Case is greater than the period between refueling outages and the evaluation methods of the Code Case reasonably assure that the structural integrity of the component will not be impacted during that period. In the RG 1.147, the condition on N–705 has been revised in response to this comment.

Code Case N–711–1 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

Condition: Code Case N–711–1 shall not be used to redefine the required examination volume for preservice examinations or when the postulated degradation mechanism for piping welds is PWSCC, Intergranular Stress Corrosion Cracking (IGSCC) or crevice corrosion (CC) degradation mechanisms.

Comment [8–7, 9–2]: Two comment submissions stated that the proposed RG 1.147, Table 2, condition should not prohibit the use of Code Case N–711–1 for preservice examinations for piping welds where use of this case is not prohibited for inservice examination. The preservice examination volume serves as a baseline for subsequent inservice examinations which should interrogate the same volume.

NRC Response: The NRC disagrees with this comment in that the Code Case should not be applied to new reactors since regulations require new plants be designed for accessibility for inservice inspection. For preservice examinations related to repair/replacements activities, IWA–4000 makes it clear that preservice exams are required. IWA–1400 also says the owner's responsibility includes design and arrangement of system components to include adequate access and clearances for conduct of examination and tests.

No change was made to this final rule as a result of this comment.

Comment [8–8, 9–3]: Two comment submissions stated that the proposed condition, prohibiting the use of this case to redefine the required examination volume when the postulated degradation mechanism for piping welds is Intergranular Stress Corrosion Cracking (IGSCC), is unnecessary for the following reasons:

1. For boiling water reactor (BWR) plants, this case does not provide alternative examination volumes.

2. For pressurized water reactor (PWR) plants, Table 2 of the case requires compliance with the examination requirements of B–F, B–J, C–F–1, C–F–2, or R–A, as applicable, so this case specifies an appropriate volume of primary interest for IGSCC.

NRC Response: The NRC agrees with this comment. The Code Case appropriately requires the correct volume to be examined for IGSCC in PWR plants. The condition to Code Case N–711–1 in RG 1.147 has been revised in response to these comments.

Code Case N–754–1 Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1

Condition: (3) The optimized weld overlay in this Code Case can only be installed on an Alloy 82/182 weld where the outer 25 percent of weld wall thickness does not contain indications that are greater than 1/16 inch in length or depth.

Comment [9–4]: The use of optimized weld overlays is most beneficial in applications with large bore components where the outer 25 percent

can represent a significant volume of weld metal. One comment stated that it is not unreasonable to expect that fabrication flaws that meet the original pre-service acceptance standards defined in IWB–3514 to be present within the volume of a weld.

Currently Code Case N–754–1 references Code Case N–770 for the acceptance standards for optimized weld overlays. Code Case N–770 states that the preservice examination acceptance standards of IWB–3514 shall be met for flaws in the weld overlay material and the outer 25 percent of the original weld/base material, which is consistent with the original ASME Section XI acceptance standards of the original structural butt weld.

Additionally, the current condition refers to ''indications'' that are greater than 1/16 inch in length or depth it is important to note that indications are not always synonymous with flaws. Indications can be attributed to geometric features, metallurgical responses or other non-flaw attributes. One comment suggested replacing the word indications with the word flaws.

Another comment stated that the condition limiting the use of this Code Case to welds with no indications greater than 1/16 inch in depth or length exceeds the original ASME section XI, acceptance standards of the weld when it was initially put in service. This condition would lead to increase examination time and unnecessary radiation exposure due to numerous repairs to remove benign, previously acceptable fabrication flaws or other non-relevant indications. These repairs could also result in undesirable residual stress profiles in the post overlaid weldment that can reduce the functional properties (compressive stresses) of the installed overlay. For these reasons, the comment submission recommends the elimination of this condition.

NRC Response: The NRC agrees with these comments. The technical basis of the optimized weld overlay in Code Case N–754–1 is that the structural integrity of the optimized weld overlay is supported by the combination of the outer 25 percent of the original weld and the deposited weld overlay on the pipe so that the thickness of the weld overlay could be less than the thickness of a full structural weld overlay. The Reply Section in Code Case N–754–1 states that it is for mitigation of flaws that do not exceed more than 50 percent in depth from the inside surface.

The NRC notes that the ASME Code, Section III, NB–5331(b), Ultrasonic Acceptance Standards, requires that indications characterized as cracks, lack of fusion, or incomplete penetration are unacceptable regardless of length. The NRC understands that the hardship of satisfying limiting flaw size in the proposed condition would lead to radiation exposure due to repairs to remove fabrication flaws prior to weld overlay installation. The NRC also notes that there is measurement uncertainty associated with ultrasonic examinations. Based on these considerations, the NRC removed the proposed condition number 3 from Code Case N–754–1 in RG 1.147.

Code Case N–795 Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following Repair/Replacement Activities, Section XI, Division 1

Condition: (1) The use of nuclear heat to conduct the BWR Class 1 system leakage test is prohibited (*i.e.,* the reactor must be in a non-critical state), except during refueling outages in which the ASME Section XI Category B–P pressure test has already been performed, or at the end of mid-cycle maintenance outages fourteen (14) days or less in duration. (2) The test condition holding time, after pressurization to test conditions, and before the visual examinations commence, shall be 1 hour for non-insulated components.

Comment [8–11]: Use of Code Case N–795 is limited to BWR Class 1 pressure tests following repair/replacement activities and does not apply to Class 1 system leakage tests performed in accordance with IWB–2500, Table IWB–2500–1, Examination Category B–P. Requirements for pressure tests following repair/replacement activities on Class 1 components are specified in IWA—4540. Requirements for pressure test holding time for tests following repair/replacement activities are specified in IWA–5213. IWA—5213(b) requires that for system pressure tests required by IWA–4540, a 10 minutes holding time for noninsulated components, or 4 hour holding time for insulated components, is required after attaining test pressure. ASME often develops technical bases for Code Cases. The technical basis for the increased hold time of 15 minutes in Code Case N–795 is as follows:

> Indication of leakage identified through visual VT–2 examinations during a test at either the 100 [percent] power pressure or at 87 [percent] of that value will not be significantly different between the two tests. Higher pressure under the otherwise same conditions will produce a higher flow rate but the difference is not significant. A pressure test at 87 [percent] of the 100 [percent] rated power pressure would produce a flow rate approximately 7 [percent] below the full test pressure. This alternate differential pressure (>/=900 psi) is still adequate to provide evidence of leakage should a through-wall flaw exist. Since the reduced pressure would generate an approximate 7 [percent] reduction in flow rate, then, a 7 [percent] increase in the required hold time should allow for the equivalent amount of total leakage from any existing leak location. This Code Case requires a 50 [percent] increase in the hold time, which will allow for more leakage than is currently generated and therefore a better indication of the leak.

For reasons identified above, the comment asserts that the 1 hour hold time imposed by Table 2 of Regulatory Guide 1.147, Rev. 18 is unnecessary, and the comment recommends that this condition be removed.

NRC Response: The NRC disagrees with this comment. The ASME's technical basis for the 15 minute hold time in Code Case N–795 relies on an argument that the time for leakage to manifest increases linearly with the decrease in flow rate corresponding to the reduction in leak test pressure. However, the relationship of the time for leakage to manifest to the flow rate may not be linear, given tight cracks, which result in a torturous path. The NRC does not consider a one hour hold time to be an excessive burden.

No change was made to this final rule as a result of this comment.

Code Case N–831 Ultrasonic Examination in Lieu of Radiography for Welds in Ferritic Pipe, Section Xl, Division 1

Condition: Code Case N–831 is prohibited for use in new reactor construction.

Comment [8–9]: Table 2 in draft revision 19 of Regulatory Guide 1.147 includes a proposed condition that prohibits Code Case N–831 for use in new reactor construction. A comment submission stated that the proposed condition is unnecessary and should be removed, for the following reasons:

1. Use of any Section XI Code Case is not permissible until initial construction of a component is complete, when the rules of Section XI become mandatory. As such, if the Construction Code requires radiography as part of the initial construction of a component, then radiography is mandatory and ultrasonic examination cannot be substituted for radiography.

2. Application of Code Case N–831 is limited to Section XI repair/replacement activities where compliance with the Construction Code nondestructive examination requirements would require the performance of radiography. Ultrasonic examination is preferred when performing a repair/replacement

activity because the ultrasonic examination results will be available to compare against future inservice examination ultrasonic examination results.

Comment [9–5]: Paragraph (a) of this Code Case specifies it is limited to Section XI repair/replacement activities which excludes its use in new construction applications, which is performed under Section III. One comment recommends the elimination of this condition since it is already included in the Code Case.

NRC Response: The NRC disagrees with these comments. The subject Code Case states that it is limited to Section XI repair/replacement activities. However, the preface in Section XI of the ASME Code also states that Section XI is allowed for repairs and replacement activities once the system has certification marks applied and therefore the requirements of the construction code is met. Therefore, Section XI would allow the use of ultrasonic examination in lieu of radiography for a repair and/or replacement of a new reactor system prior to initial fuel load. The condition is to prevent this type of use of the Code Case.

No change was made to this final rule as a result of these comments.

Comment [8–10]: Section 50.55a(b)(2)(xix) includes a Section XI condition about substitution of alternative methods. One comment recommends that the condition be revised, to specifically allow for substitution of examination methods, a combination of methods, or techniques other than those specified by the Construction Code, when permitted by Code Cases that are acceptable for use in Regulatory Guide 1.147. Without this clarification, there could be a conflict between 10 CFR 50.55a(b)(2)(xix) and use of Code Case N–831 in accordance with Table 2 of draft Regulatory Guide 1.147.

NRC Response: The NRC disagrees with the comment. There is no conflict as ASME Code Case N–831 is an alternative to Section XI, IWA–4000 ''Welding, Brazing, Metal Removal, and Installation,'' including paragraph IWA–4520(c). Additionally, the condition described in § 50.55a(b)(2)(xix) does not address ASME Code Case N–831 and is therefore not in the scope of this final rule.

No change was made to this final rule as a result of this comment.

Regulatory Guide 1.192, Revision 3 (DG–1343)

Code Case OMN–13 Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at LWR3 Power Plants

Comment [7–1]: The proposed rule referenced DG–1343 as supplemental information. DG–1343 identifies Code Case OMN–13, Revision 2 (2017 Edition), in Table 1 as an acceptable OM Code Case without condition. The 2017 Edition of the OM Code, page C–1, OM Code Cases (for Division 1), identifies applicability of Code Case OMN–13, Revision 2, as 1995 up to and including 2017. However, Code Case OMN–13, Revision 2, itself, includes an applicability statement that identifies ASME OM Code-1995 Edition through 2011 Addenda. One comment requested clarification of the OM Code edition/addenda applicability for Code Case OMN–13, Revision 2, that the NRC is approving for use.

NRC Response: The NRC agrees with this comment. The NRC has moved Code Case OMN–13, Revision 2 (2017 Edition), to Table 2, ''Conditionally Acceptable OM Code Cases,'' in RG 1.192 to clarify its acceptance for use with all editions and addenda of the OM Code listed in § 50.55a(a)(1)(iv). Similarly, the NRC noted that Code Case OMN–20 has an applicability statement that is more restrictive than necessary. Therefore, Table 2 in RG 1.192 has been revised in response to this comment.

Regulatory Guide 1.193, Revision 6 (DG–1344)

The NRC received no public comment submittals regarding DG–1344.

V. Section-by-Section Analysis

The following paragraphs in § 50.55a are revised as follows:

Paragraph (a)(1)(iii)(E)

This final rule removes and reserves paragraph (a)(1)(iii)(E).

Paragraph (a)(1)(iii)(G)

This final rule removes and reserves paragraph (a)(1)(iii)(G).

Paragraph (a)(3)

This final rule adds a condition in paragraph (a)(3) stating that the Code Cases listed in RGs 1.84, 1.147, and 1.192 may be applied with the specified conditions when implementing the editions and addenda of the ASME BPV and OM Codes incorporated by reference in § 50.55a.

Paragraph (a)(3)(i)

This final rule revises the reference to ''*NRC Regulatory Guide 1.84, Revision 37,*'' by removing ''Revision 37'' and adding in its place ''Revision 38.''

Paragraph (a)(3)(ii)

This final rule revises the reference to ''*NRC Regulatory Guide 1.147, Revision 18,*'' by removing ''Revision 18'' and adding in its place ''Revision 19.''

Paragraph (a)(3)(iii)

This final rule revises the reference to ''*NRC Regulatory Guide 1.192, Revision 2,*'' by removing ''Revision 2'' and adding in its place ''Revision 3.''

Paragraph (b)(2)(xxxvii)

This final rule removes paragraph (b)(2)(xxxvii).

Paragraph (b)(3)(x)

This final rule removes and reserves paragraph (b)(3)(x).

VI. Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act (5 U.S.C. 605(b)), the Commission certifies that this rule, if adopted, will not have a significant economic impact on a substantial number of small entities. This 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 regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The NRC did not receive public comments on the regulatory analysis. 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, inasmuch as 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.

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 31883).

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

The Commission has determined under the National Environmental Policy Act (NEPA) 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; 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. Therefore, the probability or consequences of accidents is not changed. There are also 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 will be no significant offsite impact to the public from this action.

XI. Paperwork Reduction Act Statement

This final rule amends 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 3150–0011.

Because the rule will reduce the burden for existing information collections, the public burden for the information collections is expected to be decreased by 380 hours per response. This reduction includes 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 and the results of inservice inspection and inservice testing programs. The records are generally historical in nature and provide data on which future activities can be based. Information will be used by the NRC to determine if ASME BPV and OM Code provisions for construction, inservice inspection, repairs, and inservice testing are being properly implemented in accordance with § 50.55a of the NRC regulations, or whether specific enforcement actions are necessary. Responses to this collection of information are generally mandatory under § 50.55a.

You may submit comments on any aspect of the information collections, 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–2017–0024.
- *Mail comments to:* Information Services 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; email: *oira_submission@omb.eop.gov*.

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.

XII. 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 rule, the NRC is continuing to use ASME BPV and OM Code Cases, which are ASME-approved voluntary alternatives to compliance with various provisions of the ASME BPV and OM Codes. The NRC's approval of the ASME Code Cases is accomplished by amending the NRC's regulations to incorporate by reference the latest revisions of the following, which are the subject of this rulemaking, into § 50.55a: RG 1.84, Revision 38; RG 1.147, Revision 19; and RG 1.192, Revision 3. These 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.

XIV. Incorporation by Reference—Reasonable Availability to Interested Parties

The NRC is incorporating by reference three NRC RGs that list new and revised ASME Code Cases that the NRC has approved as voluntary alternatives to certain provisions of NRC-required Editions and Addenda of the ASME BPV Code and the ASME OM Code. These regulatory guides are: RG 1.84, Revision 38; RG 1.147, Revision 19; and RG 1.192, Revision 3.

The NRC is required by law to obtain approval for incorporation by reference from the Office of the Federal Register (OFR). The OFR's requirements for incorporation by reference are set forth in 1 CFR part 51. On November 7, 2014, the OFR adopted changes to its regulations governing incorporation by reference (79 FR 66267). The discussion in this section complies with the requirement for final rules as set forth in 1 CFR 51.5(a)(1).

The NRC considers ''interested parties'' to include all potential NRC stakeholders, not only the individuals and entities regulated or otherwise subject to the NRC's regulatory oversight. These NRC stakeholders are not a homogenous group, so the considerations for determining ''reasonable availability'' vary by class of interested parties. The NRC identifies 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 10 CFR 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 10 CFR 2.315(c)).

• Federally-recognized and State-recognized [4] 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) and who need access to the materials that the NRC proposes to incorporate 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, downloaded, or 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 regulatory guides, are available in various forms at no cost, the NRC determines that the three regulatory guides 1.84, Revision 38; RG 1.147, Revision 19; and RG 1.192, Revision 3, as approved by the OFR for incorporation by reference, are reasonably available to all interested parties.

TABLE IV—REGULATORY GUIDES INCORPORATED BY REFERENCE IN 10 CFR 50.55A

Document title	ADAMS Accession No. **Federal Register** citation
RG 1.84, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' Revision 38	ML19128A276
RG 1.147, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' Revision 19	ML19128A244
RG 1.192, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' Revision 3	ML19128A261

XV. Availability of Guidance

The NRC is issuing revised guidance, RG 1.193, ''ASME Code Cases Not Approved for Use,'' Revision 6, for the implementation of the requirements in this final rule. The guidance is available in ADAMS under Accession No. ML19128A269. You may access information and comment submissions related to the guidance by searching on *https://www.regulations.gov* under Docket ID NRC–2017–0024.

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. Regulatory Guide 1.193 complements RGs 1.84, 1.147, and 1.192.

XVI. Availability of Documents

The documents identified in the following tables are available to interested persons through one or more of the following methods, as indicated. Throughout the development of this rule, the NRC has posted documents related to this rule, including public comments, on the Federal rulemaking website at: *https://www.regulations.gov* under Docket ID NRC–2017–0024. The Federal rulemaking website allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: (1) Navigate to the docket folder (NRC–2017–0024); (2) click the ''Sign up for Email Alerts'' link; and (3) enter your email address and select how frequently you would like to receive emails (daily, weekly, or monthly).

TABLE V—RULEMAKING RELATED DOCUMENTS

Document title	ADAMS Accession No./ **Federal Register** citation
ASME–OM–2017, ''*Operation and Maintenance of Nuclear Power Plants,*'' *May 31, 2017.*	Available for purchase.
Final Rule—''Incorporation by Reference of ASME BPV and OM Code Cases,'' July 8, 2003.	68 FR 40469.
Final Rule—''Fracture Toughness Requirements for Light Water Reactor Pressure Vessels,'' December 19, 1995.	60 FR 65456.
Assessment of Crack Detection in Heavy-Walled Cast Stainless Steel Piping Welds Using Advanced Low-Frequency Ultrasonic Methods (NUREG/CR–6933), March 2007..	ML071020409.
An Evaluation of Ultrasonic Phased Array Testing for Cast Austenitic Stainless Steel Pressurizer Surge Line Piping Welds (NUREG/CR–7122), March 2012..	ML12087A004.
Final Safety Evaluation for Nuclear Energy Institute ''Topical Report Materials Reliability Program (MRP): Technical Basis for Preemptive Weld Overlays for Alloy 82/182 Butt Welds in Pressurized Water Reactors (MRP–169) Revision 1–A,'' August 9, 2010..	ML101620010. ML101660468.
EPRI Nuclear Safety Analysis Center Report 202L-2, ''Recommendations for an Effective Flow Accelerated Corrosion Program,'' April 1999..	Available for purchase.
ASTM International Standard E 1921, ''Standard Test Method for the Determination of Reference Temperature, T_o, for Ferritic Steels in the Transition Range.''.	Available for purchase.
ASME Code, Section III, NB–2330, ''Test Requirements and Acceptance Standards.''	Available for purchase.
Regulatory Guide 1.99, Revision 2, ''Radiation Embrittlement of Reactor Vessel Materials.''	ML102310298.
Final Rule—''Approval of American Society of Mechanical Engineers' Code Cases'' dated January 17, 2018.	83 FR 2331.

[4] State-recognized Indian tribes are not within the scope of 10 CFR 2.315(c). However, for purposes of the NRC's compliance with 1 CFR 51.5, ''interested parties'' includes a broad set of stakeholders including State-recognized Indian tribes.

TABLE V—RULEMAKING RELATED DOCUMENTS—Continued

Document title	ADAMS Accession No./ **Federal Register** citation
Draft Guide 1345, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' (draft RG 1.84, Revision 38)..	ML18114A228.
Draft Guide 1342, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' (draft RG 1.147, Revision 19)..	ML18114A225.
Draft Guide 1343, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' (draft RG 1.192, Revision 3)..	ML18114A226.
Draft Guide 1344, ''ASME Code Cases Not Approved for Use,'' (draft RG 1.193, Revision 6).	ML18114A227.
RG 1.84, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' Revision 38.	ML19128A276.
RG 1.147, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' Revision 19.	ML19128A244.
RG 1.192, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' Revision 3.	ML19128A261.
RG 1.193, ''ASME Code Cases Not Approved for Use,'' Revision 6.	ML19128A269.
Draft Regulatory Analysis	ML18099A054.
Final Regulatory Analysis	ML19156A178.

List of Subjects in 10 CFR Part 50

Administrative practice and procedure, Antitrust, Classified information, Criminal penalties, Education, 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 forth 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 adopting the following amendments to 10 CFR part 50:

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. Remove and reserve paragraphs (a)(1)(iii)(E) and (G);

■ b. Revise paragraph (a)(3) introductory text;

■ c. In paragraph (a)(3)(i), wherever it appears remove the phrase ''Revision 37'' and add in its place the phrase ''Revision 38'';

■ d. In paragraph (a)(3)(ii), wherever it appears remove the phrase ''Revision 18'' and add in its place the phrase ''Revision 19'';

■ e. In paragraph (a)(3)(iii), wherever it appears remove the phrase ''Revision 2'' and add in its place the phrase ''Revision 3''; and

■ f. Remove paragraph (b)(2)(xxxvii) and remove and reserve paragraph (b)(3)(x).

The revision reads as follows:

§ 50.55a Codes and standards.

(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)(1)(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.

* * * * *

Dated at Rockville, Maryland, this 2nd day of March, 2020.

For the Nuclear Regulatory Commission.

Ho K. Nieh, Director,

Office of Nuclear Reactor Regulation.

[FR Doc. 2020–05086 Filed 3–13–20; 8:45 am]

BILLING CODE 7590–01–P

DEPARTMENT OF ENERGY

10 CFR Part 1004

RIN 1901–AB44

Critical Electric Infrastructure Information; New Administrative Procedures

AGENCY: Office of Electricity, U.S. Department of Energy.

ACTION: Final rule.

SUMMARY: The U.S. Department of Energy (DOE or Department) publishes this final rule to implement DOE's critical electric infrastructure information (CEII) designation authority under the Federal Power Act (FPA). In this final rule, DOE establishes administrative procedures intended to ensure that stakeholders and the public understand how the Department would designate, protect, and share CEII.

DATES: The effective date of this rule is May 15, 2020.

ADDRESSES: The docket for this rulemaking, which includes **Federal Register** notices, comments, and other supporting documents/materials, is available for review at *https://www.regulations.gov.* All documents in the docket are listed in the *https://www.regulations.gov* index. However, not all documents listed in the index, such as those containing information that is exempt from public disclosure by law, may be publicly available. A link to the docket web page can be found at *https://www.regulations.gov/docket?D=DOE-HQ-2019-0003.* The docket web page explains how to access all documents, including public comments, in the docket.

FOR FURTHER INFORMATION CONTACT: Michael Coe, U.S. Department of Energy, Office of Electricity, Mailstop OE–20, Room 8H–033, 1000