June 19, 2008

Mr. Eugene S. Grecheck
Vice President - Nuclear Development
Dominion
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 011 (SRP SECTIONS 02.05.04, 08.03.02, 09.02.05, 12.02, 13.01.02-13.01.03) RELATED TO THE NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION

Dear Mr. Grecheck:

By letter dated November 26, 2007, Dominion Virginia Power (Dominion) submitted a combined license application for North Anna Unit 3 pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application.

The staff has identified that additional information is needed to continue portions of the review and the request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, Dominion is requested to respond within 45 days of the date of this letter. If the RAI response involves changes to application documentation, Dominion is requested to include the associated revised documentation with the response.

Should you have questions, please contact me at (301) 415-0224 or Thomas.Kevern@nrc.gov.

Sincerely,

/RA/

Thomas A. Kevern, Senior Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-017

Enclosure:
Request for Additional Information

June 19, 2008

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Vice President - Nuclear Development
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By letter dated November 26, 2007, Dominion Virginia Power (Dominion) submitted a combined license application for North Anna Unit 3 pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application.

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Thomas A. Kevern, Senior Project Manager
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Docket No. 52-017
Enclosure:
Request for Additional Information

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JTatum, NRO
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E-RAI Tracking No. 179, 196, 200, 293, 360
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DATE	04/16/2008	04/16/2008	05/19/2008	06/13/2008	06/19/2008
OFFICE	TR:CHPB	BC:CHPB	PM:DNRL:NGE1	OGC	PM:DNRL:NGE1
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DATE	04/21/2008	04/21/2008	04/29/2008	06/10/2008	06/13/2008
OFFICE	TR:SFPT	BC:SFPT	PM:DNRL:NGE1	OGC	PM:DNRL:NGE1
NAME	EMcCann*	RRadlinski*	RFoster*	TKevern for RWeisman *	TKevern *
DATE	04/22/2008	04/23/2008	05/09/2008	06/13/2008	06/16/2008
OFFICE	TR:RGS1	BC:RGS1	PM:DNRL:NGE1	OGC	PM:DNRL:NGE1
NAME	WWang*	RKaras*	AJohnson*	TKevern for RWeisman *	TKevern *
DATE	05/12/2008	05/13/2008	05/20/2008	06/18/2008	06/18/2008
OFFICE	TR:SBPB	BC:SBPB	PM:DNRL:NGE1	OGC	PM:DNRL:NGE1
NAME	JTatum*	PWilson*	DGalvin*	RHolmes*	TKevern *
DATE	05/27/2008	05/28/2008	05/1282008	06/16/2008	06/18/2008

***Approval captured electronically in the electronic RAI system.** **OFFICIAL RECORD COPY**

Request for Additional Information
North Anna, Unit 3
Dominion
Docket Number 52-017
SRP Sections: 02.05.04 - Stability of Subsurface Materials and Foundations; 08.03.02 - DC Power Systems (Onsite); 09.02.05 - Ultimate Heat Sink; 12.02 - Radiation Sources; 13.01.02-13.01.03 - Operating Organization
Application Section: FSAR Sections: 2.5.4; 8.3.2; 9.2.5; 12.2.2.4.4; 13.1.2

QUESTIONS

02.05.04-10

FSAR Section 2.5.4.8.1, Liquefaction Analyses Performed for Unit 3, states that “Using the method outlined in Tokimatsu and Seed (SSAR Reference 179), the maximum estimated dynamic settlement of the Zone IIA saprolite due to earthquake shaking was about 41 mm (1.6 in).” However, the ESP SSAR Section 2.5.4.8.5, Conclusions about Liquefaction, states that “Estimated maximum dynamic settlements due to earthquake shaking are about 5 inches." Please explain the apparent significant difference between the FSAR and SSAR information for the same soil and same method.

02.05.04-11

FSAR Section 2.5.4.10.1.c, Allowable Bearing Capacity for Structures, states "For soils, the values represent an increase of one third over the allowable static bearing capacity values." Please justify why dynamic bearing capacity can be estimated by adding one third over static bearing capacity.

08.03.02-1

FSAR Section 8.3.2.1.1, with NAPS SUP 8.3-2, states that training and procedures to mitigate an SBO event are implemented in accordance with Sections 13.2 and 13.5. According to NUMARC 87-00, endorsed by Regulatory Guide (RG) 1.155 and referenced by SRP 8.4, the SBO response procedures include (1) Station Blackout Response Guidelines, (2) AC Power Restoration, and (3) Severe Weather Guidelines. Please confirm that the training and procedures addressed in Section 8.3.2.1.1 include these three topics.

08.03.02-2

FSAR Chapter 1, Table 1.9-202, identifies the title of RG 1.41 as "Qualification Tests of Continuous-Duty Motors Installed Inside the Containment of Water-Cooled Nuclear Power Plants" and identifies this regulatory guide as "not applicable." However, the correct title of RG 1.41 is "Preoperational Testing of Redundant On-Site Electric Power Systems To Verify Proper Load Group Assignments" (ML003740090). Please revise Table 1.9-202 and address the applicability of, and conformance with, RG 1.41. In addition, please provide supplemental information to clarify conformance with RG 1.128 and RG 1.129 as identified in Table 1.9-202.

09.02.05-1

FSAR Section 9.2.5, Ultimate Heat Sink, to address COL Item 9.2.5-1-A regarding the need to develop procedures that will ensure the capability to establish UHS makeup at seven days post-accident, states the following: "Procedures that identify and prioritize available makeup sources seven days after an accident, and provide instructions for establishing necessary connections, will be developed in accordance with the procedure development milestone in Section 13.5." Staff review indicates that it is not clear to what extent the other provisions of Section 13.5 will be implemented (e.g., what makeup considerations will be addressed, what criteria will be satisfied, how soon after an accident the makeup capability will be assessed). Please provide additional information to address the procedures.

12.02-2

FSAR Section 12.2.2.4.4, Compliance with 10 CFR Part 20.1301 and 20.1302, presents an updated analysis of doses to the maximally exposed individual and compares dose results against the EPA environmental dose standards of 40 CFR Part 190, as implemented under Part 20.1301(e). Discussion is presented on page 12-7 and the results presented in Table 12.2-203. Although the discussion points out that the dose from direct external radiation has been considered in the evaluation, it is not clear if the analysis considered increased external radiation levels at the nearest residence associated with the use of hydrogen water chemistry. The FSAR discussion (p.12-7) addresses annual dose rates at the EAB (ESE at 1416 m), while the distance to the nearest resident is closer to the site (ESE at 1191 m, FSAR Table 12.2-18bR, p.12-16). DCD, Revision 4, Section 12.2.1.3 acknowledges increased external radiation levels whenever hydrogen water chemistry is used and presents the results of a generic analysis (DCD Table 12.2-21) using arbitrary site conditions and distance only for the EAB. Accordingly, please revise Section 12.2.2.4.4 to demonstrate that, when added to the dose contribution from all other direct sources of external radiation to the nearest residence, the sum of all direct sources of radiation will not exceed the dose standards of 40 CFR Part 190 and 10 CFR Part 20.1301(e). In addition, please provide sufficient information for the staff to evaluate the basis and assumptions used in this analysis for the purpose of conducting an independent confirmation of compliance with NRC and EPA regulations.

13.01.02-13.01.03-1

FSAR Section 13.1.1.2.10 addresses the fire protection organization. Relative to the criteria of RG 1.189, please clarify and describe the responsibilities of the fire protection organization as it pertains to the fire brigade, fire protection functional manager, security functional manager, fire protection site engineer (identified in DCD Rev. 4), fire protection supervisor, and on-duty shift supervisor (manager). Note that RG 1.189 does not require that the fire protection staff member who manages the fire brigade and the fire brigade member who fights the fire be part of the same organization, but they should meet the attributes of RG 1.189. In addition, the manager with direct fire protection program responsibilities should report to an upper level manager who has an oversight responsibility for the fire protection program and this upper level manager should report to a person who has management control over all organizations involved in fire protection activities.