

ASME Section XI Code Meeting  
May 2006

**NRC's Public Meeting of Proposed Rulemaking:**

- Proposed rulemaking will incorporate the 2004 Edition of the Code, Section XI
- No changes to the OM Code are being proposed
- Issuance of the proposed rule for public comments is scheduled for June 2007
- Issuance of the final rule is scheduled for March 2008

**Report Presented by the NRC:**

Amendment to 10 CFR 50.55a

- The amendment to 10 CFR 50.55a to endorse the 2004 Edition has been delayed to allow the staff to work on the endorsement of several safety-significant ASME actions.
- Publication of the proposed rule for public comment is currently scheduled for June 2007.

Regulatory Guides (RG)

- Draft revision 34 to RG 1.84 (Section III Code Cases), revision 15 to RG 1.147 (Section XI Code Cases), and revision 2 to RG 1.193 (ASME Code Cases have been approved and are awaiting publication for public comments. These guides will address the Code Cases in Supplement 7 to the 2001 Edition through Supplement 1 to the 2004 Edition.
- The staff completed its review of Supplements 2, 3, 4, 5, and 6 to the 2004 Edition and begun its review of Supplement 7.

Risk-Informed Activities

Topical Report (TR) WCAP-14572, Supplement 2 (Westinghouse Owners Group Application of Risk-Informed Methods to Piping Inservice Inspection Topical Report Clarifications) has been accepted for referencing in licensing application to the extent specified and under the limitations delineated in the TR and in the final Safety Evaluation (ML0061160035).

ASME Section XI Code Meeting  
May 2006

Request to Extend Reactor Vessel Weld Inspection Interval by One Operating Cycle

- Five licensees have submitted requests to extend the inspection interval for the reactor vessel welds by one operating cycle. The requests referred to NRC guidance provided in a letter from the Nuclear Regulatory Commission to Westinghouse Electric Company, "Summary of Teleconference with the Westinghouse Owners Group Regarding Potential One Cycle Relief of Reactor Pressure Vessel Shell Weld Inspections at Pressurized Water Reactors Related to WCAP-16168-NP, "Risk Informed Extension of Reactor Vessel In-Service Inspection Intervals," dated January 27, 2005.
- Three requests have been approved. The remaining two are under review.

Generic Activities on Materials Degradation/PWR Alloy 600/182/82

The NRC staff met with representatives from NEI and EPRI MRP to discuss NRC's comments on the industry guidance (MRP-139) for the volumetric and visual inspection of dissimilar metal butt welds in PWR primary systems. During the meeting, MRP representatives presented proposed responses to address the NRC's comments. Based on the proposed responses, 17 of the 26 comments would be addressed satisfactorily. Discussions are on going to resolve the remaining issues.

ASME Section XI Code Meeting  
May 2006

NRC / ASME Task Group of Regulatory Endorsement

Highlights from the meeting held in May:

1. The NRC agrees that the modification imposed by 10 CFR 50.55a(g)(6)(ii)(A) can now be removed because all of the augmented reactor vessel examinations have been completed by the industry (TVA has confirmed the completion of the augmented inspection requirements for the Browns Ferry Unit 1 reactor vessel). The next proposed rulemaking to 10 CFR 50.55a would propose eliminating this modification.
2. The TG has requested that the NRC consider endorsing QME-1-2006 in R.G. 1.143. The NRC indicated that R.G. 1.143 does not pertain to QME-1. The NRC will consider pursuing endorsement in R.G. 1.100 after QME-1-2006 is published in 2006.
3. The NRC plans to endorse Code Cases N-722 and N-729-1 in the next proposed rulemaking to 10 CFR 50.55a. Code Case N-733 will be endorsed through a future revision to the rule and R.G. 1.147 (possibly Rev. 16).
4. The NRC will review and approve designs that utilize Section III, Division 3 rules for storage and transport containers on a case-by-case basis, as well as other standards that could be used for this purpose. NRC staff members from NMSS explained that they do not expect to endorse Div. 3 in a regulatory guide and that there are no plans to endorse Div. 3 in 10 CFR 71 or 72 similar to 10 CFR 50.55a. Ken Balkey indicated that he would discuss this issue with ASME Section III.
5. The NRC indicated that the next proposed rulemaking to 10CFR50.55a would endorse the 2004 Edition of Sections III and XI, and the 2004 Edition of the OM Code. The NRC also indicated that Code Case Supplements to the 2004 Edition are under review for the next revision to Regulatory Guides 1.84, 1.147, and 1.193.
6. Section XI, Appendix VIII changes are expected to be incorporated by ASME into the 2007 Edition and may allow the NRC to remove the 10 CFR 50.55a limitations on Appendix VIII at that time. However, the NRC has indicated that it would take a backfit to actually eliminate these limitations. All existing modifications and limitations in 10 CFR 50.55a will likely remain in the regulation until such time that all licensees have

ASME Section XI Code Meeting  
May 2006

updated to later editions/addenda that the NRC finds acceptable without imposing additional modifications or limitations.

7. An ASME letter dated April 24, 2006 outlined actions taken by ASME Section XI to address modifications and limitations on the use of Section XI and its regulatory guides in 10 CFR 50.55a. The NRC is reviewing this letter and plans to provide a response to ASME in June 2006.
8. The NRC agreed to consider whether 10 CFR 50.55a could be revised to clarify that when ISI is discussed in the regulation that it also applies to other activities such as repair/replacement activities, and pressure testing. The TG will also request ASME to consider whether a change to the title of Section XI might help to clarify this issue.
9. The TG has agreed to work with NEI to revise their White Paper, "Standard Format for Request from Commercial Reactor Licensees Pursuant to 10 CFR 50.55a," Rev. 1 dated June 7, 2004, to help clarify how licensees may seek relief to vary from the requirements of a Code Case. This guidance will confirm that licensees should cite the Code and/or regulatory requirement, then proposes the Code Case (with any modifications or exceptions) as an alternative to these Code requirements. It is recommended that then NEI work with the NRC to see if OGC can concur with this guidance.
10. The TG had previously suggested that similar requirements found in 10 CFR 50.55a(g) and (f) could be combined for both ISI and IST. The NRC would prefer to retain these requirements separately because ISI and IST requirements are controlled by different Codes (Section XI and OM Code). No further action is planned in response to this recommendation.

## ASME Section XI Code Meeting

May 2006

11. The TG requested that the NRC clarify whether 10 CFR 50.55a requires licensees to submit containment ISI Plans to the regulatory authority. It is clear that when IWE and IWL were initially imposed by 10 CFR 50.55a that the requirements of 10 CFR 50.55a(g)(ii)(B) did not require licensees to submit these programs. However, when the initial expedited examination requirements were removed from 10 CFR 50.55a after the end of the expedited exam period on September 9, 2001, 10 CFR 50.55a(g)(ii)(B) was not deleted, leaving some licensees to believe that the NRC wanted to retain this provision. As a result, many licensees continue to believe that the NRC does not want updated containment ISI plans to be submitted. The NRC agreed that this issue will need to be evaluated, and that they will consider deleting this paragraph in a future proposed rulemaking to 10 CFR 50.55a.
12. The TG and NRC agreed additional work is needed to evaluate how referenced codes and standards (such as Sections II, V, and IX) are endorsed for use. It is also unclear how Code Cases that apply to other referenced Codes (e.g., Section II, V, and IX Code Cases) are endorsed. In the near-term, ASME is considering reinstating annulled Code Case N-555, which had listed Section II, V, and IX Code Cases acceptable to Section XI. The issue of endorsement of referenced codes and standards also applies to other related documents such as Mandatory and Nonmandatory Appendices. Rich Porco suggested that ASME should evaluate whether acceptable alternatives to Code requirements should be published in Nonmandatory Appendices.
13. ASME Section III, Division 2, Subsection CB (Concrete Pressure Vessels) has not been endorsed, but Subsection CC (Concrete Containments) has been endorsed by SRP Section 3.8.1 and R.G. 1.136. There are plans to revise the R.G. to endorse all remaining Articles of Subsection CC as the current R.G. does not yet endorse CC-3000. The ASME requested that the NRC consider amending 10 CFR 50.55a to incorporate by reference Section III, Div.2, Subsection CC. Note that Section XI, IWA-4221(c) allows the use of Section III and is not specific as to the applicable Division or Subsection, implying that Section XI would permit the use of Section III, Division 2, Subsection CC for this purpose.
14. ASME would like NOG-1-2004, Rules for Construction of Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder) to be endorsed as an acceptable means of implementing NUREG-0554, as addressed in Regulatory Issue Summary 2005-25. The NRC agreed to consider this request, as well as the endorsement of other codes and standards listed on pages 8 and 9 of the presentation with the exception of AG-1-2003, "Code on Nuclear Air and Gas Treatment," with the AG-1-2004, Addenda. The NRC stated that they have no plans to update R. G. 1.52 or 1.140, which endorses this Code.
15. The TGRE had suggested during the December 13, 2005 meeting that it would be beneficial to have all of the endorsed ASME Codes and Standards listed in a single Reg. Guide, or alternatively, in an index provided in 10CFR50.55a. NRC does not intend to pursue this suggestion. It was suggested that BNCS or other organization(s) might be better suited to developing an index of this nature.

ASME Section XI Code Meeting  
May 2006

**Code Actions of Interest:**

1. The Task Group – Alloy 600 has prepared a first draft of a new Case to address NRC concerns about IGSCC in Alloy 600 nozzles.
2. A new Task Group is being formed to address SC XI position on operational leakage.
3. Code Case N-705 (03-1738), Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 and 2 Vessel and Tanks

This Case will provide evaluation rules and criteria for temporary acceptable of degradation, including through-wall degradation.

Current Status: Standard Committee Approved

4. Code Case N-470 (04-1003), Dissimilar Metal Weld Overlay of Class 1, 2, and 3 Components

This Case will extend the use of overlays to dissimilar metal welds by providing requirements for applying dissimilar weld overlays on ferritic, austenitic stainless steel, and nickel base alloy materials and components.

Current Status: Standard Committee Approved

5. Add a new paragraph, IWA-1400(q) to allow electronic certification, authorization, and approval of records (04-1695)

This action will make the Section XI Code consistent with other Code sections to recognize that methods other than written signature may be used for certification, authorization, and approval of records.

Current Status: Standard Committee Approved

6. Code Case N-716, Alternative Piping Classification and Examination Requirements Based Upon Risk-Informed and Safety-Based Insights

This Case provides alternative requirements to IWB, IWC, and IWD for piping examination using risk insights.

Current Status: Board Approved (will be included in Supplement 9 of the `04 Edition)

7. Code Case N-666, Weld Overlay of Repair of Defects in Socket Welds

This Code Case allows weld reinforcement for defective socket welds.

## ASME Section XI Code Meeting

May 2006

Current Status: Board Approved (will be included in Supplement 9 of the '04 Edition)

8. Code Case N-751 (05-115), Use of Appendix J for Repair/Replacement Activity

This Case will allow the use of Appendix J testing in lieu of the rules of Category C-H for piping classified as Class 2 only because it is connection to the containment vessel.

Current Status: Standard Committee Approved

9. Code Case N-532-3, Alternative Requirements to Repair/Replacement Activity Documentation Requirements and Inservice Summary Report Preparation and Submission,

This revision added (1) a requirement to prepare, certify, and submit the OAR-1 report within 90 days upon completion of a refueling outage; (2) elimination of the burden of providing an abstract of completed examination and tests; (3) revised Forms NIS-2A and OAR-1 to reduce the time required to complete them; and (4) removed the requirement to report conditions necessitated by a corrective measure.

Current Status: Board Approved (will be included in Supplement 9 of the '04 Edition)

10. Code Case N-739 (05-140), Alternative Qualification Requirements for Personnel Performing Concrete and Post-tensioning System Examination

This Case will provide qualification requirements for examiners and was written to address modifications imposed by 10CFR50.55a(b)(2)(viii)(F) & (G).

Current Status: Standard Committee Approved

11. Code Case N-734 (05-143), Examination Requirements for Portions of Class 1 and 2 Systems and Components Within the Containment System Boundary

This Case addresses whether Section XI requirements apply to portions of Class 1 and 2 items (e.g., flued heads, pipe caps) that are part of the containment system, but which do not perform a Class 1 or 2 system pressure retaining function. Proposed Code change is also included in this action.

Current Status: No Action Taken

12. Code Case N-735 (05-146), Alternative Successive Inspection Requirements for Class 1 and 2 Piping Components other than Class 1 and 2 Vessels and Supports  
This Case eliminates the successive examination provided the flaws are non-threatening in nature (such as embedded flaws originating from material manufacturing or piping fabrication, which experience negligible or no growth during

ASME Section XI Code Meeting  
May 2006

the design life of the component) and meet a more restrictive distance from piping surfaces.

Current Status: Standard Committee Approved

13. Code Case N-753 (05-1020) and the “new” IWA-2321(b) for vision acuity examination

This action will allow the use of optometrist, ophthalmologist, or other health care professionals to administer the vision acuity examinations independent of other requirements.

Current Status: Standard Committee Approved

14. Revision to Appendix I, Supplement 9 (05-1174)

This action will clarify that 45 and 60 degree search units are also required for examinations conducted from the outside and inside surfaces of unclad components.

Current Status: Standard Committee Approved

15. Revision to Appendix VIII, Supplement 12 (05-646)

This action will limit the coordinated implementation to Supplements 2 and 3. Currently, Supplement 12 allows for a coordinated implementation of Supplements 2 (austenitic piping welds), 3 (ferritic piping welds), 10 (Dissimilar metal piping welds), and 11 (Overlaid piping welds). However, 10CFR50.55a limits Supplement 12 to a coordinated implementation of Supplement 2 and 3. Adding this limitation will be consistent with the current PDI program, which indicates the examination techniques, associated with Supplements 10 and 11 are significantly different from those of Supplement 2 and 3 and make a coordinated implementation impractical.

Current Status: Standard Committee Approved

16. Revision to Appendix VIII, 3120(b) (05-1175)

This action will clarify qualification requirements for length and/or depth sizing of axial flaws. This action will also clarify qualification requirements for detection and sizing of axial flaws in those piping Supplements that otherwise contain no provisions.

Current Status: Standard Committee Approved

17. Revision to the qualification requirements for ultrasonic examination of thread in flange in Appendix I, I-2400 (05-1542)

## ASME Section XI Code Meeting

May 2006

This action will allow the use of Section V, or Section XI, Appendix VIII for ultrasonic examination of threads in flange (Item No. B6.40).

Current Status: Standard Committee Approved

18. Code Case N-730 (04-1332), Roll-Expansion of Class 1 Control Rod Drive Bottom Head Penetration in BWRs

This Case will define the technical and administrative requirements for use of the mechanical roll expansion process for sealing of BWR bottom head penetrations. The process qualification, essential variables, process application, and examination requirements for application are also defined.

Current Status: Approved by SC XI for a first consideration ballot with the editorial changes.

19. Revision to the system pressure test requirements of IWE-5000 (04-1332)

This action will provide specific leak test requirements that may be used in lieu of pneumatic leakage tests imposed by reference to 10CFR50, Appendix J.

Current Status: Approved by SC XI for a first consideration ballot with the editorial changes

20. Delete Category B-M-1 examinations from Table IWB-2500-1(05-1226)

Category B-M-1 requires a surface examination of valve body welds for valves less than 4 NPS and a volumetric examination for valves larger than 4 NPS.

Current Status: No action was taken

21. Revision to IWA-4520 to permit use of Section XI personnel qualifications, methods and criteria for repair/replacement activities (04-1092)

This action revises IWA-4520 to permit the Owner to use the personnel qualifications, methods and acceptance criteria of Section XI when the Construction Code requires a surface or volumetric examination. The type of examination, and the surface area and volume of the examination remains in accordance with the Construction Code. This action also clarifies the existing Section XI provision that the acceptability of flaws existing prior to the repair / replacement activity shall be established in accordance with IWA-3000.

Current Status: Approved by SG RRA for SC XI ballot.

ASME Section XI Code Meeting  
May 2006

**Inquiries Approved at the Interpretation Session:**

**Subject:** ASME BPVC Section XI, Table IWC-2500, Examination Category C-F-1/C-F-2, 1989 Edition through the 2004 Edition with the 2005 Addenda

**File #:** IN04-019

**Question:** Do the requirements of IWC-2500, Table IWC-2500-1, Examination Category C-F-1 and C-F-2 apply only to welds that have a pressure retaining function for the Class 2 system?

**Reply:** Yes.

---

**Subject:** ASME BPVC Section XI, IWA-4132, Items Rotated from Stock, 1995 Edition with the 1996 Addenda through the 2001 Edition with the 2003 Addenda

**File #:** IN05-21

**Question:** For the purpose of determining applicability under IWA-4132, is Owner required inspection considered testing?

**Reply:** No.

---

ASME Section XI Code Meeting  
May 2006

**Subject:** ASME BPVC Section XI, IWA-4142 and IWA-4221(a) and (b), 1995 Edition with the 1995 Addenda through the 2004 Edition with the 2006 Addenda

**File #:** IN05-23

**Question:** Does IWA-4221(a) or (b) require identification and documentation of material used in a replacement item even if neither the Construction Code nor Owner's Requirements require such identification and documentation?

**Reply:** No. However, the QA Program requirements of IWA04142 must be met.

---

**Subject:** ASME BPVC Section XI, IWA-4150(c), 1995 Edition with the 1995 Addenda through the 2004 Edition with the 2006 Addenda

**File #:** IN05-24

**Question 1:** If a repair/replacement activity is implementing a modification, which changes the design of the item being replaced, does IWA-4150(c)(2)(b) require identification of the Construction Code(s) used for the modification?

**Reply 1:** Yes.

**Question 2:** If a repair/replacement activity is implementing a modification, which changes the design of the item being replaced, does IWA-4150(c)(2)(a) require identification of the Construction Code(s) of the item to be modified?

**Reply 2:** Yes.

---

ASME Section XI Code Meeting  
May 2006

**Subject:** ASME BPVC Section XI, IWA-4000, 1989 Edition through the 2004 Edition with the 2006 Addenda

**File #:** IN06-03

**Question:** Is it a requirement of Section XI that replacement of a flanged elastomer expansion joint comply with IWA-4000 (IWA-7000 for Editions and Addenda before the 1989 Edition with the 1991 Addenda)?

**Reply:** Yes.

---

**Subject:** ASME BPVC Section XI, IWB-2500, 1989 Edition through the 2004 Edition with the 2006 Addenda

**File #:** IN06-04

**Question:** What is the appropriate examination category and examination requirements according to Section XI, IWB-2500, for a weld connecting a steam generator primary nozzle directly to a reactor coolant pump housing?

**Reply:** Section XI does not address this configuration.

---

ASME Section XI Code Meeting  
May 2006

Subject: ASME BPVC Section XI, IWB-3111 and IWB-3112, 1995 Edition through the 2004 Edition with the 2006 Addenda

File #: IN06-06

Question: IWB-3111(b) and IWB-3112(b) states that a component whose volumetric and surface examination (IWB-2200) detects flaws that meet the nondestructive examination standards of NB-2500 and NB-5300 shall be acceptable. If RT for welding required by Section III NB-5000 identifies and documents indications that are acceptable, is the PSI acceptable even if these indications do not meet the acceptance standards of IWB-3000?

Reply: Yes.

---

The following intent inquiry was approved by SC XI for a first consideration ballot:

It has come to the attention of Section XI, WGISC that all the requirements of Code Case N-491-2 have not been incorporated into the code. In particular paragraph IWF-2430(b) is not clear that the second additional examination sample is tied to supports where corrective action is required.

Subject: ASME Section XI, IWF-2430(b) (1997 Addenda up to and including the 2004 Edition with the 2006 Addenda)

Background: The current language of IWF-2430(b) implies that scope expansion is required any time a support examined per IWF-2430(a) exceeds the acceptance criteria. However, Code Case N-491-2 only required scope expansion if corrective measures were required.

Question: Is it the intent of IWF-2430(b), that the remaining component supports within the system of the same type and function be examined only if the examinations required by IWF-2430(a) identified conditions that required corrective measures?

Proposed Reply: Yes.

including the 2004 Edition with 2006 Addenda

ASME Section XI Code Meeting  
May 2006

**Upcoming Meetings:**

2006

August 7 – 11: Henderson, NV; Green Valley Ranch Resort

October 30 – November 3: Louisville, KY; Marriott Hotel

2007

January 29 – February 2: Atlanta, GA; Sheraton Hotel

May 14 – 18: Grapevine, TX; Opryland Hotel

August 13 – 17: New Orleans, LA; Sheraton Hotel

November 12 – 16: Dallas, TX; Westin Park Central Hotel