

**STATUS OF NRC ACTIVITIES OF POTENTIAL INTEREST
TO OM STANDARDS COMMITTEE**

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**ASME OM Code Committee Meeting on December 7-9, 2022
Clearwater Beach, FL**

10 CFR 50.55a Code Edition Rulemaking

Title 10 of the *Code of Federal Regulations* (10 CFR) in Section 50.55a, "Codes and standards," incorporates by reference specific editions and addenda of the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code), and the ASME *Boiler and Pressure Vessel Code* (BPV Code), Sections III and XI.

On October 27, 2022, the NRC issued a final rulemaking to amend 10 CFR 50.55a to incorporate by reference the 2019 Edition to the ASME BPV Code, Section III, Division 1, and Section XI, Division 1, with conditions; and the 2020 Edition to Division 1 of the ASME OM Code, with conditions. See *Federal Register* Notice 87 FR 65128, dated October 27, 2022.

Items of interest in the recent 50.55a rulemaking related to the OM Code include:

1. Removed the incorporation by reference of the 2011 Addenda and 2015 Edition of the ASME OM Code from 10 CFR 50.55a, and consequently removed applicable conditions related to those addenda and edition.
2. Incorporated by reference Subsection ISTE without conditions when implementing the ASME OM Code (2020 Edition).
3. Revised 10 CFR 50.55a(b)(3)(xi) to allow increased flexibility for the valve position verification schedule for valves not susceptible to stem-disk separation by directly accepting Code Case OMN-28; and to allow schedule flexibility for initial implementation of ISTC-3700 as supplemented by (b)(3)(xi) where justified by the licensee and available for NRC staff review.
4. Modified 10 CFR 50.55a(f)(4) and (g)(4) to clarify the relationship between inservice testing (IST) and inservice inspection (ISI) programs for snubbers.
5. Added 10 CFR 50.55a(f)(7) to require nuclear power plant applicants and licensees to submit their IST Plans related to pumps, valves, and snubbers to the NRC at the outset of their 120-month IST Program intervals.

The NRC staff is initiating a proposed rulemaking to incorporate by reference the 2021 Edition of the ASME BPV Code, Division 1, Sections III and XI, and the 2022 Edition of the ASME OM Code, with conditions as appropriate. The NRC staff plans to issue the proposed rule for public comment in mid-2023.

10 CFR 50.55a Code Case Rulemaking

Revision 4 of Regulatory Guide (RG) 1.192, Revision 39 of RG 1.84, and Revision 20 of RG 1.147 address the acceptability of ASME OM Code Cases published during the similar time period as the 2020 Edition of the ASME OM Code and available on the ASME Codes & Standards (C&S) Connect Website; and specific ASME BPV Code Cases. The current NRC regulations in 10 CFR 50.55a incorporate by reference these specific revisions to RGs 1.192, 1.84, and 1.147.

RG 1.192, Revision 4, accepts new ASME OM Code Cases OMN-22 through OMN-27 without conditions. ASME OM Code Cases with conditions remain the same in Revision 4 to RG 1.192 as the previous Revision 3. The NRC issued the final rulemaking and RGs for these Code Cases in the *Federal Register* on March 3, 2022 (87 FR 11934) with an effective date of April 4, 2022.

In the next 10 CFR 50.55a Code Case rulemaking, the proposed rule will address the acceptability of recent ASME BPV Code Cases and OM Code Cases by updating the applicable RGs. In addition, the NRC staff is preparing the proposed rule in accordance with NRC Commission Paper SECY-21-0029 (March 15, 2021), "Rulemaking Plan on Revision of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a" (ML20273A286); Staff Requirements Memorandum SRM-SECY-21-0029 (November 8, 2021) (ML21312A490); and Commission Paper SECY-22-0075 (August 10, 2022), "Staff Requirements SECY-21-0029 Inservice Testing and Inservice Inspection Program Rulemakings Update" (ML22124A178). The rule will request public comments on a proposed extension of the Code of Record (COR) update requirement in 10 CFR 50.55a from 10 years to 20 or 24 years for those licensees that are implementing the 2020 Edition of the ASME OM Code and 2019 Edition of the ASME BPV Code, or later editions and addenda, as incorporated by reference in 10 CFR 50.55a. For a licensee implementing this recent Code edition or later edition as its IST/ISI Program COR, the rule will propose a 20-year or 24-year COR update interval requirement depending on whether the licensee is implementing a 10-year or 12-year OM Examination and Test interval and Section XI Inspection interval as applicable to the ASME OM and BPV Codes. The NRC staff plans to issue the proposed rule for public comment in early 2023.

Focused Engineering Inspections for Power-Operated Valves

The NRC staff is conducting focused engineering inspections for power-operated valves (POVs) at nuclear power plants by implementing Inspection Procedure 71111.21N.02, "Design-Basis Capability of Power-Operated Valves under 10 CFR 50.55a Requirements." These inspections evaluate POV capability as it relates to valve/actuator design and safety function, design-basis conditions, uncertainties applied, diagnostics, weak link evaluations, design-basis capability tests, and design-basis capability evaluations. To prepare for the POV inspections, the NRC staff conducted training for the Region inspectors on POV design, calculations, testing, operating experience, and inspection procedures. The POV inspections focus on motor-operated valves, air-operated valves, hydraulic-operated valves, solenoid-operated valves, and pyrotechnic-actuated (squib) valves. The selection process for the POV inspection sample includes risk, historical performance, and various valve sizes, types, and manufacturers. The POV inspections commenced in early 2020 and are scheduled to be completed by the end of 2022. On May 6,

2021, the NRC issued Information Notice (IN) 2021-01, “Lessons Learned from U.S. Nuclear Regulatory Commission Inspections of Design-Basis Capability of Power-Operated Valves at Nuclear Power Plants.” The NRC staff discussed further POV inspection lessons learned at a public meeting with the Boiling Water Reactor Owners Group (BWROG) on December 1, 2021 (ML21334A168). The NRC staff plans to discuss recent POV inspection lessons learned during the IST Owners Group (ISTOG) meeting in December 2022. The NRC staff plans to prepare an updated summary of the lessons learned when all of the POV inspections are complete.

Lessons Learned to Improve Check Valve Condition Monitoring

ASME OM Code, Appendix II, “Check Valve Condition Monitoring Program,” allows flexibility in developing a condition monitoring program for check valves (CVs) in lieu of specific ASME OM Code IST requirements. Operating experience has revealed that the general requirements in Appendix II need to be carefully addressed when developing a check valve condition monitoring program that will be effective in assessing the operational readiness of check valves in nuclear power plants. The following are important aspects of Appendix II to the ASME OM Code:

- ASME OM Code, Appendix II, establishes high-level requirements for implementing and maintaining a CV condition monitoring program.
- The licensee needs to perform an Appendix II analysis of test and maintenance history of valves or group of valves in order to establish the basis for specifying effective IST, examination, and preventive maintenance activities.
- The analysis specified in II-3000 needs to include:
 - Identification of any common failure or maintenance patterns
 - Evaluation of patterns to determine significance and identify potential failure mechanisms
- Appendix II specifies requirements for condition monitoring activities (II-4000), corrective maintenance (II-5000), and documentation (II-6000).

10 CFR 50.36, “Technical specifications,” and 10 CFR 50.55a, “Codes and standards”

The NRC regulations in 10 CFR 50.36 and 10 CFR 50.55a specify separate requirements for a licensee of a nuclear power plant. For example, if the ASME OM Code as incorporated by reference in 10 CFR 50.55a requires specific actions to be taken by a licensee (such as actions to be taken following an IST failure), the licensee is required to take those actions or must submit a relief or alternative request in accordance with the regulatory process specified in 10 CFR 50.55a. In addition, many surveillance requirements in technical specifications refer to the IST Program under 10 CFR 50.55a(f) for the specific frequency in performing the surveillance requirement. Therefore, it is important to consider the potential impact on the surveillance requirement frequency in technical specifications when revising the testing requirements in the ASME OM Code as incorporated by reference in 10 CFR 50.55a.

ASME-Related Generic Communications and Regulatory Guides

ASME-related generic communications and regulatory guides issued by the NRC since the last report (June 2022) to the OM Standards Committee are listed below:

Bulletins (BLs)

None

Generic Letters (GLs)

None

Information Notices (INs)

None

Regulatory Issue Summaries (RISs)

None

Regulatory Guides (RGs)

None

NUREGs

Fourteenth ASME/NRC Symposium on OM Code (previously pump, valve and dynamic restraint), January 19-20, 2022, published as NUREG/CP- 0152, Volume 11, in September 2022 (ADAMS Accession No. ML22270A130)

The full text of any of these NRC generic communications can be accessed by visiting the NRC's public website at <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/index.html>.