

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

**Robert Wolfgang, Senior Mechanical Engineer
Component Performance, NDE, and Testing Branch
Division of Engineering
NRC Office of Nuclear Reactor Regulation**

**ASME OM Code Committee Meeting on December 14-16
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 2005 and 2006 Addenda of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code), the 2005 Addenda through 2008 Addenda of ASME *Boiler and Pressure Vessel Code* (BPV Code), Section XI, and 2005 Addenda through 2008 Addenda 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.

In a proposed rulemaking issued on September 18, 2015, in the *Federal Register* (80 FR 56820), the U.S. Nuclear Regulatory Commission (NRC) proposed to amend 10 CFR 50.55a to incorporate by reference:

The 2009 Addenda, 2010 Edition, 2011 Addenda, and 2013 Edition to the ASME BPV Code, Section III, Division 1, and Section XI, Division 1, with conditions.

The 2009 Edition, the 2011 Addenda, and the 2012 Edition to Division 1 of the ASME OM Code, with conditions.

ASME Standard NQA-1, “Quality Assurance Requirements for Nuclear Facility Applications,” including the 1983 Edition through the 1994 Edition, the 2008 Edition, and the 2009-1a Addenda to the 2008 Edition of ASME NQA-1, with conditions.

ASME BPV Code Case N-729-4, “Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds Section XI, Division 1,” with conditions.

ASME BPV Code Case N-770-2, “Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated with UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities, Section XI, Division 1,” with conditions.

ASME BPV Code Case N-824, "Ultrasonic Examination of Cast Austenitic Piping Welds From the Outside Surface Section XI, Division 1."

ASME OM Code Case OMN-20, "Inservice Test Frequency."

In the *Federal Register* notice, the NRC staff stated that the public comment period would end on December 2, 2015. The NRC staff reviewed public comments received on the proposed rulemaking beyond the specified public comment end date. A public webinar was held on March 2, 2016, to discuss the NRC staff's responses to certain public comments. Based on public comments, the NRC staff is considering adjustments to the rule language to improve the efficiency and effectiveness of the final rule. The NRC staff is in the process of preparing a final rulemaking package, which is scheduled to be published in the first quarter of 2017.

Specific items of interest in this ongoing rulemaking related to the OM Code include:

1. Incorporation by reference of the ASME NQA-1 Standard.
2. Conditions on the use of Appendix III, "Preservice and Inservice Testing of Active Electric Motor Operated Valve [MOV] Assemblies in Light-Water Reactor Power Plants," including MOV initial diagnostic test intervals, testing interval impact on risk, allowable categorization methods, and verification during exercising that stroke time of MOVs identified in plant technical specifications satisfies plant safety analyses.
3. New reactor conditions, including power-operated valve (POV) periodic verification, check valve bidirectional testing, flow-induced vibration monitoring, and operational readiness of pumps, valves, and dynamic restraints in high risk non-safety systems.
4. Clarification of check valve monitoring provisions with adjustments based on public comments.
5. Condition requiring proposed implementation of Subsection ISTE, "Risk-Informed Inservice Testing of Components in Light-Water Reactor Nuclear Power Plants," to be submitted for NRC staff review as an alternative pursuant to 10 CFR 50.55a(z).
6. Condition requiring implementation of Appendix V, "Pump Periodic Verification Test Program," when applying Subsection ISTF, "Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants - Post-2000 Plants."
7. Incorporation by reference of ASME OM Code Case OMN-20.
8. Condition supplementing ISTC-3700, "Position Verification Testing," for valve position indication beginning with the 2012 OM Code edition.
9. Clarification that pumps and valves that are within the scope of the ASME OM Code must meet the IST requirements set forth in the ASME OM Code to the extent practical with allowable use of augmented IST programs for non-Code Class safety-related pumps and valves.

The scope of the next proposed rulemaking to amend 10 CFR 50.55a is currently planned to include:

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

The 2015 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. Periodic verification of the design-basis capability of high safety significant air-operated valves and hydraulic-operated valves.
2. Add NRC IST Plan submittal and reporting requirements consistent with current edition of OM Code.
3. 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 IST and ISI programs, respectively, from 12 months to 18 months before the applicable milestones in these paragraphs.

If a final draft of the 2016 Edition of the OM Code is made available by late 2016, the NRC staff will consider the incorporation by reference of the 2016 Edition of the OM Code into 10 CFR 50.55a together with the 2015 Edition in the next proposed rulemaking. The staff will then prepare proposed conditions for 10 CFR 50.55a to reflect the IST provisions in the 2015 and 2016 Editions of the OM Code.

This proposed rulemaking is currently scheduled to be published for public comment in April 2017, with a 75 day public comment period. The final rulemaking package is currently scheduled to be published in June 2018.

Regulatory Guide (RG) Update – OM Code Case Acceptability

Revision 1 of RG 1.192, Revision 36 of RG 1.84, and Revision 17 of RG 1.147 address the acceptability of code cases published in the 2003 Addenda through the 2006 Addenda of the ASME OM Code and the Sections III and XI code cases listed in Supplements 1 through 10 to the 2007 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 in the 2009 Edition, 2011 Addenda, and 2012 Edition of the ASME OM Code. The proposed rulemaking and RGs for these code cases was published for public comment in the *Federal Register* (81 FR 10780) on March 2, 2016. The public comment period closed on May 16, 2016. Each code case in RG 1.192 will be identified by the number assigned by the OM Code and the applicable edition or addendum of the OM Code with which it is first published.

The NRC staff has completed the review of public comments on the proposed RG rulemaking and is preparing the final rule for issuance. The final RG rulemaking is currently scheduled to be published in the second quarter of 2017.

Service Life of Nuclear Power Plant Components

Operating experience has identified failures of safety-related equipment at nuclear power plants caused by age-related degradation. The NRC documented its review of component age-related failures in "IOEB Analysis Team Study on Component Aging-Insights from Inspection Findings and Reportable Events" (ADAMS Accession No. [ML13044A469](#)). A key observation from the IOEB study is the increasing trend of safety-related structures, systems, and components (SSCs) in service beyond their documented service life without proper engineering evaluations. The NRC staff is continuing its review of operating experience related to component service life.

Dedication of Commercial-Grade Items for Use in Nuclear Power Plants

The NRC staff has developed a draft regulatory guide (DG-1292) to address dedication of commercial-grade items for use in nuclear power plants. The intent of the regulatory guide is to provide the NRC staff position on guidance developed by the Electric Power Research Institute (EPRI) for the commercial-grade dedication of parts for use in nuclear power plants. This draft regulatory guide was issued for public comment in the *Federal Register* (81 FR 44670) on July 8, 2016. The public comment period closed on September 6, 2016. The regulatory guide is currently scheduled to be published in April, 2017.

Thirteenth ASME/NRC Pump & Valve Symposium

The ASME and the NRC are jointly sponsoring the thirteenth Pump & Valve Symposium July 17-19, 2017, in Silver Spring, Maryland, at the DoubleTree by Hilton Hotel Washington DC – Silver Spring.

ASME-Related Generic Communications

ASME-related generic communications issued by (or in the process of being issued by) the NRC Office of Nuclear Reactor Regulation (NRR) and Office of New Reactors (NRO) since the last report (June 2016) to the OM Standards Committee are listed below:

Bulletins (BLs)

None

Generic Letters (GLs)

None

Information Notices (INs)

IN 2016-09 (7/15/2016) Recent Issues Identified When Using Reverse Engineering
Techniques in the Procurement of Safety-Related Components

**Regulatory Issue Summaries
(RISs)**

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>.