

Industry Baffle-Former Bolt Focus Group Next Steps



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EPRI BFB Focus Group
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Meeting Summary

- Reviewed operating/inspection experience from 2016-2017
 - BFB degradation observed to date is NOT a safety issue
 - BFB degradation is a costly asset management issue
- Conducted significant hot cell testing on Baffle Former Bolts
- Currently evaluating enhancements to UT technique
- Issued NEI 03-08 Interim Guidance to all plants
 - BFB degradation can significantly impact plants during outages
 - Need for pre-planning and consideration of contingencies is real
 - Utilities need to consider inspection risk as part of outage planning

Summary of Hot Cell Testing

- Hot cell results are consistent with previous work from 1990s
 - Did not identify a different crack initiation or crack growth mechanism
 - Defective or incorrect material was not observed for the tested bolts
 - Intact bolts with UT indications had load carrying capabilities
- Metallographic examinations did not conclusively identify microstructural features that contribute to UT results

Currently Evaluating UT Qualification and Techniques

- Improve reliability of the exams
 - Revising procedure qualification to require a minimum 90% probability of detection (POD)
 - Revising UT inspection personnel qualification for detecting flaws of various sizes and orientations
 - Modeling of BFB UT techniques

Issued NEI 03-08 Interim Guidance

- Reduced the baseline inspection time line for some plants
- Reduced the re-inspection interval based on findings
- Requiring a plant-specific evaluation if inspection results are worse than the threshold set in the Interim Guidance

Future Activities

- Continue to assess OE
 - Assessment of spring 2017 outage OE is currently underway
- If necessary, adjust inspection guidance and acceptance criteria as applicable based on OE
- Continue to evaluate enhancements for NDE method
 - The existing UT procedure is effective

- Baffle Former Bolt Focus Group has been sunset

Note: This work will be managed by Joint EPRI-MRP/PWROG Reactor Internals Planning team.

Future Inspections

- Fall 2017

- 1 planned UT inspections (Tier 1a plant initial examination)
- 1 planned visual inspection (Tier 1a plant re-examination)

- CY2018

- 5 planned UT inspections (two Tier 1a plant re-examinations, two Tier 1b plants, and one Tier 2b plant)

- These examinations are in compliance with NEI 03-08 Interim Guidance

Industry Summary

- Baffle Former Bolt degradation is not a nuclear safety issue
 - Industry inspection guidance provided to plants based on risk to asset
 - Supported by actual Baffle Former Bolt degradation findings to date
 - Structural analysis to date supports risk levels assigned in NSAL-16-1
- BFB degradation is an asset management issue
- Industry has adequately responded and is now effectively managing the BFB issue



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