STATUS OF NRC ACTIVITIES OF POTENTIAL INTEREST TO OM STANDARDS COMMITTEE

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ASME OM Code Committee Meeting on June 14-18, 2021
Virtual Meeting

10 CFR 50.55a 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. The final rulemaking is currently scheduled to be published in the summer of 2022.

Specific items of interest in the proposed rulemaking related to the OM Code being considered include:

1. Remove the incorporation by reference of the 2011 Addenda of the ASME OM Code from 10 CFR 50.55a(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.

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4. Incorporate by reference Subsection ISTE in the 2020 ASME OM Code Edition without conditions.

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. Allow relaxation of the interval for position indication testing required in ISTC-3700 for valves that are not susceptible to stem-disk separation.

Regulatory Guide (RG) Update – OM Code Case Acceptability

Revision 3 of RG 1.192, Revision 38 of RG 1.84, and Revision 19 of RG 1.147 address the acceptability of code cases published in the 2015 and 2017 Editions of the ASME OM Code and the ASME BPV Code, Sections III and XI code cases listed in Supplement 11 to the 2010 Edition and Supplements 0 through 7 to the 2013 Edition of the ASME BPV Code. In addition, there are six code cases selected from supplements to the 2015 Edition of the ASME BPV Code and two code cases selected from supplements to the 2017 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.

The NRC staff has completed a review of the new (Code Cases OMN-22 through OMN-27) and revised code cases published with the 2020 Edition of the ASME OM Code and published in the ASME Codes and Standards (C&S) Connect, and the 2019 Edition of Sections III and XI of the ASME BPV Code. The proposed rulemaking and RGs for these code cases were published in the *Federal Register* on February 2, 2021 (86 FR 7820), with a 60-day comment period. The final rulemaking and RGs for these code cases are currently scheduled to be published in early 2022.

Target Rock Safety Relief Valve Setpoint Drift Issue

Some licensees continue to find multiple safety relief valves (SRVs) with setpoint drift outside the Technical Specification (TS) limits each operating cycle, despite decades of corrective action. The staff's primary focus is on 2-stage Target Rock SRVs but other valve types are also affected. Based on the historic Licensee Event Report (LER) data, 2-stage Target Rock SRV setpoints have been drifting high between 3 and 10 percent (which is higher than the 3 percent typically allowed by TS), with the highest observed case drifting 18.5 percent. Further, several plants have a majority of SRVs drifting beyond the TS limits, which challenges the requirement that the SRVs will remain operable throughout the cycle. The NRC determined that the safety

significance is low, consistent with the conclusion reached in the closeout of Generic Issue GI-55, “Improved Reliability of Target Rock Safety Relief Valves,” in 1999. The staff is taking efforts to restore consistency between the plants’ licensing basis (and TSs) and the expected SRV setpoint drift. The staff discussed this issue with the Boiling Water Reactor Owners Group (BWROG) in several public meetings. The BWROG is pursuing a licensing approach to base TS compliance on how the total complement of valves performs instead of focusing on individual setpoints. The BWROG is also testing (1) new methods of applying platinum coating to the pilot valve disks, and (2) different coating materials for the disks in an attempt to reduce the corrosion bonding that causes the setpoint drift.

Focused Engineering Inspections for Power-Operated Valves

The NRC staff has been working on an initiative to update the Reactor Oversight Process (ROP) Engineering Inspections to improve effectiveness and efficiency of engineering inspections. Of interest is the development of a new inspection process for power-operated valves (POVs). The inspections for POVs evaluate 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 regional inspectors. The POV inspections focus on motor-operated valves, air-operated valves, hydraulic-operated valves, solenoid-operated valves, and pyrotechnic-actuated (squib) valves. The inspection activity examines selected valves from multiple systems. The selection process includes risk, historical performance, and various valve sizes, types, and manufacturers. Once the valves have been selected, the inspection examines POV design, testing, and maintenance. The updated POV inspection process commenced in early 2020. A total of 18 sites were inspected in 2020 and 17 more sites are currently scheduled for 2021. Due to the onslaught of the COVID-19 pandemic, the inspections primarily have been performed virtually and will continue until it is considered safe to return to the normal inspection process. On May 6, 2021, 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.”

ASME-Related Generic Communications and Regulatory Guides

ASME-related generic communications and regulatory guides issued by (or in the process of being issued by) the NRC since the last report (December 2020) to the OM Standards Committee are listed below:

Bulletins (BLs)

None

Generic Letters (GLs)

None

Information Notices (INs)

IN 2021-01, Lessons Learned from U.S. Nuclear Regulatory Commission Inspections of Design-Basis Capability of Power-Operated Valves at Nuclear Power Plants

Regulatory Issue Summaries (RISs)

None

Regulatory Guides (RGs)

None

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.