

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2024-0203]**

**Regulatory Guide: Acceptability of ASME Code, Section III, Division 5, “High Temperature Reactors”**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final guide; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing Revision 3 to Regulatory Guide (RG), 1.87, “Acceptability of ASME Code, Section III, Division 5, “High Temperature Reactors.”” This regulatory guide (RG) describes an approach that is acceptable to the staff of the NRC to assure the mechanical/structural integrity of components that operate in elevated temperature environments and that are subject to time-dependent material properties and failure modes. It endorses, with exceptions and limitations, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code (ASME Code) Section III, “Rules for Construction of Nuclear Facility Components,” Division 5, “High Temperature Reactors,” and several related Code Cases.

**DATES:** Revision 3 to RG 1.87 is available on **September 3, 2025**.

**ADDRESSES:** Please refer to Docket ID **NRC-2024-0203** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2024-0203**. Address questions about Docket IDs in Regulations.gov to Bridget Curran; telephone: 301-415-1003; email:

Bridget.Curran@nrc.gov. For technical questions, contact the individual(s) listed in the “For Further Information Contact” section of this document.

- **NRC’s Agencywide Documents Access and Management System**

**(ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “Begin ADAMS Public Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **NRC’s PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to [PDR.Resource@nrc.gov](mailto: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.

Revision 3 to RG 1.87 and the regulatory analysis may be found in ADAMS under Accession Nos. ML25176A084 and ML24275A267, respectively.

Regulatory guides are not copyrighted, and NRC approval is not required to reproduce them.

**FOR FURTHER INFORMATION CONTACT:** Ramón L Gascot Lozada, Office of Nuclear Regulatory Research, telephone: 301-415-2004; email: [Ramon.Gascot@nrc.gov](mailto:Ramon.Gascot@nrc.gov); Joseph Bass, Office of Nuclear Regulatory Research, telephone: 301-287-9278; email: [Joseph.Bass@nrc.gov](mailto:Joseph.Bass@nrc.gov) or Margaret Audrain, Office of Nuclear Reactor Regulation, telephone: 301-415-2133; email: [Margaret.Audrain@nrc.gov](mailto:Margaret.Audrain@nrc.gov). All are staff of the U.S. Nuclear Regulatory Commission,

Washington, DC 20555-0001.

**SUPPLEMENTARY INFORMATION:**

**I. Discussion**

The NRC is issuing a revision in the NRC’s “Regulatory Guide” series. This series was developed to describe methods that are acceptable to the NRC staff for implementing specific parts of the agency’s regulations, to explain techniques that the staff uses in evaluating specific issues or postulated events, and to describe information that the staff needs in its review of applications for permits and licenses.

The proposed Revision 3 to RG 1.87 was issued with a temporary identification of Draft Regulatory Guide, DG-1436 (ADAMS Accession No. ML24275A266). This revision (Revision 3) updates the guidance to endorse, with exceptions and limitations, the 2023 Edition of ASME Code Section III, Division 5, as a method acceptable to the staff for the materials, mechanical/structural design, construction, testing, and quality assurance of mechanical systems and components and their supports in high-temperature reactors. This revision removes conditions from Revision 2 of the RG that have been addressed in the 2023 version of the Code. This revision also endorses, with exceptions and limitations, the Code Cases N-812-1, N-861-2, N-862-2, N-872, N-898-1, N-924 and N-940.

**II. Additional Information**

The NRC published a notice of the availability of DG-1436 in the *Federal Register* on December 13, 2024 (89 FR 100921) for public comment. The NRC extended the public comment period on February 3, 2025 (90 FR 8782). The public comment period closed on February 26, 2025. Public comments on DG-1436 and the staff responses to the public comments are available in ADAMS under Accession No. ML25188A048.

### **III. Congressional Review Act**

This RG 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.

### **IV. Backfitting, Forward Fitting, and Issue Finality**

The NRC staff may use this RG as a reference in its regulatory processes, such as licensing, inspection, or enforcement. However, the NRC staff does not intend to use the guidance in this RG to support NRC staff actions in a manner that would constitute backfitting as that term is defined in section 50.109 of title 10 of the *Code of Federal Regulations* (10 CFR), “Backfitting,” and as described in NRC Management Directive (MD) 8.4, “Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests,” (Ref. 11); nor does the NRC staff intend to use the guidance to affect the issue finality of an approval under 10 CFR part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants.” The staff also does not intend to use the guidance to support NRC staff actions in a manner that constitutes forward fitting as that term is defined and described in MD 8.4. If a licensee believes that the NRC is using this RG in a manner inconsistent with the discussion in the Implementation section of this RG, then the licensee may file a backfitting or forward fitting appeal with the NRC in accordance with the process in MD 8.4.

### **V. Submitting Suggestions for Improvement of Regulatory Guides**

A member of the public may, at any time, submit suggestions to the NRC for improvement of existing RGs or for the development of new RGs. Suggestions can be submitted on the NRC’s public website at <https://www.nrc.gov/reading-rm/doc-collections/reg-guides/contactus.html>. Suggestions will be considered in future updates and enhancements to the “Regulatory Guide” series.

## **VI. Executive Order (E.O.) 12866**

The Office of Information and Regulatory Affairs determined that this RG is not a significant regulatory action under E.O. 12866.

(Authority: 42 U.S.C. 2011 *et seq.*)

Dated: August 29, 2025.

For the Nuclear Regulatory Commission.

***/RA/***

Meraj Rahimi, Chief,  
Regulatory Guide and Programs  
Management Branch,  
Division of Engineering,  
Office of Nuclear Regulatory Research.