

PMNorthAnna3COLPEmails Resource

From: Patel, Chandu
Sent: Wednesday, November 24, 2010 11:20 AM
To: Regina Borsh; rlbaker@bechtel.com; gquinn@bechtel.com; dakemp@bechtel.com; askolhek@bechtel.com; twilli2@entergy.com; aschneider@enercon.com; hickste@earthlink.net
Cc: NorthAnna3COL Resource
Subject: Draft RAls 5119, 5138, 5170, 5228, and 5242 for North Anna 3 COLA
Attachments: Draft RAI 5119.doc; Draft RAI 5138.doc; Draft RAI 5170.doc; Draft RAI 5228.doc; Draft RAI 5242.doc

Hi Ladies and Gentlemen,

Please see attached draft RAls 5119, 5138, 5170, 5228, and 5228 for SRP Sections 2, 3, and 14 regarding North Anna 3 application. Please let me know if you need a phone call to clarify the question. Otherwise, we will issue the RAI as final after November 30, 2010.

Chandu Patel

Hearing Identifier: NorthAnna3_Public_EX
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Subject: Draft RAIs 5119, 5138, 5170, 5228, and 5242 for North Anna 3 COLA
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From: Patel, Chandu

Created By: Chandu.Patel@nrc.gov

Recipients:

"NorthAnna3COL Resource" <NorthAnna3COL.Resource@nrc.gov>

Tracking Status: None

"Regina Borsh" <regina.borsh@dom.com>

Tracking Status: None

"rlbaker@bechtel.com" <rlbaker@bechtel.com>

Tracking Status: None

"gquinn@bechtel.com" <gquinn@bechtel.com>

Tracking Status: None

"dakemp@bechtel.com" <dakemp@bechtel.com>

Tracking Status: None

"askolhek@bechtel.com" <askolhek@bechtel.com>

Tracking Status: None

"twilli2@entergy.com" <twilli2@entergy.com>

Tracking Status: None

"aschneider@enercon.com" <aschneider@enercon.com>

Tracking Status: None

"hickste@earthlink.net" <hickste@earthlink.net>

Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time
MESSAGE	328	11/24/2010 11:20:01 AM
Draft RAI 5119.doc	30714	
Draft RAI 5138.doc	33274	
Draft RAI 5170.doc	31226	
Draft RAI 5228.doc	30202	
Draft RAI 5242.doc	31226	

Options

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Request for Additional Information No. 5119 Revision 2

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 03.12 - ASME Code Class 1, 2, and 3 Piping Systems and Piping Components and
Their Associated Supports

Application Section: 3.12

QUESTIONS for Advanced Reactor Branch 1 (ARB1)

03.12-***

Section 10 CFR 52.79 requires the applicant to submit an FSAR including information at a level sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved. This includes paragraph 52.79(a)(4) which requires meeting the minimum requirements of 10 CFR 50, Appendix A, General Design Criteria (GDC) and paragraph 52.79(a)(19) which requires the application to comply with the seismic engineering criteria of 10 CFR 50, Appendix S.

Section 3.12.5.6, "High-Frequency Modes", states that, "Piping systems identified as risk significant are designed using the DCD standard ISRS and evaluated using the Unit 3 site-specific ISRS." However, this statement only addressed risk significant piping systems. The staff notes that all piping systems must be addressed to comply with GDC 2. How does North Anna address the rest of the piping systems?

Request for Additional Information No. 5138 Revision 3

North Anna, Unit 3
Dominion
Docket No. 52-017
SRP Section: 03.03.01 - Wind Loading
Application Section: FSAR 3.3.1

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

03.03.01-***

In order for the NRC staff to demonstrate compliance with GDC-2 in 10 CFR 50, Appendix A, the COL applicant is requested to provide additional information about the response characteristics of the Ultimate Heat Sink Related Structures (UHSRS) to wind effects. Specifically, staff needs additional information to determine whether Method 2 can be used to determine the design wind loads for the UHSRS in accordance with ASCE/SEI 7-05, Section 6.5 requirements.

Design wind loads for buildings and other structures, including the Main Wind-Force Resisting Systems (MWFRS) and components, may be determined using one of three procedures defined in ASCE/SEI 7-05, Section 6.1.2. The COL applicant selected Method 2 – Analytical Procedure described in ASCE/SEI 7-05, Section 6.5 to determine design wind loads for the UHSRS. According to this procedure, Method 2 can only be used to design the MWFRS for buildings that satisfy the two conditions defined in ASCE/SEI 7-05, Section 6.5.1. Condition 2 for Method 2 states that the building does not have response characteristics making it subject to across wind loading, vortex shedding, instability due to galloping or flutter; and does not have a site location from which channeling effects or buffeting in the wake of upwind obstructions warrant special consideration.

The UHSRS consist of the following Seismic Category I reinforced concrete structures.

- Ultimate Heat Sink (UHS) basins
- UHS cooling tower enclosures
- Essential Service Water System (ESWS) pump houses

The layout and configuration of these site-specific structures exposes certain portions of the UHSRS to wind loads that are determined in accordance with ASCE/SEI 7-05 Method 2 requirements. Because building design details are required to determine the suitability of Method 2 for analysis of wind loadings, the COL applicant is requested to provide an analysis showing that the UHSRS do not have response characteristics making them subject to across wind loading, vortex shedding, instability due to galloping or flutter; and do not have a site location from which channeling effects or buffeting in the wake of upwind obstructions warrant special consideration. The COL applicant is also requested to provide the rationale and technical basis for characterizing these structures as either open or partially vented based on definitions in ASCE/SEI 7-05, Section 6.2.

Request for Additional Information No. 5170 Revision 3

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants
Application Section: Initial Test Program

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

14.02-***

SRP Section 14.2, Acceptance Criteria 3D.i., states, "The applicant should describe the education, training, experience requirements for each management and operating staff member – including the NSSS vendor, architect-engineer, and other major contractors, subcontractors, and vendors, as appropriate – who will conduct the preoperational and startup tests and will develop testing, operating, and emergency procedures."

Subsection 14AA.2.1, "Organizational Description," of Appendix 14AA, "Description of Initial Test Program Administration," to Dominion's COL application for North Anna Unit 3 states, in part, that the qualifications of the preoperational test manager, preoperational test directors and the preoperational test engineer; the startup manager, the startup test directors and startup engineers are set forth in Table 13.1-201, "Generic Position/Site Specific Position Cross Reference."

North Ann Unit 3 FSAR Section 13.1, "Organizational Structure of Applicant," Table 13.1-201, does not establish the qualification and experience requirements for non-supervisory preoperational and startup test engineers. Furthermore, Table 13.1-201 does not include the specific education, and minimum experience requirements for the Pre-Op Test Managers, S/U Test Directors, and Pre-Op Test Directors identified in Figure 14AA-201, "Preoperational and Startup Test Organization." Please revise Table 13.1-201 accordingly.

Request for Additional Information No. 5228 Revision 3

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 02.04.11 - Low Water Considerations

Application Section: 2.4.11 Low Water Considerations

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.11-***

RAI 2.4.11-1

In order to demonstrate compliance with the regulatory requirements described in NUREG 0800, SRP Section 2.4.11, Staff requests additional information. Staff reviewed FSAR revision 3 for the North Anna 3 COLA which provides supplemental information to the SSAR Section 2.4.11-Low Water Considerations. The supplemental information discusses the analysis of the water budget for Lake Anna that includes the impact of consumptive water use by Unit 3 on water levels. Provide the calculations, supporting information, and detailed results of the water budget.

Request for Additional Information No. 5242 Revision 0

North Anna, Unit 3

Dominion

Docket No. 52-017

SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants

Application Section: Chapter 14.2

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

14.02-***

NUREG-0800, Standard Review Plan (SRP), Section 14.2.II.3, paragraph F.ii, concerning COL license applicants, "Review, Evaluation, and Approval of Test Results," states that before proceeding with testing, the applicant should provide controls relating to....(2) the methods used for review of individual parts of multiple tests (e.g., hot functional testing).

Mitsubishi Heavy Industries (MHI) US-APWR DCD Subsection 14.2.3, "Test Procedure," states, "Before proceeding with testing, the COL licensee is to establish controls relating to the methods used for initial review of individual parts of multiple tests (e.g., hot functional testing) in order to assure coordination of plant conditions related to these tests."

In COL FSAR Chapter 14.2, section 14.2.3, "Test Procedures," section 14.2.5, "Review, Evaluation, and Approval of Test Results," and Appendix 14AA, "Description of Initial Test Program Administration," the applicant has not addressed the administrative controls relating to the methods used for initial review of individual parts of multiple tests (e.g., hot functional testing) in order to assure coordination of plant conditions related to these tests.

Please revise Chapter 14.2 and Appendix 14AA, accordingly, to describe the actual administrative controls relating to the methods used for review of individual parts of multiple tests as described in SRP Section 14.2.II.3.