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# Preservice and Inservice Inspection Discussion Items (COLA Section 5.2.4)

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ESBWR DCWG – NRC Meeting  
May 13, 2008

# Preservice and Inservice Inspection Discussion Items (COLA Section 5.2.4)

- Objective: Present proposals to address the seven questions regarding COLA section 5.2.4.
- Note that specific text presented herein is preliminary and is for discussion purposes only. All proposed changes will need to be approved through the normal document change approval processes (DCD and COLA).

# Preservice and Inservice Inspection Discussion Items (COLA Section 5.2.4)

- **Question 1:** Performing preservice exams on 100% pressure retaining welds for Class 1 components. Current program description not clear how this is addressed.
- **Proposed Response:** Change DCD/COLA Section 5.2.4.3.1 to read: “The preservice examination is performed once in accordance with ASME Section XI, IWB-2200, ~~on all of the items selected for inservice examination~~, with the exception of the examinations specifically excluded by ASME Section III NB-5282 and Section XI from preservice requirements, ....”
- Effect of change will require preservice inspection on 100% of pressure retaining welds

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- **Question 2:** How will the applicant comply with NB-5280 (regarding the level of detail)?
- **Proposed Response:** Change DCD/COLA Section 5.2.4.9 to read: “Preservice examinations required by design specification and preservice documentation are in accordance with ASME Section III, NB-~~5281~~**5280**. Examination requirements are in accordance with Section III NB-5282 and Section XI, Table IWB-2500-1. Components exempt from preservice examination are described in ASME Section III, NB-5283.”

# Preservice and Inservice Inspection

## Discussion Items (COLA Section 5.2.4)

- **Question 3:** How will applicant comply with Section XI, IWB-2200(b)(2)? DCD discusses radiography, ultrasonic, etc. How will same techniques be used in PSI and ISI Programs?
- **Proposed Response:** In response to DCD RAI 5.2-62, DCD 5.2.4.2 was changed to read: *“[The process that is being used by GEH in the certified design of the ESBWR is to require specific access requirements to support the preferred UT or optional RT examination in the equipment procurement specifications that are in compliance with the ASME Section XI Code.]”*

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# Preservice and Inservice Inspection

## Discussion Items (COLA Section 5.2.4)

- **Proposed Response to Question 3 (cont):** In response to DCD RAI 5.2-62, there is a new COL item that requires the COL Applicant to preserve accessibility to piping systems to enable NDE of ASME Code Class 1 austenitic and dissimilar metal welds during ISI.

The COLA will address this item by specifying the following:

- Modifications and field changes follow the same level of review that was required during the design process.
- Accessibility and inspectability are key components of the design process.
- Control of accessibility for inspectability and testing during post-design certification activities is provided via procedures for design control and plant modifications.
- UT will be the preferred NDE method for all PSI/ISI examinations, RT will be used as a last resort only if UT can't achieve the necessary coverage.
- The same NDE method used during PSI will be used for ISI to the extent possible to assure a baseline point of reference.

# Preservice and Inservice Inspection

## Discussion Items (COLA Section 5.2.4)

- **Question 4:** Need to address all applicable limitations listed in 10 CFR 50.55(a)(b)(2) regarding use of ASME Code.
- **Proposed Response:** Change DCD/COLA Sections 5.2.4.1 and 5.2.4.7 to add the limitation in 10CFR50.55a(b)(2)(xi) which excludes the use of paragraph IWB-1220(d). If any Class 1 welds are inaccessible due to being encased in concrete, buried underground, located inside a penetration, or encapsulated by a guard pipe, they are still considered to be within the scope of ASME Section XI and are subject to examination requirements.

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- **Proposed Response to Question 4 (continued):**  
Add a sentence to the end of DCD/COLA Section 5.2.4.3.2, Surface Examination, to read: “Even though ASME Section XI allows ultrasonic examination (UT) to be used as a surface examination method, 10CFR50.55a(b)(2)(xxii) prohibits its use.”



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- **Question 5:** Clarify the text regarding one 50.55a ISI limitation regarding IWA-2240 – alternative exam methods.
- **Proposed Response:** Revise DCD/COLA Section 5.2.4.3.2, the last paragraph titled “Alternative Examination Techniques”, last sentence to read: “IWA-2240 as written in the 1997 Addenda of ASME Section XI ~~(or later Edition/Addenda that is approved under 10 CFR 50.55a)~~ is used when applying these provisions.”

# Preservice and Inservice Inspection

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- **Question 6:** Make clear that ISI/PSI program covers Class 1, 2, 3 component supports and pressure retaining bolting.
- **Proposed Response:** Point out that:
  - DCD Section 5.2.4.2 (in response to DCD RAI 3.9-179, MFN 08-282) addresses pipe supports for Class 1 components
  - DCD Section 6.6.2 addresses pipe supports for Class 2 and 3 components
  - DCD section 3.9.3.9.3 addresses bolting
  - No additional changes are necessary

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- **Question 7:** Qualification of ultrasonic exam procedures – program description discusses qualification of personnel and equipment, but not procedures.
- **Proposed Response:** Change DCD/COLA Section 5.2.4.3.4, as follows:
  - Revise second sentence to read “Ultrasonic examination systems (personnel, **procedures**, and equipment) shall be qualified in accordance with industry-accepted programs for implementation of ASME Section XI, Appendix VIII, as modified by 10CFR50.55a(b)(2)(xiv), (xv), (xvi), and (xxiv).”

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## ■ Conclusions

- Finalize changes based on feedback from NRC
- COL Applicants working with GEH to determine most appropriate location (DCD or COLA) for text changes

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# Questions?