

Davis-BesseNPEm Resource

From: CuadradoDeJesus, Samuel
Sent: Friday, July 15, 2011 9:21 AM
To: 'custer@firstenergycorp.com'
Cc: 'dorts@firstenergycorp.com'
Subject: FW: Clarification Questions Related to the Response to RAI 3.5.2.2.1.7-1
Attachments: DB RAI AMR TRP 101 SCC - Mintz_Min SG RAI 7-8-2011 v70 (Containment Penetration).docx

Cliff

Can we have a teleconference next Monday as requested below?

Thanks

From: Min, Seung
Sent: Tuesday, July 12, 2011 4:23 PM
To: CuadradoDeJesus, Samuel
Cc: Todd Mintz; Pham, Bo
Subject: Clarification Questions Related to the Response to RAI 3.5.2.2.1.7-1

Good Afternoon, Sam,

Dr. Todd Mintz and I need a teleconference call with the applicant to discuss the clarification questions regarding the response to RAI 3.5.2.2.1.7-1 as attached. If available, please, schedule a teleconference call for the coming Monday (7/18) or early next week in view of the schedule of Dr. Mintz.

If you have any comment or question, please, let us know.

Thanks,
Seung Min

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From: CuadradoDeJesus, Samuel

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Clarification questions related to the response to RAI 3.5.2.2.1.7-1

Background

By letter dated May 2, 2011, the staff issued RAI 3.5.2.2.1.7-1 requesting that the applicant justify why the water leakage addressed in LRA Section 3.5.2.2.1.10 is not conducive to stress corrosion cracking of the stainless steel penetration sleeves and bellows. In its response dated June 3, 2011, the applicant stated that the below-grade leakage is due to a reoccurring issue of groundwater intrusion into the annulus between the containment and the shield building and a 2002 condition report identified that the two stainless steel bellows and flanges for the containment emergency sump recirculation valves had a rusty appearance. The applicant also stated that the corrective action directed sampling of the water and repairs to identify the source of the leakage. The applicant further stated that evaluation of the residue on the bellows identified that it contained calcium. In addition, the applicant stated that cracking due to stress corrosion cracking is not an applicable aging effect for these bellows because the normal temperature of these components is less than 60 °C (140 °F) and a review of plant operating experience confirmed that no other containment penetration bellows have been affected by groundwater intrusion and that cracking of penetration sleeves or bellows was not identified. In addition, the applicant stated that while cracking of penetration bellows and sleeves is not considered to be an applicable aging effect, these components are inspected by the Inservice Inspection Program – IWE.

The staff also noted that LRA Section 3.5.2.2.1.1 states that the below-grade environment at Davis-Besse is aggressive (chlorides > 500 ppm and sulfates > 1,500 ppm) and sampling results indicated a chloride content maximum value of 2,870 ppm and a sulfate content maximum value of 1,700 ppm.

Issue

In its review, the staff noted that even though generally speaking stress corrosion cracking is not a significant concern at temperature lower than 140 °F, there is a potential that evaporation of leaked ground water on the surfaces of the components may cause significant contamination with chloride or sulfate ions, which may have an adverse effect on the initiation of stress corrosion cracking of the components. Therefore, the staff found a need to further confirm whether or not the applicant identifies and performs necessary corrective actions to manage an adverse effect of ground water intrusion on stress corrosion cracking of the containment penetration components when the applicant's operating experience (OE), including OE related to the Inservice Inspection Program – IWE and 10 CFR Part 50, Appendix J Program, indicates ground water intrusion on the containment penetration components. The staff also found a need to clarify whether or not chloride or sulfate contamination was identified in the applicant's evaluation of the residue on the bellows that are addressed in the applicant's response to RAI 3.5.2.2.1.7-1.

DRAFT
Davis-Besse TRP 101 – Stress Corrosion Cracking

Request

1. Describe whether or not the evaluation of the residue on the bellows, which are addressed in the applicant's response to RAI 3.5.2.2.1.7-1, indicated the presence of chloride or sulfate contamination on the bellows. If data are available, describe the levels of chlorides and sulfates that were detected in the residue evaluation.
2. Confirm whether or not the applicant identifies and performs necessary corrective actions to manage an adverse effect of ground water intrusion on stress corrosion cracking of the containment penetration components when the applicant's operating experience (OE), including the OE related to the Inservice Inspection Program – IWE and 10 CFR Part 50, Appendix J Program, indicates ground water intrusion on the containment penetration components.

In addition, describe what corrective actions are taken in order to control the adverse environmental effect when the applicant's operating experience indicates ground water intrusion on the components.