

PMNorthAnna3COLPEmails Resource

From: Patel, Chandu
Sent: Thursday, June 05, 2014 3:50 PM
To: 'na3raidommailbox@dom.com' (na3raidommailbox@dom.com)
Cc: PMNorthAnna3COLPEmails Resource; Weisman, Robert; Carpentier, Marcia; Chakravorty, Manas; Xu, Jim; Buckberg, Perry
Subject: RAI Letter 124, RAI 7537, FSAR Section 3.8.4, North Anna COLA (52-017)
Attachments: RAI Letter 124 RAI_7537.docx

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_Public_EX
Email Number: 1174

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Request for Additional Information 124

Issue Date: 06/05/2014

Application Title: North Anna, Unit 3 - Docket Number 52-017

Operating Company: Dominion

Docket No. 52-017

Review Section: 03.08.04 - Other Seismic Category I Structures

Application Section:

QUESTIONS

03.08.04-37

FSAR Figures 3.8.4-201 through 3.8.4-208 provide comparisons of total (i.e., static plus dynamic) lateral soil/rock pressures exerted on below-grade exterior walls of the RB/FB and CB, between the standard design and the site-specific case. The comparisons indicate that the site-specific pressures exceed the standard design pressures at elevations close to the top of the Zone III rock, in both the RB/FB and CB. To assist the staff in assessing the significance of these exceedances, the applicant is requested to provide the following information:

- (a) Provide in the FSAR plots in which the site-specific pressures and the pressures considered in the standard design are compared separately for the static and dynamic cases.
- (b) Provide a summary of the calculations performed for below-grade exterior walls of the RB/FB and CB, which support the statement in the FSAR that the effects of the identified exceedances “on the out-of-plane bending moments and shear forces in the walls are small and are bounded by the standard design.”
- (c) Since the structural fill that is placed above the top of the Zone III rock is not represented in the SSI analyses of the RB/FB and CB that are documented in the FSAR, FSAR Figures 3.8.4-201 through 3.8.4-208 do not show site-specific pressures at elevations above the top of the Zone III rock. Therefore, describe in the FSAR how the adequacy of the below-grade exterior walls is verified at elevations above the top of the Zone III rock.
- (d) Describe in the FSAR how the pressures computed from the site-specific SSI analyses (without the structural fill) would be affected if the structural fill were to be considered in the SSI analyses of the RB/FB and CB.

03.08.04-38

NRC Information Notice (IN) 2011-20 (ML112241029) informs of the potential occurrence of alkali-silica reaction (ASR)-induced concrete degradation of a Seismic Category I structure at the Seabrook Station NPP. This IN indicates that the tests described in ASTM C227 and C289 may not accurately predict aggregate reactivity when dealing with late or slow-expanding aggregates containing strained quartz or micro-crystalline quartz; updated ASTM testing standards C1260 and C1293 are more appropriate in this regard.

Since neither the NA3 FSAR nor the ESBWR DCD reference updated ASTM testing standards C1260 and C1293, either directly or by reference to ACI 349-01 or the ASME Boiler and Pressure Vessel Code (2004 edition), the applicant is requested to explain the measures that are implemented in the NA3 application to prevent the problems described in IN 2011-20; in particular, whether testing in accordance with updated ASTM C1260 and C1293 will be performed during construction.