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

Serial No. NA3-11-068
Docket No. 52-017
COL/BCB

DOMINION VIRGINIA POWER
NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION
10 CFR 21 NOTIFICATION OF IMPACT OF NEW SEISMIC DATA ON ESP SEISMIC
ANALYSES

On November 16, 2011, Dominion determined that the seismic response data recorded during the August 23, 2011 Mineral, Virginia earthquake exceeded at low frequencies the safe shutdown earthquake seismic response spectra established in the North Anna Early Site Permit (ESP-003). The event data also exceeded the site 250 foot elevation ground motion response spectra (GMRS) and the hard rock SSE developed for the North Anna Unit 3 Combined Operating License Application (COLA) based on the ESP SSE spectra. As defined in 10 CFR 21, this condition represents a "deviation" in the seismic design information contained in the ESP and a "defect" in that it involves a "basic component" that could result in a major design deficiency that has safety implications, if it were to remain uncorrected.

An initial notification was made to the NRC Operations Center on November 16, 2011 pursuant to 10 CFR 21.21(d)(1) (Reference EN# 47446). Enclosure 1 provides the information required by 10 CFR 21.21(d)(4).

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

Very truly yours,

Eugene S. Grecheck

Enclosure 1: 10 CFR 21 Notification of Impact of New Seismic Data on ESP Seismic Analyses.

DOB9
LRW

Commitments made by this letter:

1. Dominion is assessing whether any changes should be made to the North Anna Unit 3 COLA.

cc: U. S. Nuclear Regulatory Commission, Region II
C. P. Patel, NRC
T. S. Dozier, NRC
G. J. Kolcum, NRC

ENCLOSURE 1

**10 CFR 21 Notification of
Impact of New Seismic Data on
ESP Seismic Analyses**

1. Name and address of the individual or individuals informing the Commission.

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Vice President – Nuclear Development
Dominion Resources Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060

2. Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

North Anna Unit 3 Project

3. Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

North Anna Early Site Permit (ESP-003) holders and North Anna Unit 3 Combined Operating License Application (COLA) applicants:

Virginia Electric and Power Company (Dominion)
Old Dominion Electric Cooperative (ODEC)

4. Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

On August 23, 2011, an earthquake occurred with an epicenter 11 miles from the North Anna Unit 3 site. Instruments recorded earthquake data at the North Anna Unit 1 containment structure base mat. Certified data regarding the earthquake was received on September 13, 2011 and a Condition Report was initiated. This best available earthquake data exceeded at low frequencies the safe-shutdown earthquake (SSE) response spectra established in the North Anna Early Site Permit (ESP-003). The event data also exceeded the site 250 foot elevation ground motion response spectra (GMRS) and the hard rock SSE developed for the North Anna Unit 3 Combined Operating License Application (COLA) based on the ESP SSE spectra.

The US-APWR standard plant (i.e., Reactor Building Complex and Power Source Building) certified seismic design response spectra (CSDRS) envelops the actual seismic response recorded on August 23, 2011. However, the site-specific Seismic Category I Ultimate Heat Sink Related Structures, Essential Service Water Pipe Tunnel and Power Source Fuel Storage Vault use design inputs presented in the ESP. The recorded seismic response on August 23, 2011 exceeded the seismic design spectra presented in the ESP and COLA.

As defined in 10 CFR 21, this condition represents a "deviation" in the seismic design information contained in the ESP and a "defect" in that it involves a "basic component" that could result in a major design deficiency that has safety implications, if it were to remain uncorrected. Therefore, NRC notification of this condition is required pursuant to 10 CFR 21.21(d)(1). The basis for this conclusion is discussed in the following paragraph.

In August 2007, the NRC amended the regulations applicable to the licensing and approval processes for nuclear power plants (e.g., ESP, COLA) to clarify various requirements, and made conforming amendments to other related regulations, including 10 CFR 21. The discussion of changes to 10 CFR 21 (Federal Register / Vol. 72, No. 166, Page 49424) states that "services that are required to support an early site permit application (e.g., geologic or seismic analyses, etc.) that are safety-related and could be relied upon in the siting, design, and construction of a nuclear power plant, are to be treated as basic components as defined in part 21." The discussion also states: "If the ESP holder becomes aware of a significant safety concern with respect to its site (e.g., that the specified site characteristics for seismic acceleration is less than the projected acceleration due to new information), the concern should be reported to the NRC so that it may be considered in the review of any future application referencing the ESP." Based on these statements of consideration, the analyses supporting the seismic design information in the ESP would be considered a "basic component" and the recorded response data from the August 23, 2011 seismic event represents new information that impacts the seismic analyses.

5. The date on which the information of such defect or failure to comply was obtained.

Certified data regarding the earthquake was received on September 13, 2011. A Substantial Safety Hazard evaluation of the data was completed on November 16, 2011. The evaluation concluded that the new seismic data recorded during the August 23, 2011 earthquake represents a "deviation" in the seismic design information contained in the ESP and a "defect" in that it involves a "basic component" that could result in a major design deficiency that has safety implications, if it were to remain uncorrected.

6. In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

The basic component (i.e., seismic analyses) is only applicable to the North Anna ESP-003 and the North Anna Unit 3 COLA.

- 7. The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.**

The defect resulted from new data, not an error in the performance of the seismic analyses for the ESP. While there was no error in the performance of the seismic analyses, Dominion is assessing whether any changes should be made to the North Anna Unit 3 COLA. Dominion expects that this assessment will not be completed until the third quarter of 2012.

- 8. Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.**

ESP and COL applicants or holders should consider the discussion of changes associated with the 2007 amendment to 10 CFR 21 (Federal Register / Vol. 72, No. 166, Page 49424) in the implementation of their 10 CFR 21 and 10 CFR 50.55(e) programs.

- 9. In the case of an early site permit, the entities to whom an early site permit was transferred.**

On October 31, 2008, the NRC issued an Order approving the transfer of Early Site Permit No. ESP-003, for the North Anna ESP Site, from Dominion Nuclear North Anna, LLC (DNNA), to Virginia Electric and Power Company, doing business as Dominion Virginia Power (DVP), and Old Dominion Electric Cooperative (ODEC).