NorthAnnaRAIsPEm Resource

From: Patel, Chandu
Sent: Monday, May 21, 2012 4:29 PM
To: 'na3raidommailbox@dom.com'
Cc: Weisman, Robert; NorthAnnaRAIsPEm Resource; Galvin, Dennis; Valentin, Milton
Subject: RAI Letter 101, RAI 6418, FSAR Section 3.8.4, North Anna 3 COLA (52-017)
Attachments: RAI Letter 101 RAI 6418.doc

By letter dated November 26, 2007, Dominion Virginia Power (Dominion) submitted a Combined License Application for North Anna, Unit 3, pursuant to Title 10 of the *Code of Regulations,* Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this COLA.

The NRC staff has identified that additional information is needed to continue portions of the review and a Request for Additional Information (RAI), is enclosed. To support the review schedule, Dominion is requested to respond within 30 days of the date of this request. If the RAI response involves changes to the application documentation, Dominion is requested to include the associated revised documentation with the response.

Sincerely,
Chandu Patel
Lead Project Manager for NA3 COLA

Hearing Identifier: NorthAnna3_eRAI
Email Number: 35

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Subject: RAI Letter 101, RAI 6418, FSAR Section 3.8.4, North Anna 3 COLA (52-017)
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From: Patel, Chandu

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Recipients:
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Tracking Status: None
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Options
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Letter No. 101
5/21/2012
North Anna, Unit 3
Dominion
Docket No. 52-017
SRP Section: 03.08.04 - Other Seismic Category I Structures
Application Section: FSAR 3.8.4, & Part 11

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)
Request for Additional Information No. 6418

03.08.04-34
Follow-up to RAI 3.8.4-3
The response to RAI 3.8.4-3 states that, due to the geometric layout of Segment 1of the essential service water pipe tunnel (ESWPT), there is an imbalance in the lateral earth pressure acting on this portion. The following statement is also included: *"This imbalance in lateral earth pressure requires the use of dowels (#11 rebar) and a shear key as shown in Section DD-DD of FSAR Figure 3.8-203 to maintain stability of the structure*." The staff was not clear on the extent of the "*imbalance in the lateral earth pressure*" acting on the geometric layout of Segment 1 of the ESWPT. The applicant is requested to provide the magnitude of this lateral earth pressure imbalance, and a description of the procedure followed to address this situation. Also, it is requested that the applicant explain the implications (if any) of this imbalance for the safety related structures, both standard and site specific. Also address in the response how the potential changes of the new standard plant layout may affect (or not) the design of the proposed dowels and shear key for the portion of the ESWPT in question.

03.08.04-35
In response to RAI 3.8.4-21, the applicant stated that: *"The steel elements are not significant contributors to the overall structural stiffness; however, the steel elements are included in the SASSI finite element model. The mass of each of these steel elements, including the associated piping and components, is included in the SSI analyses by assigning appropriate unit weights and member properties to the steel members."* The staff requests the applicant to explain how the steel elements contribute to the stiffness of the ultimate heat sink related structures (UHSRS). Also, explain how steel elements will be attached to the concrete wall and if these connections are designed to support the safety function of the high-safety-significant (HSS) 6x6 steel brace framing, and other steel elements in place, during and after the design basis earthquake.

03.08.04-36
In response to RAI 3.8.4-31, the applicant provided mode shapes for the ESWPT. The staff would like to gain a better understanding of these mode shapes, specifically; the staff requests the applicant to explain how much mass participation was observed on these mode shapes. The staff also requests the applicant to consider the new layout reconfiguration and most recent seismic input information for the site.