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From: Thomas Alexion
To: DAVANT, GUY H
Date: 3/26/04 8:50AM
Subject: PRE-APPLICATION FOR USE OF MNSA-2 ON VESSEL BOTTOM NOZZLES

Guy,

Attached is NRC staff feedback on your 02/05/04 pre-application submittal (CNRO-2004-00010).

I can arrange for a phone call with the NRC staff reviewers if you want to discuss it.

Tom

CC: SBENNE2@entergy.com

- docket 50-313
- PM is T. Alexion

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Subject:	PRE-APPLICATION FOR USE OF MNSA-2 ON VESSEL BOTTOM NOZZLES
Creation Date:	3/26/04 8:50AM
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STAFF FEEDBACK ON THE ANO-1
PRE-APPLICATION SUBMITTAL ON USE OF MNSA-2 CLAMPS
ON THE BOTTOM MOUNTED INSTRUMENTATION NOZZLES

1. The application needs to have an expanded justification (the 2nd paragraph in Section III of the submittal is not sufficient) why MNSAs are the appropriate repair technique to be applied in this area, when there are other permanent repair techniques available.

2. By proposing a temporary MNSA repair, followed by a permanent half-nozzle repair, ANO-1 will incur higher worker radiation exposures than if the permanent repair were performed at the outset. This deviation from ALARA principles needs to be further justified.

3. If the MNSAs are the appropriate repair technique, then the application needs to discuss how this can be considered a temporary repair since drilling holes into the reactor vessel is not reversible. How would the reactor vessel be returned to its original condition when a permanent repair is completed in the future?

4. Since the use of MNSAs on the vessel bottom may not be considered a temporary repair, your application should discuss the concerns identified in the NRC's letter of December 8, 2003.

5. You will need to submit a separate relief request for leaving flaws in service and not reinspecting them in accordance with IWB-2420(b) of Section XI of the ASME Code.

6. If nozzle leakage is identified, you will need to offload the core and perform extensive NDE to fully characterize the flaws. The staff would need for you to describe the NDE and flaw characterization results in detail.

7. NRC staff approval on the use of MNSAs on the vessel bottom will likely involve an extensive review. A general comment here would be that you provide as complete and thorough a design and test package as possible, and not wait for the staff to ask for it. The design package should include a Section III fatigue evaluation of the region adjacent to the MNSA as well as a Section XI fatigue crack propagation analysis, based on postulating a detectable crack within the wall adjacent to the MNSA. Note that the statement in the relief request that the staff previously reviewed and approved the methodology used to evaluate the installation of the MNSA-2s is not consistent with the referenced letters.

8. In addition, the request should be as accurate as possible. For example, the cover letter says relief is requested under 10 CFR 50.55a(a)(3)(ii); however, the Enclosure requests relief under 10 CFR 50.55a(a)(3)(i). You need to determine upon what basis you are requesting relief.

9. The staff believes that before authorizing the use of MNSAs on the bottom of the vessel, it is prudent to await the finalization of the ASME Code deliberations on the use of this type of repair technique.

10. A first-of-a-kind staff approval to use the MNSAs to repair nozzle leakage on the bottom of the vessel is not envisioned to be a straightforward, nor short duration, review. The staff recommends pursuing a proven permanent repair technique (half-nozzle) for the upcoming outage and for the industry to seek approval to use MNSAs for this application on a longer term.

11. At a minimum, visual inspection requirements should be consistent with past applications; e.g., insulation removal and treating all leaks as pressure boundary leaks (since the design of the original installation did not permit any leakage).