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December 5, 2011

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. NA3-11-025RA
Docket No. 52-017
COL/MWH

DOMINION VIRGINIA POWER
NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION
SRP 02.05.02: RESPONSE TO RAI LETTER 68

On June 5, 2011, the NRC requested additional information to support the review of certain portions of the North Anna Unit 3 Combined License Application (COLA), which consisted of one question. The response to Request for Additional Information (RAI) 5693 Question 02.05.02-3 was provided in Dominion letter NA3-11-025R dated August 25, 2011 (ML11241A058).

During a subsequent conference call on November 29, 2011, NRC staff requested supplemental information to support the review of the response to RAI 5693 Question 02.05.02-3. The requested supplemental information is provided in Enclosure 1.

Please contact Regina Borsh at (804) 273-2247 (regina.borsh@dom.com) if you have questions.

Very truly yours,

Eugene S. Grecheck

cc: U. S. Nuclear Regulatory Commission, Region II (w/o CD-ROM)
C. P. Patel, NRC
T. S. Dozier, NRC (w/o CD-ROM)
G. J. Kolcum, NRC (w/o CD-ROM)
V. Graizer, NRC

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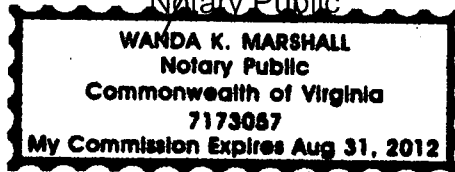
COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is Vice President-Nuclear Development of Virginia Electric and Power Company (Dominion Virginia Power). He has affirmed before me that he is duly authorized to execute and file the foregoing document on behalf of the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 5th day of December, 2011
My registration number is 7173057 and my
Commission expires: August 31, 2012

Wanda K. Marshall
Notary Public



Enclosure:

1. Response to NRC RAI Letter 68, RAI 5693 Question 02.05.02-3 Supplemental Information

Commitments made by this letter:

None

ENCLOSURE 1

Response to NRC RAI Letter 68

**RAI 5693 Question 02.05.02-3
Supplemental Information**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**North Anna Unit 3
Dominion
Docket No. 52-017**

RAI NO.: 5693 (RAI Letter 68)

SRP SECTION: 02.05.02 – VIBRATORY GROUND MOTION

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

DATE OF RAI ISSUE: 5/5/2011

QUESTION NO.: 02.05.02-3

The response to RAI 5199 (02.05.02-2) states that a 1-D analysis is justified for calculation of the GMRS due to the similarity of the bed rock and RQD values. However, shear wave velocity measurements show considerable variation at equivalent elevation levels, indicating that weathered rock zones III and III-IV are of variable thickness. For example, the BE profile shown on Figure 2.5-202b (Rev. 4) is a result of combining shear wave velocity measurements from borings B-901, B-907 and B-909, and represents the log mean of the Profiles 1 and 2 shown on Figure 2.5-241a (Rev. 3). Values shown on Figure 2.5-241a indicate that shear wave velocities vary up to 100% from approximately elevation 184 ft to 250 ft. These considerable horizontal variations in shear wave velocity impedance contrasts indicate that a 1-D analysis may not be sufficient to describe the multi-dimensionality of the subsurface, and the use of the BE profile instead of enveloping site amplifications from Profiles 1 and 2 may result in an underestimation of the site amplification functions, and, ultimately the GMRS.

In accordance with 10 CFR 100.23(c) and RG-1.208, the staff requests that the applicant justify that the 1-D site response analysis utilizing only vertically propagating shear waves is appropriate for the underlying complex velocity structure and the results of the 1-D analysis produce a GMRS that adequately characterizes the local subsurface conditions.

Please provide a table of layer thicknesses, shear-wave velocities, and densities, and identify the type of shear modulus and damping curves used for all site amplification calculations. Also explain how the average shear wave velocity Profiles 1 and 2 displayed in Figure 2.5-241a were developed.

SUPPLEMENTAL INFORMATION REQUEST (by conference call on November 29, 2011):

Please provide data used as input to the calculations for subsurface shear wave velocity profiles to support a confirmatory analysis by NRC staff.

Dominion Response

The requested data is included in files named *Compare_Spectra_Requested_Sheet.xls* and *NorthAnna_Vs_Boreholes_Req_Sheet.xls* on the enclosed CD-ROM.

Proposed COLA Revision

None