

STATUS OF NRC ACTIVITIES OF POTENTIAL INTEREST TO OM MAIN COMMITTEE

Tony McMurtray, Chief
Component Performance & Testing Branch
Division of Component Integrity
NRC Office of Nuclear Reactor Regulation

ASME OM Code Committee Meeting on August 17-19, 2011, at Rockville, MD

10 CFR 50.55a Rulemaking

New Rulemaking was published on June 21, 2011 (Federal Register, Vol. 76, No. 119, pages 36232-36279, dated June 21, 2011). In the new rulemaking 10 CFR 50.55a was amended to incorporate by reference the 2005 and 2006 Addendas of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, the 2005 Addenda through 2008a Edition of ASME Boiler and Pressure Vessel (B&PV) Code Section XI, and 2004 Edition through 2008 addenda of the ASME Section III.

In the spring of 2011, the NRC started the next 10 CFR 50.55a rulemaking to incorporate the 2009 Edition of the ASME OM with 2011 Addenda and the 2009 Addenda and 2010 Edition with 2011 Addenda of ASME Section III and XI into 10 CFR 50.55a in Spring 2011. **(Note: 2009 Edition and 2011 Addenda of the ASME OM Code is simply ASME OM. The word "Code" is entirely deleted from the titles and pages of document. However, some pages still mention the word "Code" and this has the potential to create some confusion for users).**

Regulatory Guide (RG) Update – OM Code Case Acceptability

The NRC staff has completed its review of the new and revised code cases published in the 2003 Addenda through the 2006 Addenda of the ASME OM. The proposed rulemaking and RGs (Revision 1 of RG 1.192 and Revision 4 of RG 1.193) for the code cases published in the 2003 Addenda through the 2006 Addenda of the ASME OM is scheduled to be issued for public comment in September 2011. The NRC staff has also completed a review of the new and revised code cases published in the 2009 Edition of the ASME OM. The proposed rulemaking and RGs for these code cases will be issued following the addition of the 2009 ASME OM into 10 CFR 50.55a. Beginning with Revision 1 of RG 1.192, code cases will be numbered as the code case is described in the OM Code. Each code case in Revision 1 of RG 1.192 will be identified by the number assigned by the OM Code and the applicable edition or addendum of the OM Code.

Regulatory Issue Summary (RIS) 2010-06 and Enforcement Guidance Memorandum (EGM) 10-001 for Inservice Inspection and Testing Requirements of Snubbers

On June 1, 2010, the NRC issued RIS 2010-06 and EGM 10-001 related to the Inservice Inspection and Testing of Snubbers. The NRC discovered that some operating reactor licensees were not following the regulatory requirements for snubbers as specified in 10 CFR 50.55a.

NRC expects that licensees not meeting the 10 CFR 50.55a regulations have entered their noncompliances into a corrective action program, and/or are in the process of submitting relief requests to the NRC to use alternatives in lieu of the Code requirements. All actions for RIS 2010-06, as described in EGM 2010-01, are required to be completed by June 1, 2012.

NRC plans to issue an inspection procedure to review the compliance of licensees' snubber programs with 10 CFR 50.55a requirements in 2012.

Draft NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants," "Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers)".

Draft NUREG-1946 was developed to assist industry in establishing a basic understanding of the regulatory basis for pump and valve IST programs and snubber examination and testing programs. The NRC issued this draft NUREG in August 2010 for public comment and the public comment period ended on January 20, 2011. The major comments received from industry recommended revising the existing NUREG-1482, Revision 1 instead of issuing a new NUREG-1946. Therefore, NUREG-1482 is being revised and updated instead of issuing NUREG-1946. Industry also wants to retain most of the information provided in NUREG-1482, Revision 1. Based on these comments, most of the information contained in NUREG-1482, Revision 1 will be retained in Revision 2. The text from draft NUREG-1946 is now included in the main text of the proposed draft NUREG-1482, Revision 2. Appendix A to this NUREG contains considerable information provided in Revision 1 of NUREG-1482, for pumps and valves. This information has been updated and provides details for the development of inservice testing programs at nuclear power plants, especially new reactors. Appendix-B contains guidance related to inservice examination and testing of snubbers, which is included for the first time in NUREG-1482. Draft NUREG-1482, Revision 2 was issued for public comment in August 2011 and the public comment period closes on December 20, 2011.

Task Interface Agreement (TIA) 2010-001– Evaluation of Application of Technical Specification (TS) Surveillance Requirement (SR) 3.0.3, Surveillance Requirement Applicability

The NRC issued TIA 2010-001 on April 19, 2010 (ADAMS Accession # ML101100101) addressing the incorrect usage of TS SR 3.0.3 for a missed ASME OM Code inservice test, at the Clinton Power Station.

NRC staff are preparing a RIS and an EGM to explain the operational impacts of this TS interpretation and to provide guidance to licensees prior to the issuance of a long term solution for this issue (i.e. ASME OM code case/change). CPTB staff are working with the ASME OM Subcommittee on O&M Codes to develop a separate code case and/or code change to address requirements for inservice testing frequency and allowable testing grace periods. For missed inservice tests (i.e. tests not performed within the required testing frequency), licensees should use the guidance in RIS 2005-20, Revision 1, "Revision to NRC Inspection Manual Part 9900 Technical Guidance, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety,"" and perform an appropriate operability evaluation or functionality assessment, as needed.

Browns Ferry Nuclear Plant (BFN), Unit 1, Red Inspection Finding

On October 23, 2010, at BFN, Unit 1, Low Pressure Coolant Injection (LPCI)/residual heat removal (RHR) outboard injection valve, 1-FCV-74-66 failed to open when the plant operators attempted to place the RHR Shutdown Cooling loop II in service. Subsequently, the licensee determined that the valve disc had separated from the stem and become lodged in the valve seat, preventing RHR flow.

In the NRC's Final Significance Determination Inspection Report (NRC Inspection Report No. 05000259/2011008)(ADAMS No. ML111290482), dated May 9, 2011, the NRC determined that the failure of valve, 1-FCV-74-66, resulted in a violation of BFN Unit 1, Technical Specification Limiting Condition of Operation (LCO) 3.5.1, "Emergency Core Cooling System (ECCS) – Operating." Technical Specification LCO 3.5.1 required, in part, that each ECCS injection/spray subsystem shall be operable in Modes 1, 2, and 3. Action statement Condition A requires that with one low pressure ECCS injection/spray subsystem inoperable, the subsystem must be restored to an operable condition within seven days. The failure of the 1-FCV-74-66 valve rendered one low pressure ECCS injection/spray subsystem inoperable for greater than seven days. This failure was determined to be highly safety significant (RED Finding) by the NRC due to the significant increase in core damage frequency during certain fire mitigation strategies at BFN, Unit 1. The NRC also determined in this inspection report that the Performance Deficiency associated with this issue resulted from the failure of the licensee to properly implement their inservice testing (IST) program in accordance with the requirements of 10 CFR 50.55a. Specifically, the NRC noted that the licensee was not properly implementing Sections ISTC 4.1 and ISTC 4.2.3 of the ASME OM Code, 1995 Edition with the 1996 and 1997 Addenda. Section ISTC 4.1 states, in part, that, "Valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated. Where practicable, this local observation should be supplemented by other indications such as the use of flowmeters or other suitable instrumentation to verify obturator position." Section ISTC 4.2.3 states that, "The necessary valve obturator movement shall be determined by exercising the valve while observing an appropriate indicator, such as indicating lights that signal the required change of obturator position, or by observing other evidence, such as changes in system pressure, flow rate, level, or temperature, that reflects change in obturator position." The NRC believed that the licensee was not meeting ISTC 4.1 and ISTC 4.2.3 since they were unable to adequately verify valve internal operations, for valve 1-FCV-74-66, with the disc attached to the stem, when performing ISTC 4.1. Also, when the licensee performed ISTC 4.2.3, they were unable to adequately verify obturator movement. In addition, the NRC believed that the licensee had knowledge that his valve design was susceptible to stem/disc separation.

The licensee did not disagree with the violation or significance of the issue, as determined by the NRC; however, the licensee did disagree with the Performance Deficiency and they submitted an appeal of the Performance Deficiency to the NRC on June 8, 2011. In support of their appeal, the licensee received an ASME OM Code Inquiry Response regarding the requirements of ISTC 4.1 and ISTC 4.2.3.

Based on the diverse views of several NRC staff and industry experts regarding the exact intent and requirements contained in ISTC 4.1 and ISTC 4.2.3, the NRC convened an independent panel of NRC management and staff to review the BFN Unit 1 Red Finding. The independent panel determined that the ISTC 4.1 and ISTC 4.2.3 requirements may not be adequate to detect

a stem/disc failure in certain types of valves. However, the panel determined that other Performance Deficiencies related to this issue did exist. Specifically, the panel determined that the licensee failed to meet the requirements of 10 CFR 50, Appendix B, Criterion V since the procedure that was used to perform partial Motor Operated Valve Analysis and Test System (MOVATS) testing did not include appropriate quantitative or qualitative acceptance criteria. Additionally, the panel concluded that the licensee failed to include valve 1-FCV-74-66, within the scope of their Generic Letter 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," program. The panel also noted that there was a need to address issues associated with the intent and requirements in ISTC 4.1 and ISTC 4.2.3 through either a revision to the ASME OM Code or establishment of new or revised NRC requirements.

The NRC staff, on the ASME O&M Subgroup on ISTA/ISTC, has developed some recommended changes to clarify the requirements in ASME OM, Section ISTC, for obturator movement verification should the ISTC sub-group decide to pursue this matter.

Generic Letter (GL) 96-05 Periodic Verification of Motor-Operated Valves (MOV)

GL 96-05 requested each plant to establish a program, or ensure the effectiveness of its current program, to verify on a periodic basis that safety-related MOVs continue to be capable of performing their safety functions within the current licensing basis of the facility. The industry responded to GL 96-05 by forming a Joint Owners Group (JOG) to address the concerns of the GL.

A final report with recommended actions was submitted to the NRC for review. The NRC approved the final report with conditions. Plants committed to implement the final program recommendations within six years from the date of NRC safety evaluation, September 25, 2006.

CPTB staff, at the NRC, have developed a draft RIS which provides guidance for addressing periodic verification programs for valves not covered by the JOG MOV Periodic Verification (PV) program. The draft has been issued for public comment and a public meeting was held on August 17, 2011. The target completion date for this RIS is October 2011.

Risk-informing Special Treatment Requirements of 10 CFR 50.69

The NRC 50.69 working group, comprised of NRR headquarters staff, with regional participation, developed a draft inspection procedure which was shared with the nuclear industry for comments in early 2011. Industry comments regarding this document have been resolved. The draft procedure draws in part from the ASME developed Part 29 (Standard), "Alternative Treatment Requirements for Risk-Informed Safety Class (RISC)-3 Pumps and Valves," as well as from insights gained through a review of the South Texas Project 50.69-like treatment program. The NRC staff plans to issue the final procedure in September 2011.

At this time, no licensee has submitted an application requesting to implement 10 CFR 50.69, though at least one licensee has indicated that they will submit a pilot application in the first half of 2012. Following the initial pilot application, lessons learned from the application review will be used to revise the associated industry guidance and RG 1.201. The NRC staff recognizes

the need for an effective, stable and predictable regulatory climate for the implementation of 10 CFR 50.69.

ASME-Related Generic Communications

ASME-related generic communications issued by (or in the process of being issued by) the Office of Nuclear Reactor Regulation (NRR) and Office of New Reactors (NRO) since the last report (December 2010) to the OM Standards Committee are listed below:

Bulletins (BLs)

BL 2011-01 (05/11/2011): Mitigating Systems

Generic Letters (GLs)

None

Information Notices (INs)

IN 2010-27 (12/16/2010): Ventilation System Preventive Maintenance and Design Issues

IN 2011-01 (02/15/2011): Commercial-Grade Dedication Issues Identified During NRC Inspections

IN 2011-04 (02/23/2011): Contaminants and Stagnant Conditions Affecting Stress Corrosion Cracking in Stainless Steel Piping Pressurized Water Reactors

IN 2011-05 (03/18/2011): Tohoku-Taiheiyou-Oki Earthquake Effects on Japanese Nuclear Power Plants

IN 2011-13 (06/29/2011): Control Rod Blade Cracking Resulting in Reduce Design Lifetime

IN 2011-14 (07/18/2011): Component Cooling Water System Gas Accumulation and Other Performance Issues

IN 2011-15 (08/01/2011): Steel Containment Degradation and Associated License Renewal Aging Management Issues

IN 2011-17 (07/26/2011): Calculation Methodologies for Operability Determinations of Gas Voids in Nuclear Power Plant Piping

Regulatory Issue Summaries (RISs)

RIS 2011-02 (02/02/2011): Licensing Submittal Information and Design Development Activities for Small Modular Reactor Designs

RIS 2011-05 (07/01/2011): Information on Revision 2 to the Generic Aging Lessons Learned Report for License Renewal of Nuclear Power Plants

RIS 2011-07 (07/21/2011) License Renewal Submittal Information for Pressurized Water
Reactor Internals Aging Management

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>.