

PMNorthAnna3COLPEmails Resource

From: Buckberg, Perry
Sent: Monday, September 08, 2014 12:51 PM
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Cc: PMNorthAnna3COLPEmails Resource; Weisman, Robert; Carpentier, Marcia; Patel, Chandu; Graizer, Vladimir
Subject: Draft RAI 7654, FSAR Section 3.7.4, North Anna COLA (52-017)
Attachments: Draft RAI_7654 9-8-14.pdf

Hello,

Please find attached draft RAI 7654 for FSAR Section 3.7.4 of North Anna 3 Combined License Application. Please let me know if you need any clarification before COB September 11, 2014. Otherwise it will be issued as final after that date.

Thanks,

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U.S. Nuclear Regulatory Commission

Office of New Reactors

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Issue Date: 9/9/2014

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

Operating Company: Dominion

Docket No. 52-017

Review Section: 03.07.04 – Seismic Instrumentation

Application Section: 3.7.4

QUESTION 03.07.04-XX

On page 3-132 of the COLA FSAR Revision 8, the applicant states:

The Unit 3 seismic design and analysis of structures, systems, and components (SSCs), are based on Safe Shutdown Earthquake (SSE) defined by the following two sets of the free-field outcrop spectra at the foundation level (bottom of the base slab):

- 1) the Certified Seismic Design Response Spectra (CSDRS) shown in the DCD Figures 2.0-1 and 2.0-2; and
- 2) the site-specific foundation input response spectra (FIRS) for each individual structure (RB/FB, CB, and FWSC) defined in Figures 2.5.2-307, 2.5.2-308, and 2.5.2-312

According to the above definition, the FIRS at the RB/FB is considered the site-specific SSE. This SSE is defined at elevation 224 ft and corresponds to the minimum of the three FIRS. According to 10 CFR Part 50, Appendix S, the operating basis earthquake (OBE) is a response spectrum of a certain level at which all structures, systems, and components of the NPP necessary for continued operation without undue risk to the health and safety of the public must remain functional.

To avoid explicit response or design analysis, the OBE should satisfy the criteria specified in ISG-1 and should be the lower of the two spectra: (1) 1/3 of the CSDRS, and (2) 1/3 of the site-specific SSE spectra at the RB/FB level.

Alternatively, since the free-field instrument is located at higher elevation (finished grade) than the RB foundation (where the site-specific SSE is defined) and the complex subsurface geology of the site, specify the location of the free-field instrument on the site footprints and, additionally, provide a transfer function between the RB foundation and the free-field location in order to compare recorded ground motion to the OBE spectra appropriately.