

March 8, 2001

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

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 RE: VEP-FRD-42, REV. 1-A  
RELOAD NUCLEAR DESIGN METHODOLOGY, AND VEP-NE-1-A, RELAXED  
POWER DISTRIBUTION CONTROL METHODOLOGY AND ASSOCIATED FQ  
SURVEILLANCE TECHNICAL SPECIFICATIONS (TAC NOS. MB0729  
AND MB0730)

Dear Mr. Christian:

The purpose of this letter is to notify you of the results of the staff's review for acceptability of Topical Reports VEP-FRD-42, Rev. 1-A, "Reload Nuclear Design Methodology," and VEP-NE-1-A, "Relaxed Power Distribution Control Methodology and Associated FQ Surveillance Technical Specifications" for use with non-Westinghouse fuels and mixed cores at North Anna Power Station, Units 1 and 2.

On November 2, 2000, Virginia Electric and Power Company (VEPCO) participated in a public meeting with the staff to discuss their transition to Framatome Cogema Fuels (FCF) fuel in the reload cores at North Anna Power Station, and solicit the staff's feedback regarding program features, licensing approach, and scheduling. During this meeting, VEPCO requested to qualify these two topical reports under Generic Letter (GL) 83-11, Supplement 1, "Licensee Qualification for Performing Safety Analyses," dated June 24, 1999, for use with FCF. GL-83-11, Supplement 1, provided guidelines to eliminate the need to submit detailed topical reports for staff review when using approved codes and methods. VEPCO submitted these topical reports to the staff for review on December 11, 2000, to find out if further submittal of detailed reports for staff review will be required. The staff's analysis of topical reports VEP-NE-1-A and VEP-FRD-42, Rev. 1-A, is provided in the following paragraphs.

Topical Report VEP-NE-1-A describes a methodology called "Relaxed Power Distribution Control (RPDC)," for determining the maximum amount of axial power skewing. Specifically, the procedure described by this methodology enables one to calculate the axial difference within a specified, constant band about a target axial offset defined at equilibrium conditions. The staff's review of the December 11, 2000, submittal found that all the analyses performed in support of this methodology employed codes which have been previously reviewed and approved by the staff. This methodology is plant-specific, but it is not fuel-specific. As such, the methodology described in Topical Report VEP-NE-1-A can be used with any vendor's fuel, provided the fuel is similar (i.e., 17x17 Westinghouse fuel versus 17x17 FCF), and that the approved methodology is used in the same plant for which the staff's approval was given. The use of this methodology on a different make of fuel but similar in design must indicate that all the current pertinent Technical Specifications (TS), Limiting Conditions for Operation, and Surveillance Requirements are met. Any conditions imposed on the methodology as a consequence of its approval must be adhered to by VEPCO. As expected, any TS changes

must be submitted to the staff for review per Title 10 of the *Code of Federal Regulations* Section 50.90. The staff concludes that the use of this topical report for non-Westinghouse loaded cores and mixed cores falls within the scope of GL 83-11; hence, no submittal of detailed topical reports or further review is required.

Topical Report VEP-FRD-42, Rev. 1-A, contains a methodology for determining nuclear, thermal-hydraulic, and fuel performance parameters that are fuel-specific. As stated in the staff's letter to VEPCO on July 29, 1986, titled "Acceptance for Referencing of Licensing Topical Report VEP-FRD-42 Revision 1, Reload Nuclear Design Methodology" that approved this topical report, this methodology is valid, in principle, for both Westinghouse and non-Westinghouse fuel mixes as well as for cores designed by other vendors for use in Westinghouse-designed plants. However, it is clear from the contents of the topical report that the methodology presented in Topical Report VEP-FRD-42, Rev. 1-A, is based on Westinghouse methodology and is validated by Westinghouse reload data only. As such, this methodology is plant- and fuel-specific, and precludes application to non-Westinghouse or mixed reloads. Consequently, transition to Framatome fuel will require application of the methodology as described in topical report VEP-FRD-42, Rev. 1-A, to the Westinghouse-Framatome transition (mixed) core and to Framatome fueled cores. The application of this methodology to non-Westinghouse and mixed cores will require staff review and approval prior to implementation. The staff concludes that the required analysis performed by the licensee does not fall under the scope of GL 83-11, Supplement 1.

The staff has completed its evaluation of this request; therefore, we are closing TAC Nos. MB0729 and MB0730.

Sincerely,

*/RA/*

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

Docket Nos. 50-338 and 50-339

cc: See next page

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