

July 9, 2004

Mr. David A. Christian
Sr. Vice President and Chief Nuclear Officer
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, Virginia 23060-6711

SUBJECT: NORTH ANNA AND SURRY POWER STATIONS, UNITS 1 AND 2, AND
MILLSTONE POWER STATION, UNITS 2 AND 3 - TOPICAL REPORT
DOM-NAF-2, "REACTOR CORE THERMAL-HYDRAULICS USING THE
VIPRE-D COMPUTER CODE" (TAC NOS. MC2700, MC2701, MC2702, AND
MC2703)

Dear Mr. Christian:

By letter dated April 15, 2004, Virginia Electric and Power Company and Dominion Nuclear Connecticut (the licensees) submitted Topical Report DOM-NAF-2, "Reactor Core Thermal-Hydraulics Using the VIPRE-D Computer Code," for the North Anna and Surry Power Stations, Units 1 and 2, and Millstone Power Station, Units 2 and 3. You had requested NRC staff approval of Topical Report DOM-NAF-2 in order to use the VIPRE-D thermal-hydraulics computer code to perform steady-state and departure from nucleate boiling (DNB) analyses, to analyze the deterministic and statistical DNB transients contained in the Updated Final Safety Analysis Report, and to develop the reactor core safety limits. You had developed the VIPRE-D code based on the NRC staff-approved VIPRE code. By letter dated May 1, 1986, the NRC staff approved of the VIPRE code as part of Topical Report EPRI NP-2511-CCM, "VIPRE-01: A Thermal-Hydraulic Analysis Code for Reactor Cores." The NRC staff approved revision 3 of this topical report on October 30, 1993.

Based on the information provided in this submittal and discussions with your staff during a June 8, 2004, conference call, the NRC staff has determined that this topical report is an incomplete submittal and is therefore unacceptable. During this conference call, the NRC staff presented its reasons for finding this topical report to be incomplete. The NRC staff had found that the user input instructions were not clear, the topical report did not specify what transients will or will not be analyzed by the VIPRE-D code, and the topical report did not contain the adequate benchmarking cases to justify the code's capability to model the phenomena of interest of these transients. Because the VIPRE-D code is a modification of the NRC staff-approved VIPRE code, the NRC staff will need to perform a review of the same supporting analysis as was submitted for the original VIPRE code. Since your submittal did not provide the necessary information, the NRC staff's review cannot be completed. As such, you are requested to provide a superseding submittal that addresses the NRC staff's concerns, as discussed above.

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This matter was discussed further in a July 1, 2004, conference call between NRC management (T. Marsh, et al.) and your management (W. Matthews, et al.). Pursuant to this discussion, the NRC staff is receptive to a meeting with your staff to discuss the NRC staff's expectations for the superseding submittal.

The NRC staff has completed its evaluation of this request; therefore, we are closing TAC Nos. MC2700, MC2701, MC2702, and MC2703.

Sincerely,

/RA/

Edwin Hackett, Director
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-280, 50-281, 50-336,
50-338, 50-339, and 50-423

cc: See next page

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