

Trip Report  
ASME Section XI Code Meeting  
August 2006

The ASME Boiler and Pressure Vessel Code meetings were held in Henderson, Nevada during the week of August 8<sup>th</sup>. These meetings are held quarterly and, include committee members representing the different sections of the ASME Boiler and Pressure Vessel Codes. Highlights of the Code meetings are summarized below:

**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)

- The proposed rule to incorporate draft revision 34 to RG 1.84 (Section III Code Cases) and draft revision 15 to RG 1.147 (Section XI Code Cases) have been transmitted to the Executive Director for Operations for signature. These regulatory guides are scheduled to be published for public comment in the upcoming months.
- Draft revision 2 to RG 1.193 (ASME Code Cases Not Approved for Use) was published for public comment in June.
- 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). Supplement 2 addressed the following three topics:

1. A methodology for evaluating a segment that includes piping with different diameters and for selecting locations for examinations an alternative to the previously approved methodology presented in the approved WCAP-14572.
2. The expert panel decision process for moving a segment that, based on the quantitative results, would normally be high-safety significant into the low-safety significant segment category.

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3. Requirements for examination based on the postulated failure modes and configuration of each piping structural element as an alternative to the previously approved methodology presented in the approved WCAP-14572.

Risk-Informed ISI – 10 year Interval Update

Licensees that have had the original RI-ISI program approved without addressing the Peer Review or other review observations may be requested to report of their relevant information resolution during the NRC's review of the 10-year Interval Update relief request. All RI-ISI programs have been approved as living programs that require feedback of new relevant information.

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

- Requests, to extend the inspection interval for the reactor vessel welds by one operating cycle, 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.
- WCAP-16168, revision 1 was submitted by letter in January 2006. Based on additional information submitted in June, it has been accepted for NRC staff 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. MRP-139 was approved unanimously by the MRP Executive Committee and was issued to the PWR fleet as a "mandatory" action under the NEI 03-08 Guideline for the Management of Material Initiative.

For additional details associated with the NRC report: <J:\Shared\Engr Program Teams\ISI Programs\ASME\NRC Report August 2006.pdf>

Special Working Group on Plant Life Extension

- NRC provided an update on License Renewal (LR) applications. More than 70% of the 104 plants have received approval, submitted applications, or committed to submit LR applications.
- A new issue of containment degradation in inaccessible areas was identified. NRC is drafting an Interim Staff Guidance (ISG) on this topic. The focus will be UT wall thickness verification of the steel shell or liners.

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- EPRI presented their efforts on developing a database of LR commitments. The plan is to bundle commitments and develop generic road maps for those commitments that are most representative of the majority of the plant.
- Updating of PLEX issues listing is continuing to capture changes from the revisions of the GALL report and the SRP-LR (NUREGS-1800 and 1801).

**CODE ACTIONS OF INTEREST:**

1. Code Case N-705 (03-1738), Evaluation Criteria for Temporary Acceptance of Degradation in Moderate Energy Class 2 and 3 Vessels and Tanks

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

Current Status: Approved for BNCS second consideration

2. Code Case N-740 (04-1003), Dissimilar Metal Weld Overlay of Class 1, 2, and 3 Components

This action 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: Board Approved

3. 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: Approved for BNCS second consideration

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

This action 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: Board Approved

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

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

Current Status: Board Approved

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

This action 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: Resolving SC negatives

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

Current Status: Approved for BNCS second consideration

8. 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: Board Approved

9. 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: Board Approved

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10. 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: Board Approved

11. 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: Board Approved

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

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: Board Approved

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

This action 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: Out for Board Ballot

14. 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: Out for Board Ballot

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15. 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. This action also allows the owner to use ultrasonic examination in lieu of radiographic examination for repair/replacement activities.

Current Status: Out for Standard Committee ballot

16. Incorporate Code Case N-566-2 into the Code (05-114)

This action incorporates Code Case N-566-2 into IWA-5250. The alternative listed in the Code Case allows an evaluation in lieu of pulling the bolts when leakage is found at bolted connections in a system borated for the purpose of controlling reactivity. By incorporating Code Case N-566-2 into the code, a new paragraph IWA-5251 was created.

Current Status: Standard Committee Approved

17. Revise IWE-5000 System Pressure Test Requirements (05-142)

This action revises the system pressure test requirements of IWE-5000 by providing specific leak test requirements that may be used in lieu of pneumatic leakage tests imposed by reference to 10CFR50, Appendix J.

Current Status: Standard Committee Approved

18. Incorporate IWA-5242 into IWA-5241 (06-340)

This action is to revise IWA-5242 to remove the heading title and place subparagraphs (a) through (c) under IWA-5241, Insulated and Noninsulated Components. This action is to eliminate the confusion with IWA-5241 being titled as "Insulated and Noninsulated Components" and then IWA-5242 being titled "Insulated Components". All of the visual examination requirements listed in IWA-5242 will be incorporated into IWA-5241.

Current Status: Out for Board Ballot

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19. Revision to IWF-2430(a) (06-344)

This action is to revise IWF-2430 to clarify that scope expansion is only if the examinations identify conditions that require corrective measures. The current language of IWF-2430 implies that scope expansion is required any time conditions that exceed the acceptance criteria are identified. However, Code Case N-491-2 only required scope expansion if corrective measures were required. This revision to IWF-2430 was expanded to cover additional paragraphs that were inconsistent with Code Case N-491-2.

Current Status: Out for Board Ballot

20. Code Case N-713 Use of Ultrasonic Examination in Lieu of Radiography (04-247)

This Code Case will provide rules to allow preservice ultrasonic examination to replace the volumetric examinations now required for welds in repairs or replacements. The Case includes requirements for the expansion of existing Appendix VIII qualifications to cover the increased examination volume necessary for initial acceptance of the weld(s). It also includes requirements for demonstrating Section V ultrasonic methods where Appendix VIII does not apply. Finally, it adds rules for use of Section XI acceptance standards for the initial acceptance of repair and replacement welds. This action will allow the substitution of properly qualified ultrasonic examinations in place of radiographic examinations for repairs and replacements.

Current Status: No Action Taken at Subcommittee XI

21. Add IWA-4142.1 to Incorporate the Requirements of Code Case N-517-1 (04-265)

This action incorporates Code Case N 517-1 as an alternative requirement in IWA-4142.1. This change allows Section III plant owners to qualify Material Organizations, utilize the provisions from Section III for unqualified source material, and utilize the exemptions of NX-2610 (b) and (c). This action did not incorporate the footnote stating the QA Program may be documented in implementing procedures.

Current Status: Out for Standard Committee ballot

22. Examination of Steam Generator Tubing (06-56)

This action is to revise the Section XI Code to address the full scope of examination activities related to steam generator tube. This action brings the Code up-to-date from the current requirements of meeting the plant's Technical Specifications and acceptance of defects based on percent through wall calculations. Affected paragraphs include IWA-1400, IWA-2110, IWA-2232, IWA-2233, IWA-2312, IWA-2315, IWA-2420, IWA-3300, IWB-2200, IWB-2413, IWB-2420, IWB-2430, Table

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IWB-2500-1, Examination Category B-Q, IWB-3521, IWB-3630, and Mandatory Appendix VII-1000. In addition, this action adds a new Mandatory Appendix.

Current Status: No Action Taken at Subcommittee XI

23. Appendix VIII, Supplement 7, Qualification Requirements for Nozzle Examination from the Inside Surface (06-669)

This action is to revise Appendix VIII, Supplement 7 to require a performance demonstration for personnel. Supplement 7 currently requires qualification of the examination procedure and equipment and, other than qualification in accordance with Supplement 4 and 6; there are no performance demonstration requirements for personnel. Recent experience indicates that differences between examination of the vessel and examination of the nozzle are sufficient to require a performance demonstration for personnel. This action also resolves a discrepancy with 10CFR50.55a requirements.

Current Status: Out for Standard Committee ballot

24. Revise IWA-4540(b), Pressure Testing of Pressure Vessel Repair/Replacement Activities (05-970)

This action is to revise IWA-4540(b) to make requirements for pressure testing of vessel repair/replacement activities consistent with those for piping, pumps, and valves. In the Summer 1978 Addenda, IWA-4000 was revised to provide more detailed repair procedures. Part of that revision was to add exemptions from post-repair hydrostatic testing. That revision allowed repairs in pumps, valves, and piping to go nearly through the wall without a hydrostatic test, but limited vessel repairs without a hydrotest to 10% through the wall. Since that time, the post-repair hydrostatic test has been replaced by a nominal operating pressure leak test. The limitation in the Summer 1978 Addenda was not supported by any technical basis; the limitation for vessels was arbitrarily more conservative than that for piping, pumps, and valves. There is no technical basis for a more conservative limitation on vessel repairs, especially because the required hydrotest is not intended to challenge the structural integrity of the component. Structural integrity is demonstrated by the design and the applicable nondestructive examination (which varies with Code Class and welding method used). Therefore, this revision changes the requirements for pressure testing of vessel repair/replacement activities to be consistent with those for piping, pumps, and valves.

Current Status: Out for Standard Committee ballot

25. IWA-2316, Alternative Qualifications of VT-2 Visual Examination Personnel (06-708)



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This action is to revise IWA-2316 to clarify NRC limitations on the activities that personnel qualified in accordance with IWA-2316 can perform. IWA-2316 incorporated Code Case N-546 into the Code. IWA-2316 was recently revised (BC04-363, published in 2005 Addenda) to address the limitations placed on its use by 10 CFR 50.55a(b)(xviii)(B). The limitation stated that that IWA-2316 may only be used to qualify personnel that observe for leakage during system leakage and hydrostatic tests conducted in accordance with IWA-5211(a) and (b). The limitation was incorporated almost word for word into IWA-2316. However, in light of responses the NRC provided to public comments received during the Draft RG 1.147 Revision 14 approval process, it appears the changes made to IWA-2316 do not fully address the NRC's concerns. In response to a public comment concerning a difference in the limitations placed on use of IWA-2316 versus those placed on use N-546, the NRC stated that the Code Case condition, which states "This Code Case is applicable only to the performance of VT-2 examinations and may not be applied to other VT-2 functions such as verifying the adequacy of procedures and training VT-2 personnel," is the "plain English version" of the requirement in 10 CFR 50.55a(b)(xviii)(B), which states "Paragraph IWA-2316 of the 1998 Edition through the latest edition and addenda incorporated by reference in paragraph (b)(2) of this section, may only be used to qualify personnel that observe for leakage during system leakage and hydrostatic tests conducted in accordance with IWA-5211(a) and (b)."

Current Status: Out for Standard Committee ballot

**INQUIRIES APPROVED AT THE INTERPRETATION SESSION:**

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**Subject:** ASME BPVC Section XI, Appendix VIII, VIII-3120(b), 1995 Edition with the 1996 Addenda through the 2004 Edition with the 2005 Addenda

**File #:** IN05-18

**Question:** Is it the intent of Appendix VIII, VIII-3120(b) to length or depth size axially oriented flaws using examination personnel, equipment, procedures, and the associated essential variables that were qualified for sizing on circumferentially oriented flaws when the applicable piping Supplement contains no provisions for a performance demonstration using axial flaws?

**Reply:** Yes.

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**Subject:** ASME BPVC Section XI, Appendix I, I-2400, 1995 Edition with the 1996 Addenda through the 2004 Edition with the 2005 Addenda

**File #:** IN05-19

**Question:** Is it the intent of Appendix I, I-2400 that ultrasonic examination of Threads in Flange (Item No. B6.40) be performed in accordance with Section V?

**Reply:** Yes. Article 4, Section V is applicable for the 1996 Addenda through the 2001 Editions and Article 5, Section V is applicable for the 2002 Addenda through the 2005 Addenda.

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**Subject:** ASME BPVC Section XI, Division 1, 1999 Addenda through the 2004 Edition with the 2005 Addenda

**File #:** IN06-05

**Question:** Is it the intent of VII-4240 to apply the Annual Practice requirement to personnel certified as Level I examiners?

**Reply:** No.

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**Subject:** ASME BPVC Code Cases N-638 through NJ638-2, Paragraph 1.0(a)

**File #:** IN06-07

**Question:** Is it the intent of Code Cases N-638 through N-638-2 that the surface area restriction for the temperbead weld apply only over the surface of the ferritic material?

**Reply:** Yes.

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**Subject:** ASME BPVC Section XI, Appendix VI, VI-4320, 1998 Edition through the 2004 Edition with the 2005 Addenda

**File #:** IN05-01

**Question:** Is it the intent of Section XI, Appendix VI, VI-4320, that a minimum grade of 80% be attained for each examination administered for certification of visual personnel?

**Reply:** No.

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**Subject:** ASME BPV Code Cases N-508 through N-508-3

**File #:** IN05-02

**Question:** When using the provisions of Code Case N-508 (through N-508-3) in lieu of all other requirements of IWA-4000 (and IWA-7000 in earlier Editions and Addenda) (i.e., no repair/replacement activity), involving snubbers and pressure relief valves rotated from stock for the purpose of testing, is the uses of an ANII required for any associated activity including preservice inspection?

**Reply:** No. In those instances where an NIS-2 is not required, the services of an ANII are likewise not required.

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**Subject:** ASME BPVC Section XI, IWA-4422.2.2, Defect Removal and Examination, 1995 Edition with the 1997 Addenda through the 2004 Edition with the 2006 Addenda

**File #:** IN06-11

**Question:** Does IWA-4422.2.2 require that wall thinning below the minimum required section thickness detected by an examination not required by Section XI be treated as a defect that requires a surface examination of the removal area prior to welding?

**Reply:** No.

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**Subject:** ASME BPVC Section XI, IWA-4221, 2001 Edition with the 2003 Addenda through the 2004 Edition with the 2006 Addenda

**File #:** IN06-12

**Question:** If a component is supplied in accordance with all of the applicable requirements of one of the different construction codes listed in IWA-4221(c), is it a requirement that a reconciliation of materials, fabrication, and examination requirements per IWA-4226.3(a) be performed for that replacement component?

**Reply:** No.

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**Subject:** ASME BPVC Section XI, Table IWB-2500-1, Examination Category B-M-2, 1989 Edition through the 2004 Edition with the 2006 Addenda

**File #:** IN06-18

**Question:** It is a requirement of Examination Category B-M-2, Item No. B12.50, Note (2), to examine internal pressure retaining parts that are not part of the valve body?

**Reply:** No.

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**UPCOMING MEETINGS:**

2006

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