September 18, 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. 042 (SRP SECTIONS: 02.05.04 – STABILITY OF SUBSURFACE MATERIALS AND FOUNDATIONS) 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 60 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) 415-6775 or Janelle.Jessie@nrc.gov.

Sincerely,

/RA/

Janelle B. Jessie, 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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Vice President - Nuclear Development
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Should you have questions, please contact me at (301) 415-6775 or Janelle.Jessie@nrc.gov.

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DATE	09/16/09	09/16/09	09/16/09	09/16/09

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
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)

02.05.04-20

RAI 02.05.04-13 addressed the backfill ITAAC. The staff requests additional information as follows:

In response to RAI 02.05.04-13, detailed information was provided on confirmatory field testing of seismic Category I structural backfill and associated ITAAC. For the field density test, you stated that "a minimum of one test will be performed per lift with at least one test made for every 10,000 ft2 of fill placed." You also revised ITAAC for backfill under Category I structures and included wording that would permit modification of the shear wave velocity (SWV) criteria through site-specific analysis. As a follow up to this response, a teleconference was held on September 10, 2009 with the applicant and NRC staff. Please provide the following:

(a) Justify whether one test for every 10,000 ft2 for a backfill field density test is adequate without mentioning the thickness of the backfill lift. In addition, consider the following field density test frequency guidance as provided in some commonly used standards: (1) no lift should be more than 8 inches in thickness and (2) a routine acceptance control test should be conducted for, at least, every 200 cubic yards of compacted backfill material in critical areas.

(b) Revise the backfill ITAAC wording considering the NRC's August 7, 2009 letter to NEI regarding the NRC staff's position and standard wording for backfill ITAAC under Category I structures ("Response to the Nuclear Energy Institute on Backfill Inspection, Test, Analysis and Acceptance Criteria" ML0920905970).

02.05.04-21

RAI 02.05.04-12 addressed concrete fill. The staff requests additional information as follows:

In response to RAI 02.05.04-12, you provided a detailed description of properties of concrete fill and specified that it will have a shear wave velocity of at least 6,295 ft/sec and a strength of 2,500 psi. Your response also indicated that there would be no COLA revision regarding this issue.

As a follow up to this response, a teleconference was held on September 10, 2009 with the applicant and NRC staff. The staff inquired as to why the concrete fill properties had not been included in the FSAR. The FSAR states that concrete fill will be placed under Category 1

structures; however, it does not provide a description of the concrete fill properties. Please provide a clear description of concrete fill properties in the FSAR or justify why such description is not needed.