

## Davis-BesseNPEm Resource

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**To:** custerc@firstenergycorp.com; dorts@firstenergycorp.com  
**Cc:** Davis-BesseHearingFile Resource  
**Subject:** DB Draft RAI B.2.39-13 on Shield Building Cracks  
**Attachments:** DB B.2.39-13 Containment Crack RAI.docx

**Importance:** High

Cliff and Steve,

Attached is LR new RAI on the Shield Building Cracks. I'll try to issue this one in the same letter with the RAIs on Operating Experience and SG tube to tubesheet.

Regards,

**Samuel Cuadrado de Jesús**

Project Manager

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## RAI B.2.39-13

### Background:

In order to perform a scheduled reactor head replacement, a construction opening was made in the concrete shield building. During hydro-demolition of the concrete shield building, cracks were identified in the 'architectural shoulders' of the shield building. While investigating the extent of the cracking, additional cracks were identified around the shield building. These additional cracks were identified using an Impulse Response (IR) technique and core bores were used to verify the IR results.

### Issue:

Extensive cracking in the shield building could affect the structural integrity of the shield building and may impact its ability to perform its intended function during the period of extended operation.

### Request:

1. Summarize the shield building degradation, the root cause, and the expected corrective actions.
2. Explain how the recent plant-specific operating experience impacts the Shield Building's ability to perform its intended functions during the period of extended operation. Include a list of any additional aging effects that may require management based on this operating experience.
3. Explain how the recent plant-specific operating experience will be incorporated into the Structures Monitoring Program AMP, and whether the current program will be adequate to manage aging of the shield building during the period of extended operation, based on this operating experience. Specifically address the following:
  - i. Details of tests planned to determine the long term effect of the concrete cracks on the ability of the rebars to carry design loads.
  - ii. Plans, if any, to repair the crack or reinforce the shield building concrete.
  - iii. Detailed plans to monitor the extent and thickness of cracks, and corrosion of the rebars over the long term.
  - iv. Plans, if any, to perform detailed structural analysis, with explicit modeling of rebars, cracks, and concrete, to demonstrate that the shield building will perform its intended design function over the long term. This analysis should also consider the effect of shrinkage and environment on the concrete and rebar during the period of extended operation.
4. Identify and explain any changes to the license renewal application based on the recent plant specific operating experience.