

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

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**ASME OM Code Committee Meeting on December 10-13, 2019
at Clearwater Beach, FL**

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 2012 Edition of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code), the 2013 Edition of the ASME *Boiler and Pressure Vessel Code* (BPV Code), Section XI, and the 2013 Edition 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 final rulemaking to amend 10 CFR 50.55a includes:

2015 Edition to the ASME BPV Code, Section III, Division 1, and Section XI, Division 1, with conditions.

2017 Edition to the ASME BPV Code, Section III, Division 1, and Section XI, Division 1, with conditions.

2015 Edition to Division 1 of the ASME OM Code, with conditions.

2017 Edition to Division 1 of the ASME OM Code, with conditions.

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

1. Revise 10 CFR 50.55a(f)(4)(i) and (ii) and (g)(4)(i) and (ii) to relax the time schedule for complying with the latest edition and addenda of the ASME OM or BPV Codes for Inservice Testing (IST) and Inservice Inspection (ISI) programs, respectively, from 12 months to 18 months before the applicable milestones in these paragraphs.
2. Streamline the references to editions of the ASME OM Code in each condition to simplify future 10 CFR 50.55a rulemaking, and to update specific conditions to reflect the latest ASME OM Code editions.

ASME requested that the NRC delay this rulemaking to incorporate by reference the 2017 Edition to the ASME BPV Code, Section III, Division 1 and Section XI, Division 1. The NRC Rulemaking Steering Committee agreed to accommodate ASME's request. This proposed rulemaking was published for public comment on November 9, 2018, with a 75-day public comment period. The final rulemaking package is currently scheduled to be published in March 2020.

The scope of the next 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.

2020 Edition to Division 1 of the ASME OM Code, with conditions. This Edition will be included provided that it is published by ASME in the spring of 2020.

Regulatory Guide (RG) Update – OM Code Case Acceptability

Revision 2 of RG 1.192, Revision 37 of RG 1.84, and Revision 18 of RG 1.147 address the acceptability of code cases published in the 2009 Edition through the 2012 Edition of the ASME OM Code and the Sections III and XI code cases listed in Supplement 11 to the 2007 Edition and Supplements 0 through 10 to the 2010 Edition of the ASME BPV Code. The current 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 and revised code cases published with the 2015 Edition and 2017 Edition of the ASME OM Code, and the 2015 Edition and 2017 Edition of Sections III and XI of the ASME BPV Code. The proposed rulemaking and RGs for these code cases was published in the *Federal Register* on August 16, 2018, with a 75-day comment period. The final rulemaking and RGs for these code cases is currently scheduled to be published in the January 2020.

Valve Stem-Disc Connection Issues

On June 15, 2017, the NRC issued Information Notice (IN) 2017-03, "Anchor/Darling Double Disc Gate Valve Wedge Pin and Stem-Disc Separation Failures," to inform licensees and applicants of operating experience regarding Anchor/Darling (a subsidiary of Flowserve) double disc gate valve (DDGV) failures. IN 2017-03 provides a discussion of a LaSalle County Station Unit 2 Anchor/Darling DDGV failure, events at Browns Ferry that led to Part 21 reporting, and other operating experience that resulted in stem-disc separations. The IN contains information available to the NRC staff as of May 2017. The Nuclear Energy Institute (NEI) is coordinating the industry corrective action to address the potential valve stem-disc connection issues for Anchor/Darling DDGVs at operating nuclear power plants. The NRC staff is continuing its evaluation of this issue. The NRC staff held a public meeting in May 2018 to discuss the draft inspection procedure and inspection plan. The NRC staff had a helpful discussion with the industry on the draft inspection procedure and the overall results from many valves that had been reworked to date. The industry stated that 78 valves had been reworked with favorable results in that only three valves had broken or damaged wedge pins while the remaining valve wedge pins showed no damage and were in good condition. The NRC staff inquired if the industry was willing to share the diagnostic test and rework data so that the NRC staff could

better understand the magnitude of the valve issue. The industry compiled the data for the 78 valves and presented the findings to the NRC staff in July 2018. The NRC staff reviewed the data and arranged a public meeting on October 10, 2018, to discuss the next steps for resolving this issue. At that meeting, the NRC staff proposed the formation of a working group consisting of NRC staff and industry MOV experts. The scope of the working group is to gather the diagnostic test data along with the valve attributes (such as valve size, wedge pin material, actuator capability, etc.) with the goal of establishing a set of acceptance criteria to be used to update Revision 4 of the Boiling Water Reactor Owners Group (BWROG) guidance. The intent of this effort is to identify those valves that continue to need rework versus those valves that can be monitored instead of performing a complete repair. The industry provided NRC staff an update on the spring data collected along with suggested updates to the BWROG guidance document. The NRC staff reviewed the suggested changes and provided comments. The guidance document was updated with the NRC staff comments. Moving forward, NRC staff will review individual plant programs to address this issue during the upcoming Power Operated Valve engineering inspections.

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 (vs. 3 percent typically allowed by TS), with the worst observed case drifting 18.5 percent. Further, several plants have a majority of SRVs drifting beyond the TS limits, which challenges the presumption that there is a reasonable expectation the SRVs 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 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. Of interest is the development of a new inspection process for Power Operated Valves (POVs). The initiative is to improve effectiveness and efficiency of engineering inspections. The primary focus remains unchanged. The inspection will focus on operating experience, aging management, facility changes, and risk. The inspection is intended to verify the licensee's implementation of NRC approved engineering programs (e.g., motor-operated valves (MOVs), air-operated valves (AOVs), and environmental qualification (EQ) programs). The inspection for POVs will 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 new inspection process, NRC staff has developed training for the regional inspectors. Training for

the four regions is currently scheduled to be completed by first quarter of 2020. The POV inspection will focus on MOVs, AOVs, hydraulic-operated valves, solenoid-operated valves, and pyrotechnic-actuated (squib) valves. The inspection activity will examine selected valves from multiple systems. The selection process will include risk, historical performance, and various valve sizes, types, and manufacturers. Once the valves have been selected, the inspection will examine design, testing, and maintenance. The POV inspections will commence in 2020.

NUREG-1482

The NRC staff has prepared a draft Revision 3 to NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," (Agencywide Documents and Access Management System (ADAMS) Accession Number ML19310D440) to reflect the most recent ASME OM Code editions and addenda incorporated by reference in the NRC regulations with the applicable conditions, and also to include IST lessons learned since issuance of Revision 2 to NUREG-1482. In draft Revision 3 to NUREG-1482, the NRC staff includes the 10 CFR 50.55a rulemaking to incorporate by reference the 2017 Edition of the ASME OM Code. The NRC staff plans to conduct a public meeting to discuss draft Revision 3 to NUREG-1482 during the Inservice Testing Owners Group (ISTOG) meeting on December 10, 2019, at the Sheraton Sand Key Resort in Clearwater Beach, FL.

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 (June 2019) 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)

Proposed Revision 4 to RG 1.100, "Seismic Qualification of Electrical and Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants," issued for public comment on February 27, 2019, to accept ASME Standard QME-1-

2017, "Qualification of Active Mechanical Equipment Used in Nuclear Facilities," with conditions. The NRC staff is completing Revision 4 to RG 1.100 for final issuance.

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>.