

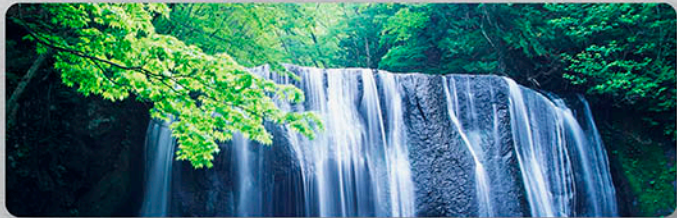


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***Update from Special PDI/EPRI
Meeting November 15th through
17th 2011***



Carl Latiolais
Senior Program Manager Performance
Demonstration



PDI/NRC Meeting

December 2011

Objectives

- Primary Focus
 - Review performance demonstration data in an effort to develop an alternative depth sizing acceptance criteria for examinations performed from inside surface
- Secondary items of interest
 - Overlay qualification process
 - RPV nozzle inner radius qualification process

Attendees

- Tim Lupold – NRR
- Don Naujock – NRR
- Stephen Cumblidge - NRR
- Steve Doctor – PNNL
- Pat Heasler – PNNL
- Dave Anthony –Exelon Nuclear (PDI Vice Chairman)
- Carl Latiolais – EPRI
- Mark Dennis – EPRI
- Thiago Seuaciuc-Osorio - EPRI
- George Connolly - EPRI

Weld Overlay Program Review

- Purpose
 - Close open action item from June PDI NRC meeting
 - Steve Doctor and others to review the way the PDI weld overlay program is administered
 - Size of unflawed grading units
 - Identification of PSI/ISI samples to candidates during testing
 - Results
 - Based on notes from meeting it appears concerns were addressed during review of the grading process, sample grading sheet development and hands on review of a typical sample set

RPV Nozzle Inner Radius Qualification Process

- Purpose
 - Gain additional understanding on how the PDI nozzle inner radius qualification program is being administered
 - Need information to support ongoing intent inquiry recently presented to Code for consideration
- Results
 - Based on review of the information it appears that there is better understanding of the process and all parties understand intent inquiry and agree with the proposed Code change being submitted to clear up the confusion

Review of Inside Surface Depth Sizing Data

- Purpose
 - Review the statistical information available
 - Determine if current screening criteria being used by PDI was adequate
 - Provide staff the opportunity to view the actual samples used for qualification
 - Review ultrasonic data collected on the samples in an effort to understand why the current depth sizing criteria cannot be met
 - Consider alternative acceptance criteria possibilities

Review of Inside Surface Depth Sizing Data

NRC Observations/Recommendations

- Based on notes taken during the meeting the following observations and recommendations were made by the NRC staff and their contractors
 - The alternative criteria (RMSP) used by PDI appears to be doing an adequate job in screening procedures and personnel and they would consider supporting changes to the existing requirements that would use this criteria as a secondary screen
 - They feel the 0.125" RMS criteria should remain in the Code as the primary target
 - They feel that the depth sizing performance of procedures and personnel be evaluated separately for Supplements 2 and 10 and not combined as the Code presently requires
 - They suggest that these changes be proposed to the Code as either unique Code cases or as revisions to CC-695 or 696 as applicable

Review of Inside Surface Depth Sizing Data

NRC Observations/Recommendations Cont.

- They agree with the current process that all flaws in the current sample set be used for the initial procedure qualification and that a subset of those flaws should be used for personnel qualification
- They feel that if a procedure does not satisfy the 0.125" RMS acceptance criteria the additional error in the measurement must be accounted for
- They do not feel that the current process for accounting for error used in various relief requests is adequate
- They propose doubling the achieved RMSP value or RMS value and adding it to every measurement
 - This process would only be acceptable for welds not susceptible to SCC
 - If weld was susceptible to SCC this process would not be accepted and the weld would have to be mitigated or repaired upon detection of suspected SCC

Review of Inside Surface Depth Sizing Data

NRC Observations/Recommendations Cont.

- They feel that the current process of providing the achieved RMS value to licenses for procedures that have not satisfied the 0.125" RMS acceptance criteria needs to be modified
 - Should include both candidate and procedure qualification measurements
 - Should include Supplement 2 and Supplement 10 values calculated separately
- They stated that these observations/recommendations will not have an effect on previous relief requests, but will be considered on future relief requests

PDI Proposed Actions

- PDI will develop white paper supporting Code changes relative to Appendix VIII
 - Revision to CC-695 and CC-696 as applicable
 - Specific recommendations will be considered during this exercise, but alternative processes may be proposed
- PDI will not directly address specific items concerning the appropriate way to deal with measurement error in Appendix VIII
 - PDI will recommend to senior advisors that an industry group be formed to address these proposals
 - Group will consist of a cross-discipline team of individuals including team members versed in fracture mechanics and Code flaw acceptance criteria

Questions that need to be answered?

- The correction factor proposed by NRR may be overly conservative and is inconsistent with basis for Appendix VIII.
 - No other Supplement requires a 95% confidence bound for every measurement
 - What is the basis for this new approach?
 - This goes beyond a screening test
- Are additional correction factors needed?
 - Do the fracture mechanic calculations bound this error already?
- Does this correction factor need to be used on mitigated welds?
- Does this correction factor need to be used on dissimilar metal welds fabricated with 690 or stainless weld material?
- NRR stated they wanted RMS error information to include all measurements made which includes data from successful procedures and candidates. This means that the correction factors have the potential to change with time, which means that the reported flaw heights will also have the potential to change.
 - How will this be dealt with?
 - This is inconsistent with all other Supplements in Appendix VIII

Summary

- This meeting was productive and progress was made
- PDI will work through the Code process to move forward the items within their realm of authority
- PDI will support other industry focus groups in efforts to address the additional proposals made by staff