June 11, 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. 008 (SRP SECTION 09.05.01) 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 11, 2008

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Vice President - Nuclear Development
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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 008 (SRP SECTION 09.05.01) 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.

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Docket No.: 52-017

Enclosure:
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***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 Section: 9.05.01**
**Application Section: FSAR 9.5.1**

QUESTIONS

**09.05.01-1** SRP Section: 09.05.01 - Fire Protection Program

STD COLA 9.5.1-9-A states that the criterion for self-approval of changes that impact the fire protection program will be "no adverse affect on safe shutdown." As noted in Regulatory Position 1.8.1 of Regulatory Guide (RG) 1.189, Revision 1, this criterion should not be applied to new reactor plants. The change process for new reactor fire protection programs should be the same as that for the rest of the plant, i.e. in accordance with 10 CFR 52.98(c). The COL application should be revised accordingly.

**09.05.01-2**

Multiple Spurious Actuations – RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide the final postfire safe-shutdown analysis. RG 1.189, Revision 1 identifies that the one-at-a-time assumption for spurious actuations may not adequately address the potential risk attributed to fire. What assumptions and methodologies will be used by the applicant to identify, assess and resolve the potential for multiple spurious actuations that may prevent post-fire safe shutdown?

**09.05.01-3**

NFPA 804 Applicability – RG 1.206; Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide the list of industry codes and standards with applicable edition and any deviation from the code requirements with justification. The North Anna COLA as per Table 1.9-201 conforms to RG 1.189 but also incorporates by reference NFPA 804 as the applicable standard in various sections. NFPA 804 has not been endorsed by the NRC and some conflicts have been identified. The applicant should verify that where conflicts exist between NFPA 804 and NRC regulatory requirements and guidance, the latter will govern. Deviations from regulatory requirements and guidance should be identified and addressed in the application.

**09.05.01-4**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program including procedures. The ESBWR DCD Table 9A.5-1 identifies that Class III hose station coverage for all areas inside containment will be provided by hoses connected to hose station locations outside containment near access hatches. The staff requests that the COL applicant provide a discussion of

its methodology for verifying that the specified coverage will be provided and describe the plant procedures and requirements that will ensure that the necessary equipment is provided (e.g., hoses, nozzles) to ensure the specified coverage during the plant conditions (e.g., refueling outages) when they are required.

**09.05.01-5**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program including the combustible control program. The ESBWR DCD took exception to the BTP SPLB 9.5-1 (RG 1.189 for North Anna 3) guidance to provide automatic suppression in the rooms adjacent to the main control room. One basis for this exception is that the paper used in these rooms will be stored in file cabinets, bookcases, or other storage locations except when in use. Piles of paper on desktops and paper in open bookcases contribute to the combustible loading in a room. Describe the applicant's program to control the fire hazard presented by paper or other combustible materials, as well as potential ignition sources (e.g., coffee makers), in these rooms.

**09.05.01-6**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program including the combustible control program. The ESBWR DCD took exception to providing automatic fire suppression below the raised floor in the Main control room complex in accordance with the guidance in BTP SPLB 9.5-1. One justification for not having automatic suppression in this area is that there are no transient combustibles in this area during normal activities. Describe the approach to restricting transient combustibles in this area. Also describe the extent to which cabling below the raised floor will be contained in conduit.

**09.05.01-7**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program including the combustible control program. The ESBWR DCD took exception to RG 1.189 guidance to provide fixed automatic suppression for computer rooms for computers performing functions important to safety that are not part of the Control Room Complex. As per the DCD, these areas do have ionization smoke detectors but do not have automatic suppression. One basis for this exception is that the paper used in these rooms will be stored in file cabinets, bookcases, or other storage locations except when in use. Another basis is that the amount of transient combustibles is limited. Piles of paper on desktops and paper in open bookcases contribute to the combustible loading in a room. Describe the applicant's program to control the fire hazard presented by paper or other combustible materials, as well as potential ignition sources in these rooms.

**09.05.01-8**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide site specific information on the fire water supply system. COLA Section 9.1.5.4 identifies Lake Anna as the secondary firewater source. RG 1.189 states that fire water

supplies should be filtered and treated as necessary to prevent or control biofouling or microbiologically induced corrosion of fire water systems. The Applicant should describe the program to monitor and maintain an acceptable level of quality of their fire water sources.

**09.05.01-9**

North Anna COLA Table 9.5-201 added NFPA 55 for COLA applicability. Table 1.9-204 does not contain NFPA 55. The applicant should verify if Table 1.9-204 is missing NFPA 55 since it was added by Table 9.5-201 and make changes accordingly.

**09.05.01-10**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program including information on the fire brigade and procedures. RG 1.189 states that the communication system design should provide effective communication between plant personnel in all vital areas during fire conditions under maximum potential noise levels. The staff requests that the COL applicant describe its programmatic procedures and/or controls to ensure that a fire in any one fire area that disables a communication system or systems such as a loss of a repeater that creates a communication dead spot does not preclude the capability to provide or ensure communications in those areas of the plant such that safe shutdown capability is not adversely impacted.

**09.05.01-11**

QA Program: RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program and procedures. RG 1.189 states that there are two options either include the FP program in the plant's overall QA program or provide a description of the FP QA program. The North Anna 3 COLA FSAR incorporates by reference Chapter 17 for fire protection systems for safety related areas while it also states that the QA program implements the requirements of RG 1.189 through site-specific administrative controls procedures. The applicant should specifically identify if non-safety related areas will have a QA FP program different than that described in Chapter 17. If so, then the applicant should provide a description of the fire protection QA program that is applicable to the non-safety related areas.

**09.05.01-12**

RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program. RG 1.189, Section 1.6.4.1 states that the brigade leader should be competent to assess the potential safety consequences of a fire and advise control room personnel and such competence by the brigade leader may be evidenced by possession of an operator's license or equivalent knowledge of plant systems. The staff requests that the COL applicant provide clarification of the specific training, knowledge and competence of the fire brigade leader, as discussed in Section 13.1.2.1.5, to ensure that the fire brigade leaders qualifications are in conformance with RG 1.189, Section 1.6.4.1.

**09.05.01-13**

Storage of Hazmat Chemicals: RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program and procedures. RG 1.189 Position 2.1.1.b states hazmat chemicals should not be stored in safety-related areas. By referencing the ESBWR DCD, the COL applicant must adhere to the provisions for control of combustible materials, hazardous materials, and ignition sources as specified in ESBWR DCD Section 9.5.1.15.6. These provisions include administrative controls that govern the use and storage of hazardous chemicals in the powerblock. The staff requests that the COL applicant provide a description of its administrative controls governing the use and storage of hazardous chemicals in the powerblock and to provide a discussion that demonstrates these controls are in conformance with Position 2.1.1.b of RG 1.189.

**09.05.01-14**

Storage of unused ion exchange resins: RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on the fire protection operational program and procedures. RG 1.189 Position 2.1.1.a states that unused ion exchange resins should not be stored in areas that contain or expose safety-related equipment. By referencing the ESBWR DCD, the COL applicant must adhere to the provisions for control of combustible materials, hazardous materials, and ignition sources as specified in ESBWR DCD Section 9.5.1.15.6. These provisions include administrative controls that prohibit the storage of combustible materials (including unused ion exchange resins) in areas that contain or expose safety related equipment or establish designated storage areas with appropriate fire protection. The staff requests that the COL applicant provide a description of its administrative controls that either prohibit the storage of unused ion exchange resins in specific plant areas or that describes a methodology or process for designating appropriate storage areas and for determining appropriate fire protection requirements.

**09.05.01-15**

Fire Barrier Testing Laboratories: RG 1.206, Regulatory Position C.III.1, Section C.I.9.5.1.1 identifies that the COL applicant should provide information on fire barrier and fire barrier penetration seal systems qualification test methodology and reports. RG 1.189 Position 4.2, 4.3, and Appendix C gives qualification criteria and test methods for fire barriers. RG 1.189 Glossary defines approved as tested and accepted for a specific purpose or application by a recognized testing laboratory or reviewed and specifically approved by the NRC in accordance with the appropriate regulatory process. Therefore, in order to be in accordance with RG 1.189 fire barrier approval necessitates the use of a recognized testing laboratory. North Anna 3 COLA Section 9.5.1.10 states that fire barriers are qualified to the requirements of RG 1.189 and that an independent testing laboratory will be used. The applicant should clarify if they intend to use a "recognized" testing laboratory in accordance with RG 1.189 or whether the independent testing laboratory, as stated in the application, is "recognized".