

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

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**ASME OM Code Committee Meeting on June 20-24, 2022
Virtual Meeting**

10 CFR 50.55a Code Edition Rulemaking

Title 10 of the *Code of Federal Regulations* (10 CFR) in Section 50.55a, “Codes and standards,” currently incorporates by reference the 2015 and 2017 Editions of the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code), the 2015 and 2017 Editions of the ASME *Boiler and Pressure Vessel Code* (BPV Code), Section XI, and the 2015 and 2017 Editions of the ASME BPV Code, Section III, with conditions. Section 50.55a also incorporates by reference selected previous editions and addenda of the ASME OM and BPV Codes, with conditions.

The scope of the current proposed rulemaking to amend 10 CFR 50.55a includes:

2019 Edition to the ASME BPV Code, Section III, Division 1, and Section XI, Division 1, with conditions; and 2020 Edition to Division 1 of the ASME OM Code, with conditions.

The proposed rulemaking for these Code editions was published in the *Federal Register* on March 26, 2021 (86 FR 16087), with a 60-day public comment period.

Specific items of interest in the proposed 50.55a rulemaking related to the OM Code include:

1. Remove the incorporation by reference of the 2011 Addenda of the ASME OM Code from 10 CFR 50.55a(a)(1)(iv)(B)(2) and consequently remove the condition on the use of the 2011 Addenda specified in 10 CFR 50.55a(b)(3)(vii) as well as the reference to the 2011 Addenda in 10 CFR 50.55a(b)(3)(ix).
2. Remove the incorporation by reference of the 2015 Edition of the ASME OM Code from 10 CFR 50.55a(a)(1)(iv)(C)(2) and the reference to the 2015 Edition in 10 CFR 50.55a(b)(3)(ix).
3. Remove the condition on the use of Subsection ISTB in the 2011 Addenda of the ASME OM Code based on the removal of its incorporation by reference in 10 CFR 50.55a.
4. Incorporate by reference Subsection ISTE in the 2020 ASME OM Code Edition without conditions.

Accession No.: ML22152A072

5. Modify 10 CFR 50.55a(f)(4) to clarify the relationship between 50.55a(f)(4) and (g)(4) regarding the inservice testing (IST) or inservice inspection (ISI) programs for snubbers. Include a provision that for snubbers, inservice examination, testing, and service life monitoring for the IST or ISI program must meet the inservice examination and testing requirements set forth in the applicable ASME OM Code or ASME BPV Code, Section XI, as specified in 10 CFR 50.55a(b)(3)(v)(A) and (B).
6. In light of the removal of the IST Program Plan submittal requirement from the 2020 Edition of the ASME OM Code, add 10 CFR 50.55a(f)(7) to require nuclear power plant applicants and licensees to submit their IST Plans and interim IST Plan updates related to pumps and valves, and IST Plans and interim Plan updates related to snubber examination and testing to the NRC.
7. Revise 10 CFR 50.55a(b)(3)(xi) to allow extended intervals for position indication testing required in ASME OM Code, Subsection ISTC, paragraph ISTC-3700, for valves that are not susceptible to stem-disk separation (similar to ASME OM Code Case OMN-28).

The NRC staff is reviewing the public comments on the proposed rule. The staff will determine whether adjustments to the draft final rule are appropriate based on those comments. The final rulemaking is currently scheduled to be published in the summer of 2022.

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 ASME BPV Code Cases listed in Supplements 0 through 7 to the 2015 Edition of the ASME BPV Code and Supplements 0 through 1 to the 2019 Edition of the ASME BPV Code. 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 proposed rule will follow directions specified in 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," (ADAMS Accession No. ML20273A286) and Staff Requirements Memorandum SRM-SECY-21-0029 (November 8, 2021). The staff is considering preparation of the rule to request public comments on a proposed extension of the Code of Record 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, as the Code of record for their IST and ISI Programs. For a licensee implementing this recent Code edition as its Code of Record, the staff is considering proposing a 20- or 24-year Code of Record 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. 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. To prepare for the POV inspection process, the NRC staff has 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. A total of 18 sites were inspected in 2020 and 17 sites in 2021. The remainder of sites are scheduled to be completed in 2022. On May 6, 2021, the NRC issued Information Notice 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 more recent POV inspection lessons learned at a public meeting with the Boiling Water Reactor Owners Group (BWROG) on December 1, 2021 (ADAMS Accession No. ML21334A168). The NRC staff will consider an updated summary of the lessons learned from the POV inspections when the program has been completed.

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).

Electric Power Research Institute (EPRI) Technical Report 3002019621, Revision 0, “Susceptibility of Valve Applications to Failure of the Stem-to-Disk Connection”

By letter dated April 28, 2021, EPRI submitted Technical Report (TR) 3002019621, Revision 0, “Susceptibility of Valve Applications to Failure of the Stem-to-Disk Connection,” to the NRC for review and approval (ADAMS Accession No. ML21126A208). By e-mail dated November 29, 2021, the NRC staff provided a draft safety evaluation (SE) for EPRI proprietary review (ADAMS Accession No. ML21273A071). EPRI provided comments on the draft SE by letter dated December 23, 2021 (ADAMS Accession No. ML22012A096). On January 21, 2022, the NRC staff held a public meeting with EPRI to discuss its comments on the draft SE. On May 4, 2022, the NRC sent the final SE to EPRI reflecting the NRC staff’s consideration of the comments provided during the public meeting. As discussed in the final SE, the NRC staff has found the TR acceptable for referencing in licensing applications for nuclear power plants to the extent specified and under the limitations delineated in the TR and in the SE. See ADAMS Accession Nos. ML22042A001 and ML22042A004.

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 nuclear power plant licensee. 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 (December 2021) 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)

RG 2.8, “Guidance for Implementation of 10 CFR 50.59, ‘Changes, Tests and Experiments,’ at Non-Power Production or Utilization Facilities,” dated February 2022.

RG 1.26, Revision 6, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants," dated December 2021.

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>.