

July 23, 2002

Mr. David A. Christian
Senior Vice President - Nuclear
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - PROPOSED TECHNICAL SPECIFICATION CHANGES AND EXEMPTION REQUEST REGARDING USE OF FRAMATOME ANP ADVANCED MARK-BW FUEL (TAC NOS. MB4700, MB4701, MB4714, AND MB4715)

Dear Mr. Christian:

The purpose of this letter is to inform you that the NRC staff cannot commit to completing the review of your submittal dated March 28, 2002, by the January 31, 2003, due date you had requested.

During an April 19, 2002, conference call, the NRC staff informed Virginia Electric and Power Company (VEPCO) and Framatome that the requested review completion date of January 31, 2003, would be difficult to meet due to unresolved issues involving the evaluation models for core peaking for loss-of-coolant accident (LOCA), small-break (SB) LOCA nodding, and end-of-transient justification. In a May 13, 2002 submittal, VEPCO sought to reduce the scope of the staff's review by proposing to provide large-break (LB) LOCA calculations that were based upon the currently approved Framatome ANP LBLOCA evaluation model and the existing licensing basis of North Anna Power Station, Units 1 and 2. During a second conference call with Framatome and VEPCO on May 22, 2002, the staff stated that there were still outstanding issues such as the end-of-transient justification that might prevent them from successfully completing the review of VEPCO's submittal by January 31, 2003. In addition, the staff expressed concerns about the non-conservative modeling of the downcomer region and downcomer boiling in approved Title 10 of the *Code of Federal Regulations* Part 50, Appendix K LOCA evaluation models when applied to certain types of Westinghouse-designed pressurized-water reactors.

By letter dated June 19, 2002, VEPCO stated the NRC staff was on schedule to complete the review of the March 28, 2002, submittal by January 31, 2003, and VEPCO intended to submit the modified analysis approach for the outstanding LBLOCA and SBLOCA items to the staff for review by September 30, 2002. After reviewing this letter, the staff is providing the following issues that could adversely impact the staff's ability to complete the review of the submittal by January 31, 2003. (1) A Request for Additional Information (RAI) dated May 7, 2002, consisted of six questions on Topical Report BAW-10166P-A, "Beach - A Computer Program for Reflood Heat Transfer During LOCA." This RAI discussed the staff's concern that peak cladding temperature and clad oxidation have been under predicted and the FLECHT-SEASET test predictions under predicted the peak cladding temperature in four of the five cases. The staff

received a response dated July 15, 2002, from Framatome ANP. (2) A second RAI was sent to Framatome ANP on June 3, 2002, to address the potential impact of downcomer boiling in the currently approved 10 CFR Part 50, Appendix K evaluation models for certain Westinghouse pressurized-water reactors with low backpressure containment designs or low safety injection flow rates. The staff disagrees with Framatome's decision to terminate the REFLOD3B calculation when the downcomer and lower plenum reach saturated conditions and not to include a two-phase model to determine the effects of downcomer boiling. (3) Additionally, to date, the staff has not received the SBLOCA, the end of transient justification evaluation model using Framatome fuel, or the REFLOD3B modification.

The staff will work with VEPCO and Framatome to perform an expedited review of the outstanding items, which include submittals not yet received and staff RAIs. However, VEPCO's proposed submittal date of September 30, 2002, may not provide the staff with adequate time to complete the reviews. Based upon staff workload projections, the staff had contracted external resources to assist in the review of VEPCO's submittals; however, this may not be available to the staff during the Fall 2002. Based upon this and the content of the submittals, the staff cannot commit to meeting the January 31, 2003, deadline at this time.

If you have any questions, please call me at (301) 415-1544.

Sincerely,

/RA/

Stephen R. Monarque, Project Manager
Project Directorate II-1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Framatome ANP on June 3, 2002, to address the potential impact of downcomer boiling in the currently approved 10 CFR Part 50, Appendix K evaluation models for certain Westinghouse pressurized-water reactors with low backpressure containment designs or low safety injection flow rates. The staff disagrees with Framatome's decision to terminate the REFLOD3B calculation when the downcomer and lower plenum reach saturated conditions and not to include a two-phase model to determine the effects of downcomer boiling. (3) Additionally, to date, the staff has not received the SBLOCA, the end of transient justification evaluation model using Framatome fuel, or the REFLOD3B modification.

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Mr. David A. Christian
Virginia Electric and Power Company

North Anna Power Station
Units 1 and 2

cc:

Mr. C. Lee Lintecum
County Administrator
Louisa County
P.O. Box 160
Louisa, Virginia 23093

Mr. David A. Heacock
Site Vice President
North Anna Power Station
P.O. Box 402
Mineral, Virginia 23117-0402

Ms. Lillian M. Cuoco, Esq.
Senior Nuclear Counsel
Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Building 475, 5th Floor
Rope Ferry Road
Rt. 156
Waterford, Connecticut 06385

Mr. Richard H. Blount, II
Site Vice President
Surry Power Station
Virginia Electric and Power Company
5570 Hog Island Road
Surry, Virginia 23883-0315

Dr. W. T. Lough
Virginia State Corporation
Commission
Division of Energy Regulation
P.O. Box 1197
Richmond, Virginia 23209

Robert B. Strobe, M.D., M.P.H.
State Health Commissioner
Office of the Commissioner
Virginia Department of Health
P. O. Box 2448
Richmond, Virginia 23218

Old Dominion Electric Cooperative
4201 Dominion Blvd.
Glen Allen, Virginia 23060

Mr. William R. Matthews
Vice President - Nuclear Operations
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, Virginia 23060-6711

Mr. Stephen P. Sarver, Director
Nuclear Licensing & Operations Support
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060-6711

Office of the Attorney General
Commonwealth of Virginia
900 East Main Street
Richmond, Virginia 23219

Senior Resident Inspector
North Anna Power Station
U.S. Nuclear Regulatory Commission
1024 Haley Drive
Mineral, Virginia 23117