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**Code Actions of Interest:**

1. 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: No action was taken

2. 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: This action passed (29-1-1-0) to approve the item for a first consideration ballot; waiting Standards Committee voting results

3. 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 was taken

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4. Section XI - Scope of Pressure Retaining Boundary for Class 3 Open Ended Discharge Piping (04-314)

Currently, open-ended discharge piping is excluded from pressure testing by IWD-5222(b). Some portions of this piping may perform a safety related function, and therefore should be visually examined provided it is periodically pressurized to conditions noted in IWD-5221. The incorporation of Code Case N-498-4 provided for performance of a system leakage test conducted at the system pressure obtained while the system is in service performing its normal operating function or at the system pressure developed during a test to verify system operability. Since it is periodically pressurized during such tests, performing a visual exam of the safety related open-ended discharge piping should not be an increased burden. This proposed revision also addresses Inquiry 97-07a, which will be withdrawn once action proceeds and progresses to Subcommittee XI.

Current Status: Approved (31-0-0-0) at Subcommittee for second consideration; approved by the Standards Committee on 6/13/07

5. Section XI - N-561-1, N-562-1 and N-661-1: Wall Thickness Restoration of Carbon Steel Piping (04-1006)

This action is to respond to NRC objections on Weld Overlay Code Cases N-561-1 and N-562-1; and revise N-661-1 to maintain consistency. NRC reasons for disapproval in Reg Guide 1.193 are stated as follows: "Neither the ASME Code nor the Code Cases have criteria for determining the rate or extent of degradation of the repair or the surrounding base metal. Reinspection requirements are not provided to verify structural integrity since the root cause may not be mitigated." To clarify their reasons, a teleconference was held with the Regulator on January 14, 2004. In that discussion, the Regulator recommended that Code Cases N-561-1 and N-562-1 be revised similar to N-661 to incorporate the conditions that were imposed on Southern Nuclear in their successful Relief Request to apply N-661 generically on Raw Water Systems at Plant Hatch. This action is intended to implement that recommendation in anticipation that the Regulator will include Code Cases N-561 and N-661 to Regulatory Guide 1.147 as approved cases for generic application without restriction. Some of the changes and clarifications to be made to Cases N-561 and N-562 are applicable also to N-661. In addition, SGRRRA has requested that the mandatory requirement to depressurize for water-backed pinhole leaks be deleted. Therefore, Case N-661 is also included in this action.

Current Status: Board Approved

6. Case N-755; Use of Polyethylene (PE) Plastic Pipe; Section III, Div. 1 and Section XI, Div. 1 (06-337)

This Case provides for the use of Polyethylene (PE) Plastic Pipe; for Section III, Div. 1 and Section XI, Div. 1 Class 3 (PE) buried piping systems. The CC provides a great deal of information not normally found in CC to help familiarize the User with

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PE material. The CC is limited in use of straight PE pipe, fused mitered elbows, and transition flanges (PE pipe to metallic pipe) only. The format used is that of a Subsection ND with five supporting Supplements.

Current Status: Board Approved

7. Proposed Code Change – IWB-2500 Category B-N-2 (06-1482)

The proposed action is to revise and revise Table IWB to clarify that interior attachments welded to the inside of the reactor pressure vessel closure head are excluded. IN06-15 clarifies that the treatment of the closure head attachment welds is consistent with the interior surfaces as described in Interpretation XI-81-12. Interpretation XI-81-12 clarified that the interior of the reactor vessel closure head is not considered part of Examination Category B-N-1. However, that interpretation did not address whether the attachment welds (e.g., steam dryer hold down brackets in a BWR) were considered part of Category B-N-2. The closure head as well as the other components removed for refueling are not part of the areas to be examined under Note 1 of Table 2500-1 for Category B-N-1/B-N-2/B-N-3. Table IWB-2500-1 for Category B-N-2 is changed to incorporate the intent inquiry.

Current Status: No action was taken

8. Clarify Procedure Demonstration and Qualification, and Personnel Demonstration Requirements (04-454)

This proposed action is to revise Art. 1, T-120(g), T-150 and Mandatory Appendix I to clarify the differences between procedure and personnel demonstrations, and when each is to be applied, and to define the terms "procedure demonstration", "procedure qualification", and "personnel demonstration". The requirements for performing demonstrations of a procedure or an examiners performance are not clear or definitive within Section V, Article 1. The proposed revisions are intended to clarify the differences between procedure and personnel demonstrations, and when each is to be applied; and to define the terms "procedure demonstration", "procedure qualification", and "personnel demonstration".

Current Status: Board Approved

9. New Flaw Acceptance Standards for Class 1, 2 and 3 Piping (05-247)

The proposed action is to revise the flaw Acceptance Standards for Class 1 ferritic and austenitic piping in IWB-3514, add flaw Acceptance Standards for Class 2 austenitic piping in IWC-3514, and the flaw Acceptance Standards of IWC-3514 are made mandatory for Class 3 austenitic piping in IWD-3500. The proposed changes would include: (1) Editorial changes are made to the Table of Contents to reflect the proposed revisions; (2) In the first sentence of IWB-3514, the word "environments" is supplemented with "reactor coolant environments"; (3) Editorial changes are made to IWB-3514.3 to reflect the proposed revisions; (4) The existing Tables IWB-

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3514-1 (flaw Acceptance Standards for Class 1 ferritic piping) and IWB-3514-2 (flaw Acceptance Standards for Class 1 austenitic piping) are replaced with a new Table IWB-3514-1 for flaw Acceptance Standards for Class 1 ferritic and austenitic piping for use with volumetric examination only. In the new Table IWB-3514-1, the same flaw Acceptance Standards are given for preservice and inservice examination. The existing Table IWB-3514-2 is deleted; (5) The flaw Acceptance Standards for surface examination of Class 1 austenitic piping are moved from the existing Table IWB-3514-2 (to be deleted) into a new Table IWB-3514-2 for flaw Acceptance Standards for surface examination of Class 1 austenitic piping; (6) A new Article IWC-3514 for Acceptance Standards for flaws in Class 2 piping is added; (7) A new Table IWC-3514-1 for Acceptance Standards for flaws in Class 2 austenitic piping is added. Table IWC-3514-1 is also used for flaws in Class 3 austenitic piping; (8) IWD-3500 is revised to "The requirements of IWC-3500 shall be used."; (9) Editorial changes are made to Q-4100(c), Q-4200(b) and Q-4300(c) of Appendix Q of Section XI to reflect the proposed revisions; and (10) Editorial changes are made to Paragraph (i) of Code Case N-504-4 of Section XI to reflect the proposed revisions. Acceptance Standards for flaws in Class 1 ferritic piping are provided in existing Table IWB-3514-1, and for Class 1 austenitic piping in existing Table IWB-3514-2. However, the allowable flaw sizes in these tables are not self-consistent. As well, based on structural integrity calculations, the flaw Acceptance Standards for Class 1 ferritic and austenitic piping should be the same. A new Table IWB-3514-1 has been developed for Class 1 ferritic and austenitic piping, and the allowable flaw sizes in this new table are self-consistent. Acceptance Standards for Class 2 and 3 piping currently do not exist in Section XI. A new Table IWC-3514-1 that provides flaw Acceptance Standards for Class 2 austenitic piping has been developed using the same approach that was applied to develop the new Table IWB-3514-1. Based on the similarity of Class 2 and 3 piping, and on structural integrity considerations, Table IWC-3514-1 is also applicable to Class 3 austenitic piping. As in the current Section XI, the proposed new flaw Acceptance Standards are not applicable to materials in environments that are subject to stress corrosion cracking. This includes Acceptance Standards for preservice examination, since stress corrosion cracking could initiate during service from a flaw that existed preservice.

Current Status: No action was taken

### 10. Pump Casing and Valve Body Welds, Categories B-L-1, B-M-1 and C-G (05-1226)

This proposed action is to Categories B-L-1, B-M-1, and C-G examinations and associated acceptance standards. Industry experience has not identified any failures in pump casing or valve body welds. Risk Informed insights have not identified any degradation mechanism specifically associated with these welds. These examinations result in unnecessary radiation exposure to NDE personnel. Degradation of the pump or valve interior would be detected by the Category B-L-2 and B-M-2 VT-1 examinations or by the mechanic working on the component internals, and through wall leakage would be detected by the VT-2 examinations

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during system pressure tests. Consequently, there is no technical basis for continuing to examine these welds.

Current Status: Approved (31-0-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

11. Code Case N-754 to Address Optimized Dissimilar Metal Weld Overlay Used for Mitigation (06-500)

This proposed Case extends the use of overlays as prescribed in N-740 to applications where defects are not present. Specifically, N-740 stipulates requirements for flaw characterization and prescribes overlay design rules commensurate with flaw characteristics. N-740 does not address an overlay for an application where no known defect exists. This action provides rules for design, installation and inspection of structural weld overlays on applications where no known defect exists. When an overlay for mitigation of PWSCC is designed, installed and examined in accordance with this Code Case, the inservice examinations in the case are permitted in lieu of the examinations specified in Table IWB-2500-1, Category B-F or B-J. All Section XI references are to the 2004 Edition with the 2005 Addenda. For the use of this Case with other Editions and Addenda, refer to Table 1. The weld overlay shall be applied by deposition of weld reinforcement (weld overlay) on the outside surface of the piping, component, or associated weld, including ferritic materials when necessary, provided in the code case.

Current Status: No action was taken

12. Amend Code Case N-740 to Allow for Application of Full Structural Weld Overlay for Mitigative Purposes (06-1651)

This proposed action is to revise Code Case N-740 to allow for the application of a weld overlay repair to austenitic stainless steel components and to nickel welds joining dissimilar austenitic and ferritic dissimilar base materials. This action extends the use of overlays as prescribed in N-740 to applications where the weld overlay is used for mitigation of PWSCC. The action applies essentially the same rules for design, installation and inspection of structural weld overlays as provided in the previous Code Case N-740 action. The revision to the case provides postulations for design and crack growth if no prior inspection is performed or no cracking is found by a prior inspection as well as some minor changes to examination acceptance criteria.

Current Status: Approved (30-1-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

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13. Code Case N-758: Alternative Examination Requirements for Vessels with Wall Thickness 2 Inches or Less (06-892)

This proposed Case is to provide alternative examination requirements for vessels with wall thickness 2 inches or less. Appendix I of ASME Section XI requires that the volumetric examination of a Class 1 and 2 vessel be performed per Appendix III. The figures associated with Tables IWB-2500-1 and IWC-2500-1 requires that the entire volume of the weld and associated base material be examined. Appendix III only requires the inner one-third of the weld and base material to be examined.

Current Status: No action was taken

14. Proposed deletion of IWA-5243 “Components With Leakage Collection Systems” (06-1611)

This proposed action is to delete of IWA-5243 “Components With Leakage Collection Systems” since there is no clear understanding of what constitutes a leakage collection system and the intent of the Code with regard to the IWA-5243 requirement. The operability of a leakage collections system is not defined within the Code and should be determined based on the plant and system requirements. Therefore, the evaluation of leakage collection system is outside the purview of the Code.

Current Status: Approved (31-0-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

15. Revise IWB-2420 and IWC-2420 (06-1625)

This proposed action is to revise IWB-2420 and IWC-2420 to add the requirements for additional examinations when new flaws or significant changes in existing flaw characteristics are observed during successive examinations. Interpretation IN02-022 that was issued in April 2004 indicated that ASME Section XI does not address whether additional examinations are required when new flaws or significant changes in flaws characteristics are observed when conducting successive examinations required by IWB-2420(b) or IWC-2420(b). This code action revised IWB-2420 and IWC-2420 to specify the requirements for conducting additional examinations when new flaws or significant changes in flaws characteristics are observed during successive examinations.

Current Status: No action was taken

16. Revision to Acceptance Standards Tables IWB-3510-1 and IWB-3512-1 for Planar Flaws in Ferritic Steels (04-1645)

This action is to propose changes to the allowable flaw sizes given in Tables IWB-3510-1 and IWB-3512-1 that will eliminate inconsistencies in acceptance sizes between surface and subsurface indications. In some cases when the acceptance

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standards of IWB-3510 are applied in conjunction with the flaw proximity rules of IWA-3310 for considering when subsurface flaws are to be classified as surface flaws for comparison with the acceptance standards, a subsurface flaw, which is deemed unacceptable to the standards of Tables IWB-3510-1 and IWB-3512-1, can become acceptable to the same Tables requirements when flaw is transformed to a surface flaw. This creates an inconsistency in applying the standards for flaws close to the surface of a component and the conditions for when a flaw requires evaluation or repair versus acceptable as-is. This inconsistency in the surface proximity rules with the acceptance standards has been corrected with this proposed change to Tables IWB-3510-1 and IWB-3512-1.

Current Status: Approved (31-0-0-0) by Subcommittee for second consideration; approved by Standards Committee on 6/13/07

17. Approval of changes to IWL-2420(c) to add wording similar to that in IWL-2420(b) regarding deferral of examinations (06-515)

IWL examinations are required to be conducted during time windows surrounding anniversary dates of the structural integrity test completion date. Current code allows a window of 24 months total, 1 year on either side of the specified date, for completion of the 10-year and subsequent examinations. This window allows adequate margin to ensure that plants on an 18-month refueling cycle will always have at least one outage falling within the window with sufficient time to complete the work. However, plants operating on a 24 month refueling cycle will not necessarily have a refueling outage (or sufficient time within the outage) fall within the required inspection window. The proposed action will modify the wording of IWL-2420(c) to be consistent with IWL-2420(b) as well as IWL-2410 (b) and IWL-2410(c). Specifically, this action will add the sentence "If plant operating conditions are such that examination of portions of the post-tensioning system cannot be completed within this stated time interval, examination of those portions may be deferred until the next regularly scheduled plant outage." to IWL-2420(c). As a result, in the event a plant does not have an outage within the specified inspection window, they will still be able to meet the code requirements. Current Status: Approved by Standards Committee

18. Eliminate IWA-4712.2(a)(5) requiring fusion welding procedure qualification to simulate the position of production welding (06-863)

IWA-4712.2(a) list essential variables for fusion welding procedure qualification for tube plugging. IWA-4712.2(a)(5) reads, "The welding of the procedure qualification test assembly shall simulate the welding position of the production tube sheet." A user has commented that position is not normally an essential variable for welding procedure qualification and questioned the need for position as an essential variable for tube plugging welding procedure qualification. Unless there is a basis for this requirement, it could result in unnecessary welding tests without a commensurate increase in safety or quality.

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Current Status: Approved (31-0-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

19. Revise IWA-6240 to require Summary Reports to be submitted to the Enforcement Authority upon request (06-1224)

Section XI currently requires the owner to submit the inspection summary report to the regulatory and enforcement authorities having jurisdiction at the site. In some cases, the state or local enforcement agency does not want the reports. The proposed change does not affect the requirement for preparation and report content. Even if the report is not requested for submittal, it is always subject to review by the regulatory and enforcement authorities upon request.

Current Status: Approved (31-0-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

20. Revise IWA-2430(c)(2) and IWA-2430(d)(3) (06-1626)

This proposed action is to revise IWA-2430(c)(2) and IWA-2430(d)(3) to allow an Inspection Period to be reduced or extended by as much as one year for reasons other than to enable an inspection to coincide with a plant outage. The 1995 Edition, 1996 Addenda through the 2006 Addenda, IWA-2430(c)(1) and (d)(1) state that each inspection interval may be reduced or extended by as much as 1 year without the limitation to be coincided with a plant outage. Section XI Interpretation XI-1-92-57 states that, per IWA-2430(d), 1992 Edition, Section XI allows the inspection interval to be extended or decreased for reasons other than to enable an inspection to coincide with a plant outage. If an inspection interval is allowed to be extended or decreased for reasons other than to enable an inspection to coincide with a plant outage, it would also imply that an inspection period is permitted to be extended or decreased for reasons other than to enable an inspection to coincide with a plant outage. Oftentimes, examinations and tests are performed online rather than during a plant outage, for instance, an online periodic system pressure test. Also, the end of an inspection period does not always coincide with the end a plant outage. For the aforementioned reasons, it is justified to revise IWA-2430(c)(2) and IWA-2430(d)(3) to remove the limitation to a plant outage.

Current Status: Approved (31-0-0-0) by Subcommittee for a first consideration ballot; Standards Committee ballot is pending

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**Inquiries Published From The Interpretation Session:**

**Subject:** ASME BPVC Section XI, Appendix II, Form NIS-2, 1989 Edition with the 1991 Addenda through the 2007 Edition

Our understanding of the questions in your letter and our replies are as follows:

**Question 1:** Is it a requirement of Form NIS-2 and Guide, Item 22 that the actual test pressure and test temperature obtained during performance of system leakage tests be documented in Block 8 of Form NIS-2?

**Reply 1:** No.

**Question 2:** Is it a requirement to record the nominal operating pressure, ambient, or nominal operating temperature in lieu of an actual pressure and temperature obtained during system leakage tests in Block 8 of Form NIS-2?

**Reply 2:** This is neither required nor prohibited.

**Subject:** ASME BPVC Section XI, IWA-4000, IWA-6000, and IWA-7000, 1989 Edition through the 2007 Edition

**File #:** IN07-04

**Question 1:** Is it a requirement of IWA-4000, IWA-6000, and IWA-7000, as applicable, that Repair/Replacement activities performed on Class 3 items be documented on Form NIS-2?

**Reply 1:** Yes, Form NIS-2 is required for Repair/Replacement activities on Class 1, 2, 3, MC, and CC items, and their associated supports, except when Form NIS-2 is specifically exempted by IWA-4000 or IWA-7000.

**Question 2:** Is it a requirement of IWA-6000 that NIS-2 Forms documenting Repair/Replacement activities performed on Class 3 components be included as part of the Summary Report?

**Reply 2:** No.

**Question 3:** Is it a requirement of IWA-6000 that NIS-2 Forms documenting Repair/Replacement activities performed on Class 1 and Class 2 components be included as part of the Summary Report?

**Reply 3:** Yes.

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**Subject:** ASME BPVC Section XI, IWC-2500, Examination Category C-A, 1989 Edition through the 1998 Edition

Our understanding of question 1 in your letter and our reply is as follows:

**Question 1:** Is it a requirement of Examination Category C-A, Items C1.10, C1.20, or C1.30 that the volume be examined as shown in Figures IWC-2500-1 and IWC-2500-2?

**Reply 1:** Yes.

## **NRC Report**

### Amendment to 10 CFR 50.55a

A proposed amendment to 10 CFR 50.55a that would incorporate by reference the 2004 Edition of the ASME *Boiler and Pressure Vessel Code and Code for Operation and Maintenance of Nuclear Power Plant Components*, was published on April 5, 2007 (72 FR 16731). The public comment period closes on June 19, 2007. The final rule is scheduled for publication in November 2007.

### ASME Code Cases - Rulemaking/Regulatory Guides

The following draft final regulatory guides have been transmitted to the cognizant NRC offices and legal staff for review:

- Revision 34 to Regulatory Guide 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III Revision 15 to Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1
- The final guides are scheduled to be published in September 2007.
- No public comments were received on Regulatory Guide 1.193, "ASME Code Cases Not Approved for Use," Revision 2. No changes to this guide are required as a result of the public comments received on Regulatory Guides 1.84 and 1.147. Accordingly, the guide has been formatted for publication as a final guide and is currently being tech edited. This guide is also scheduled to be published as a final guide in September 2007.
- The staff has initiated proposed Revision 35 to Regulatory Guide 1.84 and proposed Revision 16 to Regulatory Guide 1.147. The guides may include Code Cases through Supplement 12 to the 2004 Edition.

### Risk-Informed Activities

A Federal Register Notice of availability of Revision 1 of Regulatory Guide (RG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," was published on February 8, 2007 (ADAMS No.

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ML070240001). The RG describes one acceptable approach for determining whether the quality of a probabilistic risk assessment (PRA), in total or the parts that are used to support an application, is sufficient to provide confidence in the results, such that the PRA can be used in regulatory decision-making for light-water reactors. NRC Issued Regulatory Issue Summary (RIS) 2007-06 on March 22, 2007 (ADAMs No. ML070650428), discussing NRC expectations on implementing RG 1.200. The RIS states, in part, that the staff will review routine, limited scope applications (e.g., single allowed outage time extensions, risk-informed inservice inspection, integrated leak rate testing extensions) using its current practices through December 2007. For all risk-informed applications received after December 2007, the NRC staff will use Revision 1 of RG 1.200 to assess technical adequacy.

### Reactor Vessel Weld Inspection

The Topical report WCAP-16168-NP Rev 1, "Risk-informed Extension of the Reactor Vessel In-Service Inspection Interval," requesting an extension of the weld inspection interval from 10 to 20 years is under review. A meeting at NRC to discuss draft requests for information is planned for the last week of May or first week of June 2007. The topical report relies extensively on work described in NUREG-1874, "Recommended Screening Limits for Pressurized Thermal Shock (PTS)" which the NRC intends to publish in the near future (ADAMs No. ML070740639).

NRC has approved several requests to extend the inspection interval on reactor vessels welds from 10 years to 10 years plus one operating cycle based on consistency with the letter from NRC 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. NRC is finalizing the review of one request to extend the inspection interval an additional operating cycle (i.e., for a total extension of two operating cycles). A second such request has been received and is also under review.

### Repair and Replacement

In September 2006, the PWR owners group submitted, WCAP-16308-NP Revision 0 Pressurized Water Reactors Owners Group 10 CFR 50.69 Pilot Program - Categorization Process - Wolf Creek Generating Station. The Topical includes, in part, an alternative methodology to the NRC endorsed Code case N-660 for categorization of passive components. The NRC is reviewing this Topical.

A licensee submitted a relief request under 50.55a(3)(I) to authorize the use of a risk-informed safety classification and treatment for repair/replacement activities in Class 2 and Class 3 moderate energy systems. A conference call was held with the licensee about this relief request on May 7, 2007. The NRC is determining whether the relief request includes sufficient information for the staff to begin its review.

### Risk-Informed ISI

On May 7, 2007, a meeting was held at NRC headquarters to discuss the draft responses from D.C. Cook and Grand Gulf Nuclear Station to the NRC Staff Requests for Additional Information on the application for the use of the methodology for applying

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and implementing the Risk-Informed Inservice Inspection Program in Code Case N-716. During the meeting, the possibility of identifying sufficient technical quality in Licensees' flooding analyses based on the results of the review of the flooding analysis against the ASME RAS-S-2000 standard (currently Addendum B has been issued) was discussed. If it is practicable to define acceptable technical adequacy in terms of capability categories for each of the specific supporting requirements (SR's) that characterize a licensee's flooding analysis, it would simplify any NRC endorsement of a RI-ISI Code Case for use without prior review (or periodic relief request). The feasibility of this proposed course of action is under discussion.

During the review of the periodic, 10-year updates of the RI-ISI program, the NRC must develop confidence that the living program requirements are being appropriately implemented using a current PRA of technical adequacy. The potential impact of the recently issued RG 1.200 on PRA quality on RI-ISI relief requests is under discussion.

### Generic Activities on Material Degradation/PWR Alloy 600/182/82 PWSCC

Representatives from the Nuclear Energy Institute (NEI), Electric Power Research Institute (EPRI), and the EPRI Materials Reliability Project (MRP) met with the staff on October 25, 2006, to discuss five circumferential indications identified in three dissimilar metal (DM) welds on the pressurizer at the Wolf Creek Generating Station. The inspection results raised safety concerns based on the size and location of the indications. These findings also raised concerns regarding the adequacy of the MRP-139, "Materials Reliability Program: Primary System Piping Butt Weld Inspection and Evaluation Guideline," baseline inspection schedule for pressurizer welds, particularly the deferral of the baseline inspections allowed by the industry's NEI 03-08, "Guideline for the Management of Materials Issues," protocol. Three of the Wolf Creek indications were in the pressurizer surge nozzle-to-safe end weld, and the other two indications were in the safety and relief nozzle-to-safe end welds. The pressurizer surge nozzle-to-safe end weld indications are of concern, as this is the first time that multiple circumferential indications have been identified in a weld. This condition calls into question the degree of safety margin present in past structural integrity evaluations for flawed DM welds, since multiple stress-corrosion cracking flaws may grow independently and ultimately grow together, significantly reducing the time from flaw initiation to leakage or rupture. The size of the relief nozzle-to-safe end flaw is also of concern, as this flaw has a much larger aspect ratio than those assumed in the estimates used to establish the basis for the industry-sponsored MRP-139 program. Larger aspect ratios could result in achieving a critical flaw size and rupture prior to the onset of detectable leakage. NRC held public meetings on November 16 and 30, and December 1 and 20, 2006, regarding the implications of the inspection findings on the completion of baseline inspections required by MRP-139.

It was the staffs desire to have these welds inspected by the end of 2007. Through efforts of the Nuclear Energy Institute, all PWR licensees submitted voluntary commitment letters pertaining to plans for inspection and mitigation of Alloy 82/182 welds in pressurizer locations. Plants generally fit into one of three categories, those that do not have Alloy 82/182 material in the pressurizer butt welds or had already mitigated the welds, those that planned on inspection activities by the end of 2007, and those that intended to inspect after 2007. The staff engaged each licensee that has Alloy 82/182

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welds in pressurizer locations and discussed the requirements for inspection, mitigation, and contingency actions until inspections were completed. Based on these discussions and revised commitment letters, confirmatory action letters (CALs) were issued to all PWRs having alloy 82/182 weld material in pressurizer surge, spray, safety, and relief nozzle and safe end butt welds that have not mitigated the welds. These CALs were issued between March 12 and March 29.

Plants that did not receive a CAL will be receiving a letter acknowledging the information that they provided and a statement that their response adequately addresses the concerns that the NRC has at this time regarding primary water stress corrosion cracking (PWSCC) susceptibility of these welds. The first of these letters was sent April 18, and all letters should be issued by mid June.

The majority of licensees committed to inspect the welds by the end of 2007. Nine licensees intend to perform inspections in 2008, but have committed to perform the inspections by the end of 2007 or shut down by the end of 2007 if an adequate level of safety, supporting examination after 2007, has not been demonstrated to the NRC. The industry is currently working on an advanced finite element analyses to demonstrate this adequate level of safety. The NRC is monitoring the industry's progress to be aware of the inputs and assumptions and perform confirmatory analyses and sensitivity analyses. Results of the industry analyses are expected in July.

### PDI

Meetings between NRC staff and Electric Power Research Institute (EPRI) staff were held at the EPRI Office in Knoxville, Tennessee, on May 2-4, 2007, to discuss the status of the Performance Demonstration Initiative (PDI) program. The agenda included ASME Code Updates, dissimilar metal welding program status, and weld overlay/inlay program status.

### Summary of Public Meeting with Nuclear Energy Institute Regarding 10 CFR 50.55a

On March 7, 2007, the Nuclear Energy Institute (NEI) sent to the NRC for information, its white paper on "Improving the Effectiveness of 10 CFR 50.55a, Code and Standards," (ADAMS Accession ML070940157). The white paper formed the basis for discussions held on April 3, 2007, at NRC headquarters between the staff and representatives from NEI, ASME, and utilities. The following options are discussed in the white paper: (1) revise 10 CFR 50.55a to require that the "Code of Record" be maintained in the Updated Final Safety Analysis Report by 10 CFR 50.71 and controlled by 10 CFR 50.59, (2) modify 10 CFR 50.55a to specify screening criteria to permit changes to the Code of Record without prior NRC approval, and (3) revise 10 CFR 50.55a to specify integrated risk-informed evaluation criteria to permit changes to risk-informed inservice inspection, inservice testing, and repair/replacement programs without prior NRC approval.

The majority of the discussion centered around the incorporation by reference of the ASME Code in 10 CFR 50.55a and the process of evaluating the acceptability of changes or alternatives to ASME Code requirements. In the meeting, the NRC staff asked for clarifications with respect to the proposed options and provided preliminary concerns and observations regarding the proposed revision. The NRC staff stated that it would respond to NEI formally regarding the proposed revision in the near future. NEI

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indicated that it plans to submit a petition for rulemaking in the Fall 2007, contingent upon favorable NRC response to the proposed revision.

A list of meeting attendees and the NEI's presentation slides are available in ADAMS (ML071080146).

### **Special Working Group on Plant Life Extension Report**

Special Working Group on Plant Life Extension met on May 14, 2007 and discussed the following:

- The Special Working Group continues to develop a recommendation regarding how “one-time” inspections that are required by License Renewal can be rolled into the ASME XI Code. Typically, ASME XI does not consider “one-time” inspections in ASME XI, i.e., only consider periodic inspections. The SWG on PLEX is suggesting that the License Renewal “one-time” inspections may, in fact, be periodic inspections with a period of 20 years given that utilities are already considering a second license renewal to 80 years and any findings may result in more frequent inspections. The completion of this recommendation is delayed pending receipt of a License Renewal Commitment database that has been developed by EPRI that identifies many of the “one-time” inspections that might be considered in this initiative. A formal request has been made by ASME BNCS to EPRI for this information.
- A proposal to change the name and consider adjusting the charter of the ASME XI SWG on PLEX is being prepared. A suggested committee name is “SWG on Nuclear Plant Aging”. With the evolution of life extension and license renewal, the committee considers it important to adjust the charter and to change its name to reflect present industry perception and terminology regarding aging management in nuclear plants.
- After significant SWG discussion, a new draft of a recommended Code change to permit a one-time interval adjustment of the inspection requirements to address plant mergers, purchases, etc. is being prepared. A SWG on PLEX recommendation is now expected to be made at the August 2007 ASME XI meetings.
- The NRC has indicated that Code Cases and Relief Requests relative to License Renewal, i.e., only those that are aging related, cannot be used as the basis for license renewal. Note that this is a “legal” issue and not a technical issue. The technical justification for these should be included in the License Renewal Application. If they are accepted by the NRC then they will stand during the period of extended operation as part of the new licensing basis. Note that if the Code Case or Relief Request does not relate to aging then it will remain in effect through the License Renewal Period without further action by the applicant. The SWG on PLEX is developing a summary clarification of this and will propose to present it to the NRC at one of the quarterly NRC/ASME meetings with a request that the NRC prepare an ISG (Interim Staff Guidance) on this topic for future license renewal applicants.

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**Upcoming Meetings:**

2007

August 13 – 17:

New Orleans, LA; Sheraton Hotel

November 12 – 16:

Dallas, TX; Westin Park Central Hotel

2008

February 4 - 8:

Boston, MA

April 21 – 25:

Vancouver, BC

August 4 – 8:

San Francisco, CA

November 10 -14:

Los Angeles, CA