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May 26, 2011

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

Serial No. NA3-11-021R
Docket No. 52-017
COL/MWH

DOMINION VIRGINIA POWER
NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION
SRP 08.02: RESPONSE TO RAI LETTER 66

On April 14, 2011, the NRC requested additional information to support the review of certain portions of the North Anna Unit 3 Combined License Application (COLA). The response to the following Request for Additional Information (RAI) Question is provided in Enclosure 1:

- RAI 5645 Question 08.02-59 Grid Stability on Loss of Existing Units

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
C. P. Patel, NRC
T. S. Dozier, NRC
J. T. Reece, NRC

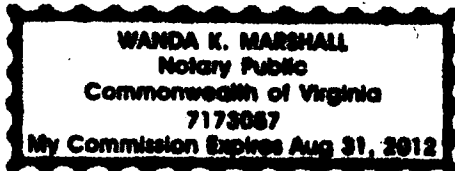
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NRD

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 26th day of May, 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 Number 54, RAI 5181 Question 08.02-42

Commitments made by this letter:

None

ENCLOSURE 1

Response to NRC RAI Letter 66

RAI 5645 Question 08.02-59

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

North Anna Unit 3

Dominion

Docket No. 52-017

RAI NO.: 5645 (RAI Letter 66)

SRP SECTION: 08.02 – OFFSITE POWER SYSTEM

QUESTIONS for Electrical Engineering Branch (EEB)

DATE OF RAI ISSUE: 04/14/2011

QUESTION NO.: 08.02-59

In response to RAI Question 08.02-10 (Letter 9, eRAI 178) regarding grid stability analysis for multiple contingencies (tripping of all three units), the applicant stated that NERC Category D is considered an extreme event analysis and exceeds N-2 evaluation. This includes a case for loss of all generating units at a single station. However, the applicant did not address the effect of grid stability during the loss of both existing units (Units 1 and 2). After review of commercial nuclear power plant event reports, the staff finds three dual units trip occurred since 2009: Sequoyah 1 and 2 (LER 327 and 328/2009003), Calvert Cliffs Units 1 and 2 (LER 3172010001 and 3182010001), Braidwood Units 1 and 2 (LER 4562010001 and 4572010003). In light of recent events, the possibility of dual unit trip exists at North Anna since reserve auxiliary transformers are shared between North Anna 1 and 2. Based on the operating experience identified in above LERs, address the effect of grid stability (maximum and minimum switchyard voltage) during the loss of both existing units.

Dominion Response

FSAR Section 8.2.2.2 describes the system impact study that was performed as part of the grid reliability and stability analysis. The study has been updated by the regional transmission organization (PJM Interconnection) to incorporate the US-APWR specific generation data. The new report, *PJM Generator Interconnection Q65 North Anna 500 kV (1594 MW Capacity) Revised System Impact Study and Facilities Study Report Resulting from Necessary Studies Agreement*, dated April 2011, is a publicly available document.

The specific case of a simultaneous trip on North Anna Units 1 and 2 was studied to determine the stability of the transmission system and the maximum and minimum voltages. The study is case 4.4.c in Attachment A of the report. Results stated in Table I of the report show that the case is stable and that the maximum and minimum voltages are +1.03% and -0.47%, respectively (529.4 kV and 521.5 kV from an initial voltage of 524 kV). These voltages are within the interface requirements given in DCD Section 8.2.3.

Proposed COLA Revision

None