U.S. NUCLEAR REGULATORY COMMISSION

REGULATORY GUIDE 1.262, REVISION 0

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ASME CODE CASES APPROVED FOR USE WITHOUT CONDITIONS

A. INTRODUCTION

Purpose

This regulatory guide (RG) lists the American Society of Mechanical Engineers (ASME) code cases that the U.S. Nuclear Regulatory Commission (NRC) has determined to be acceptable for use without conditions.

Applicability

This RG applies to reactor licensees and applicants subject to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a, "Codes and standards."

Applicable Regulations

- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" (Ref. 1):
  - General Design Criterion (GDC) 1, "Quality Standards and Records," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 requires, in part, that structures, systems, and components important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed. Where generally recognized codes and standards are used, GDC 1 requires that they be identified and evaluated to determine their applicability, adequacy, and sufficiency and be supplemented or modified as necessary to ensure a quality product in keeping with the required safety function.
  - 10 CFR Part 50, Appendix A, GDC 30, "Quality of Reactor Coolant Pressure Boundary," requires, in part, that components that are part of the reactor coolant pressure boundary be designed, fabricated, erected, and tested to the highest quality standards practical.
  - 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," requires, in part, that measures be established for the control of special processing of materials and that proper testing be performed.

Written suggestions regarding this guide may be submitted through the NRC's public website in the NRC Library at https://www.nrc.gov/reading-rm/doc-collections/reg-guides/index.html, under Document Collections, in Regulatory Guides, at https://www.nrc.gov/reading-rm/doc-collections/reg-guides/contactus.html, and will be considered in future updates and enhancements to the "Regulatory Guide" series. During the development process of new guides, suggestions should be submitted within the comment period for immediate consideration. Suggestions received outside of the comment period will be considered if practical to do so or may be considered for future updates.

Electronic copies of this RG, previous versions of RGs, and other recently issued guides are also available through the NRC's public website in the NRC Library at https://www.nrc.gov/reading-rm/doc-collections/reg-guides/index.html under Document Collections, in Regulatory Guides. This RG is also available through the NRC's Agencywide Documents Access and Management System (ADAMS) at https://www.nrc.gov/reading-rm/adams.html, under ADAMS Accession Number (No.) ML25091A013.

- 10 CFR 50.55a(c) requires, in part, that components of the reactor coolant pressure boundary be designed, fabricated, erected, and tested in accordance with the requirements for Class 1 components of Section III, "Rules for Construction of Nuclear Power Plant Components," of the ASME Boiler and Pressure Vessel (BPV) Code (Ref. 2).

- 10 CFR 50.55a(f) requires, in part, that Class 1, 2, and 3 components and their supports meet the requirements of the ASME Operation and Maintenance (OM) Code (Ref. 3).

- 10 CFR 50.55a(g) requires, in part, that Class 1, 2, and 3 metal containment (MC), and concrete containment (CC) components and their supports meet the requirements of Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the ASME BPV Code (Ref. 4).

- 10 CFR 52.79(a)(11) (Ref. 5) requires the final safety analysis report to include a description of the program(s), and their implementation, necessary to ensure that the systems and components meet the requirements of the ASME BPV Code and the ASME OM Code in accordance with 10 CFR 50.55a.

Related Guidance

- RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III" (Ref. 6), lists the ASME BPV Code, Section III, code cases that the NRC has approved for use as voluntary alternatives to the mandatory ASME BPV Code provisions incorporated in 10 CFR 50.55a.

- RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1" (Ref. 7), lists the ASME BPV Code, Section XI, code cases that the NRC has approved for use as voluntary alternatives to the mandatory ASME BPV Code provisions incorporated in 10 CFR 50.55a.

- RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code" (Ref. 8), lists the ASME OM code cases that the NRC has approved for use as voluntary alternatives to the mandatory ASME OM Code provisions incorporated in 10 CFR 50.55a.

- RG 1.193, "ASME Code Cases Not Approved for Use" (Ref. 9), lists the ASME BPV Code Section III and Section XI code cases, and the ASME OM code cases, that the NRC has not approved for generic use.

Purpose of This Regulatory Guide

The NRC incorporates this RG into 10 CFR 50.55a by reference. This RG contains new or revised code cases that the NRC has determined to be acceptable for use without conditions. This RG supplements RGs 1.84, 1.147, and 1.192. Applicants or licensees may voluntarily use code cases approved by the NRC as an alternative to compliance with the ASME BPV and OM Code provisions that have been incorporated by reference into 10 CFR 50.55a. Because the status of code cases continually changes, the staff plans to periodically update 10 CFR 50.55a and this guide to accommodate new or revised code cases.

Paperwork Reduction Act

This RG provides voluntary guidance for implementing the mandatory information collections in 10 CFR Parts 50, 50.55a, and 52 that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). These information collections were approved by the Office of Management and Budget (OMB), under control numbers 3150-0011, 3150-0264, and 3150-0151, respectively. Send comments regarding this information collection to the FOIA, Library, and Information Collections Branch, Mail Stop: T6-A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to Infocollects.Resource@nrc.gov, and to the OMB reviewer at: OMB Office of Information and Regulatory Affairs (3150-0011, 3150-0264, and 3150-0151), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street, NW, Washington, DC, 20503.

Public Protection Notification

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

B. DISCUSSION

Reason for Issuance

ASME publishes a new edition of the BPV Code every 2 years and periodically publishes a new edition of the OM Code. In 10 CFR 50.55a(a), the NRC references the editions of the BPV Code, Section III and Section XI, and the OM Code that the agency has approved for incorporation by reference into the CFR. ASME also publishes code cases for BPV Code, Section III and Section XI, quarterly and code cases for the OM Code periodically. Code cases provide alternatives to the ASME BPV and OM Code provisions developed and approved by ASME.

In previous rulemakings for ASME code cases, the NRC incorporated by reference revisions of three RGs (RGs 1.84, 1.147, and 1.192) identifying ASME code cases that the NRC finds acceptable or conditionally acceptable for use. The NRC incorporates by reference this RG identifying ASME code cases that the NRC has determined to be unconditionally acceptable for use. This RG supplements RGs 1.84, 1.147, and 1.192 by providing additional code cases that are acceptable for use. The NRC will also continue to update and incorporate by reference RGs 1.84, 1.147, and 1.192 on a recurring basis.

Background

Applicants or licensees may voluntarily use code cases approved by the NRC as an alternative to compliance with the ASME BPV and OM Code provisions as incorporated by reference into 10 CFR 50.55a. The regulations in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6) provide requirements related to the implementation of ASME BPV Code, Section III and Section XI, code cases and the OM code cases. Licensees may implement ASME code cases in their inservice testing (IST) programs according to the requirements in 10 CFR 50.55a(f)(4)(i) and (ii). Similarly, licensees may implement ASME code cases in their inservice inspection (ISI) programs according to the requirements in 10 CFR 50.55a(g)(4)(i) and (ii). Applicants or licensees may submit a request to use code cases that the NRC has not listed in an RG incorporated by reference into 10 CFR 50.55a through proposed alternatives in 10 CFR 50.55a(z) or specific exemptions in 10 CFR 50.12, “Specific Exemptions,” as applicable.

ASME may annul a code case because its provisions have been incorporated into the BPV Code or OM Code, the application for which it was specifically developed no longer exists, experience has shown that the design analysis or construction method is no longer required, or experience has shown that an examination or testing method is no longer adequate. After ASME annuls a code case and after the NRC amends 10 CFR 50.55a and this guide, applicants and licensees may not implement that code case for the first time. However, a licensee that implemented the code case before its annulment may continue to use that Section XI or OM code case through the end of the present code of record interval and may continue to use that Section III code case until it voluntarily updates its Section III Code of Record. An annulled Section XI or OM code case cannot be used in the subsequent code of record interval unless it is implemented as an approved alternative under 10 CFR 50.55a(z) or as a specific exemption under 10 CFR 50.12. If the NRC incorporated a code case by reference into 10 CFR 50.55a and ASME later annulled it because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate, the NRC would amend 10 CFR 50.55a and this guide to remove its approval of the annulled code case. Applicants and licensees should not begin to implement such annulled code cases in advance of the rulemaking. Notwithstanding these requirements, the Commission may impose new or revised ASME BPV and OM Code requirements, including implementation schedules, that it determines are consistent with 10 CFR 50.109, “Backfitting.”

ASME may revise a code case, for example, to incorporate user experience. The licensee or applicant may not apply the older or superseded version of the code case unless it was applied before it was superseded. If an applicant or a licensee applied a code case before it was listed as superseded, it may continue to use the code case until it updates its Construction Code of Record for Section III (an applicant would update its application) or until the licensee's ISI/IST code of record interval expires for Section XI and the OM Code, after which the NRC prohibits the continued use of the code case unless the agency approves its use under 10 CFR 50.55a(z) or under 10 CFR 50.12. If the NRC incorporates a code case by reference into 10 CFR 50.55a and if ASME later issues a revised version of the code case because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate, the NRC would amend 10 CFR 50.55a and the relevant RG to remove its approval of the superseded code case. Applicants and licensees should not begin to implement such superseded code cases in advance of the rulemaking.

With regard to the use of any code case, the user is responsible for ensuring that the provisions of the code case do not conflict with licensee commitments or other regulatory requirements.

C. REGULATORY POSITION

The NRC reviewed the ASME BPV Code, Section III and Section XI, code cases listed in Supplements 3 through 6 to the 2021 Edition, and Supplements 0 through 3 to the 2023 Edition and the OM code cases listed in the applicability index on the ASME C&S Connect website. The NRC also reviewed select code cases from Supplements 5 and 6 of the 2023 ASME BPV Code. The following three tables list the code cases addressed by this RG:

(1) Table 1, "Acceptable Section III Code Cases," contains Section III code cases that are acceptable for use by applicants and licensees for Section III construction.

(2) Table 2, "Acceptable Section XI Code Cases," contains Section XI code cases that are acceptable for use by licensees in their Section XI ISI programs.

(3) Table 3, "Acceptable OM Code Cases," contains OM code cases that are acceptable for use by licensees in their IST programs.

1. Acceptable Section III Code Cases

The NRC determined that the Section III code cases listed in table 1 are acceptable for use by applicants and licensees for Section III construction. To assist users, new or newly revised code cases are shaded in grey to distinguish them from those listed in previous versions of this guide. Users should be aware that a code case approved in this RG may be a more recent version of a code case previously approved in RG 1.84. Applicants and licensees are required to follow 10 CFR 50.55a(b)(4) when applying ASME BPV Section III code cases. The third column of table 1 lists the supplement and edition in which each code case was published (e.g., "5/2017E" means Supplement 5 to the 2017 Edition of the ASME BPV Code). The NRC will update this table in the future as additional code cases are determined to be appropriate for this RG.

Table 1. Acceptable Section III Code Cases

CODE CASE NUMBER	TITLE	SUPPLEMENT/ EDITION
N-637-2	Use of 44Fe-25Ni-21Cr-Mo (Alloy UNS N08904) Plate, Bar, Fittings, Welded Pipe, and Welded Tube, Classes 2 and 3	4/2021E
N-801-4	Rules for Repair of N-Stamped Class 1, 2, 3, and MC Components	0/2023E
N-928	Use of ASTM A508/A508M in Lieu of SA-508	0/2023E
N-931	Performance and Qualification Criteria for Mitigation of Stress Corrosion Cracking by Surface Stress Improvement	0/2023E
N-933	Materials Exempted from Stress-Rupture Test	2/2023E

2. Acceptable Section XI Code Cases

The NRC determined that the Section XI code cases listed in table 2 are acceptable for use by licensees in their Section XI ISI programs. To assist users, new or newly revised code cases are shaded in grey to distinguish them from those listed in previous versions of this guide. Users should be aware that a code case approved in this RG may be a more recent version of a code case previously approved in RG 1.147. Licensees are required to follow 10 CFR 50.55a(b)(5) when applying ASME BPV Section XI code cases. The third column of table 2 lists the supplement and edition in which each code case was published (e.g., "5/2017E" means Supplement 5 to the 2017 Edition of the ASME BPV Code). The NRC will update this table in the future as additional code cases are determined to be appropriate for this RG.

Table 2. Acceptable Section XI Code Cases

CODE CASE NUMBER	TITLE	SUPPLEMENT/ EDITION
N-513-6	Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping and Gate Valves	4/2021E
N-516-6	Underwater Welding	1/2023E
N-532-6	Repair/Replacement Activity Documentation Requirements and Inservice Inspection Summary Report Preparation and Submission	0/2023E
N-639-1	Alternative Calibration Block Material	3/2021E
N-786-5	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping	1/2023E
N-788-2	Certification of Ultrasonic Examination Personnel by Third Party NDE Certification Organizations	5/2023E
N-809-2	Reference Fatigue Crack Growth Rate Curves for Austenitic Stainless Steels in Pressurized Water Reactor Environments	1/2023E
N-888-2	Similar and Dissimilar Metal Welding Using Ambient Temperature SMAW or Machine GTAW Temper Bead Technique	3/2023E
N-892-1	Alternative Requirement for Form OAR-1, Owner's Activity Report, or Inservice Inspection Summary Report Completion Time	0/2023E
N-894	Repair of Class 1, 2, and 3 Austenitic Stainless Steel with Thermal Fatigue Cracking	3/2023E
N-922	Alternative Requirements for Application of Structural Factors to Secondary Stresses for Analytical Evaluation of Flaws in Piping in Accordance with IWB-3644, IWC-3644, and IWD-3644	4/2021E
N-923	Mechanical Piping Joints	4/2021E
N-932	Alternative Requirements for Acceptance of Containment Base Metal Corrosion or Erosion	1/2023E
N-939	Alternative Requirements for Use of Mandatory Appendix XI for Repair/Replacement Activities for Aboveground Class 3 Polyethylene Piping	6/2023E

3. Acceptable OM Code Cases

The NRC determined that the OM code case listed in table 3 is acceptable for use by licensees in their IST programs. The OM Code editions to which the use of the specified code case is applicable are provided in the third column of table 3. To assist users, new or newly revised code cases are shaded in grey to distinguish them from those listed in previous versions of this guide. Users should be aware that a code case approved in this RG may be a more recent version of a code case previously approved in RG 1.192. Licensees are required to follow 10 CFR 50.55a(b)(6) when applying ASME OM code cases. The NRC will update this table in the future as additional code cases are determined to be appropriate for this RG.

Table 3. Acceptable OM Code Cases

CODE CASE NUMBER	TITLE	APPLICABILITY
OMN-23, Revision 1	Alternative Rules for Testing Pressure Isolation Valves	2001 to 2022 Editions

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants and licensees regarding the NRC staff's plans for using this RG. This RG lists the ASME BPV Code, Section III and Section XI, code cases and the ASME OM code cases that the NRC has approved for use as voluntary alternatives to the mandatory ASME BPV Code provisions incorporated by reference into 10 CFR 50.55a. The requirements addressing implementation of ASME BPV Code, Section III and Section XI, code cases and ASME OM code cases are contained in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6). 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. No backfitting is intended or approved in connection with the issuance of this guide.

REFERENCES[1]

1. *Code of Federal Regulations* (CFR), "Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy."

2. American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code*, Section III, "Rules for Construction of Nuclear Power Plant Components."[2]

3. ASME, *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST[2]

4. ASME *Boiler and Pressure Vessel Code*, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components."[2]

5. CFR, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Part 52, Chapter I, Title 10, "Energy."

6. U.S. Nuclear Regulatory Commission (NRC), Regulatory Guide (RG) 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III."

7. NRC, RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1."

8. NRC, RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code."

9. NRC, RG 1.193, "ASME Code Cases Not Approved for Use."

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[1] Publicly available NRC published documents are available electronically through the NRC Library on the NRC's public website at http://www.nrc.gov/reading-rm/doc-collections/ and through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html. For problems with ADAMS, contact the Public Document Room staff at 301-415-4737 or (800) 397-4209, or email pdr.resource@nrc.gov. The NRC Public Document Room (PDR), where you may also examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to pdr.resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

[2] Copies of American Society of Mechanical Engineers (ASME) standards may be purchased from ASME, Two Park Avenue, New York, New York 10016-5990; telephone (800) 843-2763. Purchase information is available through the ASME web-based store at https://www.asme.org/publications-submissions/publishing-information.