May 28, 2009

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. 037 (SRP SECTIONS: 03.07.01, 03.10, 05.03.02, and 12.03-12.04) 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 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 90 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

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Docket No. 52-017
Enclosure: Request for Additional Information
Distribution:

TKevern, NRO	Eudy, NRO	CHinson, NRO
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E-RAI Tracking No: 2454, 2692, 2803, 2848
ADAMS Accession No.: ML091480213

OFFICE	TR: EMB2	BC: EMB2	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	ZCruz*	JDixon-Herrity*	TKevern*	SBrock-Kirkwood*	TKevern*
DATE	05/14/09	05/14/09	05/19/09	05/22/09	05/27/09
OFFICE	TR: CIB2	BC: CIB2	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	SDowney*	NRay*	TKevern*	SBrock-Kirkwood*	TKevern*
DATE	05/08/09	05/08/09	05/11/09	05/14/09	05/27/09
OFFICE	TR: CHPB	BC: CHPB	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	CHinson*	TFrye*	MTonacci*	SBrock-Kirkwood*	TKevern*
DATE	04/23+/09	04/27/09	05/04/09	05/12/09	05/27/09
OFFICE	TR: SEB2	BC: SEB2	PM:DNRL:NGE1	OGC (NLO)	PM:DNRL:NGE1
NAME	MChakravorty*	JXu*	MEudy*	SBrock-Kirkwood*	TKevern*
DATE	03/23/09	04/08/09	04/09/09	05/22/09	05/27/09

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
North Anna, Unit 3
Dominion
Docket Number 52-017

SRP Sections: 03.07.01 - Seismic Design Parameters; 03.10 - Seismic and Dynamic Qualification of Mechanical and Electrical Equipment; 05.03.02 - Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock; and, 12.03-12.04 - Radiation Protection Design Features
Application: FSAR Sections: 3.7.1.1, 3.10, 5.3.2, and 12.4.7.1

QUESTIONS for Structural Engineering Branch 2 (SEB2)

03.07.01-2

In 10 CFR 50 Appendix S specify that the Safe Shutdown Earthquake (SSE) Ground Motion for the site is characterized by both horizontal and vertical free-field ground motion response spectra at the free ground surface. For application to engineering design, site specific GMRS determined at the foundation level of seismic category I structures are bounded by CSDRS. However, a site-specific SSE should be established as free-field ground motion response spectra that would be used to determine whether the plant shutdown would be required following a seismic event. The NRC staff requests that the applicant specify in FSAR Section 3.7.1 both the site-specific SSE and the corresponding OBE which would be required for operating the plant and setting up the seismic instrumentation as required in FSAR Section 3.7.4.

QUESTIONS for Engineering Mechanics Branch 2 (EMB2)

03.10-1

RG 1.206 Sections C.I.3.10.4 and C.III.3.10.4 state that the applicant should provide results of tests and analysis to demonstrate adequate seismic qualification of equipment. Verification of this aspect of plant construction is necessary to allow the Commission to find that the plant is built and will operate in accordance with the regulations. However, RG 1.206 acknowledges that this level of detail may not be available and provides the alternative of provision of an implementation plan including milestones and completion dates.

The North Anna FSAR does not provide either the results of qualification or an implementation plan. This information is necessary for the staff to make a reasonable assurance safety finding for licensing (i.e,, to find that the design is in accordance with the regulations). The information included with this plan should address those planning details not addressed in the DCD including, for example, a listing of the equipment to be qualified, the method of qualification, who will be performing the qualification, the timing, etc. It would be expected that all information for phases to be completed prior to procurement would be made available for review prior to licensing. For example, the list of equipment and qualification method can be provided now with wording for a license condition which will require provision of the name of the organization qualifying the equipment and details on timing post procurement six months before the qualification process is expected to be completed. It is expected that this information would be available to be audited by the NRC Staff prior to equipment installation. Therefore, the applicant is requested to provide an implementation plan that includes the level of detail that will be completed prior to

procurement and the plan for completing equipment qualification as called for in RG 1.206 and the example described above or justify a different approach.

QUESTIONS for Component Integrity, Performance, and Testing Branch 2 (CIB2)

05.03.02-1

In reference to FSAR Section 5.3.1.5, it is the staff's understanding that the applicant will submit a generic pressure and temperature limits report (PTLR) using the bounding material properties and projected fluence as part of the North Anna 3 COL application. On this basis, the staff requests that FSAR Section 5.3.1.5 be revised to add a statement that addresses the submittal of pressure-temperature limits using plant-specific material properties. For example, Section 5.3.1.5 should include a commitment that pressure-temperature limits will be updated prior to fuel loading, if required, using the plant-specific material properties and that the NRC will be informed of the updated limits.

The staff notes that this approach is consistent with NRC Generic Letter 96-03 which provides a method for the licensee to inform the NRC of any subsequent change in P-T limits without a requirement for NRC approval if there are no changes to the approved PTLR methodology.

QUESTIONS for Health Physics Branch (CHPB)

12.03-12.04-12

Section 5.4 of Part 3, Environmental Report, of the North Anna COL application provides an analysis of the expected average annual dose that will be received by a construction worker at North Anna 3 during the construction period. The applicant states that approximately 96% of the estimated annual dose to the construction worker of 24 mrem will be from direct radiation (from the operating North Anna Units 1 & 2 and from the ISFSI). The balance of this estimated annual dose will be from liquid and gaseous effluents from Units 1 & 2. How will the requirements of 10 CFR Part 20.1101 (b) be met for construction workers?