Davis-BesseNPEm Resource

From: CuadradoDeJesus, Samuel
Sent: Monday, December 17, 2012 3:09 PM
To: custerc@firstenergycorp.com; dorts@firstenergycorp.com
Cc: Davis-BesseHearingFile Resource
Subject: Shield Building Draft RAIs
Attachments: Shield Building DRAIs Davis-Besse.docx

Importance: High

Cliff,

Attached are the Draft RAIs for the Shield Building. The staff will support a telephone conference call tomorrow at 12:30 pm (eastern time) to provide clarification.

Regards,

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Shield Building Monitoring Program Follow-up Draft RAIs

Follow-up Draft RAI B.2.43-2

Background:
By letter dated November 20, 2012, the applicant responded to an RAI regarding the proposed monitoring methods for the Shield Building (SB) cracking. The RAI response indicates that the proposed inspection sample size of 20 core bores will cover the three areas of cracking (flute shoulders, upper 20' of the building, and the steam line penetrations) and is adequate to identify any changes in the laminar cracking, without further impulse response testing during the period of extended operation.

Issue:
As part of evaluating the applicant's plan for monitoring the SB cracking with core bores, the staff needs to understand the technical basis for the size of the sample. For example, is the sample based purely on statistics or is it based on the long term effect of the concrete cracks on the ability of the reinforcement to carry design loads and the safety significant of the cracking. In an earlier RAI response, dated April 5, 2012, it was indicated that the structural impact of the cracking would be determined via testing. A summary description of the test results and discussion of how the test results demonstrate that the sample size is sufficient has not been provided. .

Request:
Provide a discussion of the technical basis for the adequacy of the sample size. If the sample size was based on testing, provide a summary of the testing. Include an explanation of the testing completed as well as the results, and how this information relates to the structural capacity of the shield building and supports the adequacy of the sample size.

Follow-up Draft RAI B.2.43-3

Background:
By letter dated November 20, 2012, the applicant responded to an RAI regarding the scope of the proposed Shield Building Monitoring Program. The RAI response notes that there were four conditions required to cause the SB laminar cracking and that the SB is the only plant structure that has all of these conditions. The response further states that the design features of all other concrete structures within the scope of license renewal prevent the occurrence of similar cracking, and this was verified via core bores and impulse response testing of an Auxiliary Building wall, which was a bounding location.

Issue:
1. Although the SB cracking was most prevalent on the west side of the building, significant cracking was identified around 270° of the building (East, West and North directions). It is not clear why sampling one wall, in one direction, of the Auxiliary building is adequate to demonstrate no cracking occurred throughout the site.
2. The staff believes that testing to verify cracking did not occur in other structures should be conducted on a structure comparable to the SB. It is not clear to the staff why the Auxiliary Building is considered a comparable structure to the SB, since the wall that was

tested was coated while the SB was uncoated. A comparable structure should have as many characteristics that match the SB as possible (e.g., similar rebar density, similar wall thickness, similar environmental exposure, lack of coating).

3. In past RAI responses, the applicant has explained that some other structures within the scope of license renewal have exterior coatings; however, they are not relied upon to prevent sub-surface laminar cracking. In addition the coatings are not included in the scope of license renewal.

Request:

1. Explain why one sample is adequate to verify laminar cracking did not occur in any other direction or in any other structures within the scope of license renewal, or propose additional testing to verify cracking did not occur.
2. Explain why the Auxiliary building is comparable to the SB, or identify a more comparable structure and explain how it will be verified that cracking has not occurred in that structure.
3. If the responses to either of the above requests discuss the external coatings as additional justification for why structures within the scope of license renewal are not susceptible to laminar cracking; explain why the coatings are not in the scope of license renewal.