

PMNorthAnna3COLPEmails Resource

From: Patel, Chandu
Sent: Tuesday, February 01, 2011 10:48 AM
To: 'na3raidommailbox@dom.com'
Cc: NorthAnna3COL Resource; Kallan, Paul; Roy, Tarun; Segala, John; Dinh, Thinh; Coco, Paul; Cook, Christopher; Wang, Weijun; Weisman, Robert
Subject: Draft RAI for Sections 3.5.4, 2.5.4, 9.5.1, and 17.5
Attachments: Draft RAI 5139.doc; Draft RAI 5386.doc; Draft RAI 5230.doc; Draft RAI 5342.doc

Please see attached draft RAIs 5139, 5386, 5230, and 5342 for Sections 3.5.4, 2.5.4, 17.5, and 9.5.1 respectively of North Anna 3 COLA FSAR. Please let me know if you need a phone call for any further clarification by COB February 4, 2011. Otherwise we will issue the RAI as final.

Sincerely,
Chandu Patel

Hearing Identifier: NorthAnna3_Public_EX
Email Number: 922

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Subject: Draft RAI for Sections 3.5.4, 2.5.4, 9.5.1, and 17.5
Sent Date: 2/1/2011 10:48:01 AM
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Files	Size	Date & Time
MESSAGE	324	2/1/2011 10:48:03 AM
Draft RAI 5139.doc	30714	
Draft RAI 5386.doc	31226	
Draft RAI 5230.doc	31226	
Draft RAI 5342.doc	32762	

Options

Priority: Standard

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Request for Additional Information No. 5139 (Draft)

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 03.05.03 - Barrier Design Procedures

Application Section: FSAR 3.5.3

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.05.03-***

In NUREG-0800, Standard Review Plan (SRP) 3.5.3., "Barrier Design Procedures," Section II, Acceptance Criteria, specifies the criteria necessary to meet the relevant requirements of 10 CFR Part 50, Appendix A, General Design Criteria (GDC) 2 and GDC 4. SRP Section 3.5.3 includes descriptions of the staff's criteria for providing adequate barriers to resist impact from missiles, pipe whipping, and the effects of discharging fluids in order to protect structures, systems, and components important to safety.

In its FSAR, the applicant considered section 3.5.3 as incorporated by reference from the US-APWR DCD. However, there are site-specific structures and conditions which likely need to be addressed with respect to barrier designs and protection from missiles. In order for staff to verify that the requirements of GDC 2 and GDC 4 have been met, the applicant is requested to provide the basis for determining the minimum thickness of cover to protect buried safety-related structures, systems and components (SSCs) from missile impact. In addition, provide a table of missiles including weight, size, and velocity along with the minimum required cover to provide protection against such missiles.

Request for Additional Information No. 5386 (Draft)

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 02.05.04 - Stability of Subsurface Materials and Foundations

Application Section: 2.5.4

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

02.05.04-***

FSAR Section 2.5.4.2.5, Engineering Properties, states that concrete fill will be placed with an average thickness of 15 ft (maximum thickness of 38 ft) below the base of the R/B foundation. Concrete fill will also be placed with an average thickness of 23 ft (maximum of 33 ft) below the base of the West PS/B foundation. Since thermal cracking can be an issue for a large concrete mass, describe how the concrete fill will be placed to reduce thermal cracking distress. Also describe methods to ensure the long term strength and stability of the concrete. This RAI is asked in accordance with 10 CFR 100.23 and to ensure the stability of the building foundations.

02.05.04-***

FSAR Section 2.5.4.10.2, Settlement Analysis, states that settlement estimates were calculated using the concrete fill and rock properties provided in Table 2.5-212. This table lists both high-strain and low-strain elastic modulus. Please clarify which elastic modulus was used in the settlement calculations of seismic Category 1 structures and foundations. This RAI is asked in accordance with 10 CFR 100.23.

02.05.04-***

FSAR Section 2.5.4.10.3, Earth Pressures, discusses static and seismic lateral earth pressures for plant below-ground walls and refers to details provided in Appendix 3NN. However, after review of this section and appendix, the staff did not find a comparison between the total lateral earth pressure (static and dynamic) and the standard plant design. Please provide this comparison of the site-specific values to the standard design. This RAI is in accordance with 10 CFR 100.23.

Request for Additional Information No. 5230 (Draft)

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 17.5 - Quality Assurance Program Description - Design Certification, Early Site Permit
and New License Applicants

Application Section: Review

QUESTIONS for Quality and Vendor Branch 1 (AP1000/EPR Projects) (CQVP)

17.5-***

Appendix 17AA to North Anna Unit 3 FSAR Chapter 17, "North Anna Power Station Unit 3 Quality Assurance Program Description" is based on NEI 06-14, Rev 9 (NEI 06-14A Rev 7). Part V, "Additional Quality Assurance and Administrative Controls for the Operational Phase," Section 2, "Review of Activities Affecting Safe Plant Operation," of Appendix 17AA, describes the independent review function. However:

1. "Reviews of internal audit reports," as a task performed by the organization that executes the independent review functions, is missing from the North Anna Power Station Unit 3 Quality Assurance Program Description. Please explain the basis for not performing the above task.
2. In NEI 06-14, Rev 9 (NEI 06-14A Rev 7), the independent review function performs, in part, "Reviews proposed tests and experiments not described in the SAR prior to implementation. Verifies the determination of whether changes to proposed tests and experiments not described in the SAR require a technical specification change or license amendment." Whereas the North Anna Power Station Unit 3 Quality Assurance Program Description states "Reviews proposed tests and experiments not described in the SAR. Changes to proposed tests and experiments not described in the SAR that do require a technical specification change must be reviewed by the IRC prior to NRC submittal and implementation." Please provide justification for the deviation from the exact language used in NEI 06-14, Rev 9 (NEI 06-14A Rev 7).

Request for Additional Information No. 5342 (Draft)

North Anna, Unit 3
Dominion
Docket No. 52-017
SRP Section: 09.05.01 - Fire Protection Program
Application Section: 9.5.1

QUESTIONS for Fire Protection Team (SFPT)

09.05.01-***

Describe how the redundant fire pumps and suctions are separated within the Station Water Intake/Fire Pump House. The description should include the spatial separation, suppression and suppression features in the building, and fire-rated barriers between the redundant supplies, if any, to ensure that one supply remains free from fire damage.

09.05.01-***

The applicant states that filtering (of fire water supply) is not required because of the small amount of total suspended solids in the lake water. Did the applicant arrive at this conclusion based on water sampling or past performance?

09.05.01-***

The NFPA 24 standard (2002 Edition) referenced in the US-APWR DCD does not identify the AWWA C906 standard for installation of high-density polyethylene piping. The applicant should commit to NFPA 24, 2010 Edition, and/or AWWA C906 and provide references to these standards appropriate.

09.05.01-***

Include the reference to NFPA 10, "Standard for Portable Fire Extinguishers," as appropriate.

09.05.01-***

Please include a discussion regarding the maintenance of records related to the fire protection program in the referenced subsection 9.5.1.6. (Table 9.5.1-1R, Position Number 1.8.1.5)

09.05.01-***

Please include a discussion regarding the reporting of events and conditions related to fire protection in the referenced subsection 9.5.1.6. (Table 9.5.1-1R, Position Number 1.8.5)

09.05.01-***

Please edit the Section to indicate RG 1.189, Revision 2 as the latest revision. The applicant should also clarify that all referenced NFPA codes and standards are those that are in effect 180 days prior to the submittal of the COL application. (Table 9.5.1-1R, Position Number 1.8.6)

09.05.01-***

Please include a discussion regarding the modification procedures related to the fire protection program in the referenced subsection 9.5.1.6. (Table 9.5.1-1R, Position Number 2.1.2)

09.05.01-***

Please include a discussion regarding the availability of access keys for fire brigade leader in the referenced subsections 9.5.1.6.2.1 and 13.1.2.1.5. (Table 9.5.1-1R, Position Number 3.5.1)