

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

May 3, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. James R. Miller, Chief
Operating Reactors Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Serial No. 224
PSE/GLD:sas:2001N
Docket No. 50-338

License No. NPF-4

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA NUCLEAR POWER STATION UNIT NO. 1
RELOAD INFORMATION FOR CYCLE 5

North Anna Unit No. 1 is scheduled to complete its fourth cycle of operation on May 11, 1984, and will go into an outage for refueling. The purpose of this letter is to advise you of our plans for the Cycle 5 reload core and to transmit to you the Core Surveillance Report containing specific power distribution limits applicable for Cycle 5 operation.

The Cycle 5 reload core was analyzed in accordance with the methodology documented in Westinghouse Topical Report WCAP-9272 entitled "Westinghouse Reload Safety Evaluation Methodology." The results of this analysis indicated that no key analysis parameters would become more limiting during Cycle 5 operations than the values assumed in the currently applicable safety analysis. Further, the analysis demonstrated that the current Technical Specifications, as approved through Operating License Amendment No. 54 are appropriate and require no additional changes.

The analyses necessary to support Cycle 5 operation have been performed and reviewed by our technical staff, using the Westinghouse methodology and analysis techniques. In addition, a review has been performed by both the Station Nuclear Safety and Operating Committee and the Safety Evaluation and Control staff. It has been determined that no unreviewed safety questions as defined in 10 CFR 50.59 will exist as a result of the Cycle 5 reload core.

Attachment 1 provides the Core Surveillance Report containing the specific Cycle 5 values for F_{xy} and the axial power distribution surveillance limit, P_m . This report is being provided as required by North Anna Unit No. 1 Technical Specification 6.9.1.10 and is based on the current total peaking factor (F_Q) limit of 2.20.

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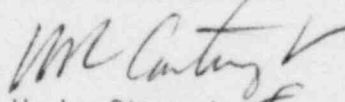
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During Cycle 4 operation, Vepco experienced levels of primary coolant radioactivity which were indicative of fuel element defects in the core. This information was reported to the NRC in LER 83-029 dated May 26, 1983, and subsequent LER's. As a result of the primary coolant activity, Vepco is planning a fuel examination program to identify the assemblies containing fuel defects. We expect to know by approximately June 4, 1984 if an alternate loading pattern for Cycle 5 will be needed. You will be notified if a redesign is required, and we will inform you by approximately June 22, 1984 of the results of our evaluation of the alternate loading pattern in accordance with 10CFR50.59.

In the event that Technical Specification changes are required to support Cycle 5 operation with a revised core loading pattern, we will be contacting you to request expeditious review of the change request. This accelerated review would be needed to support our current operating schedule which calls for Cycle 5 startup by approximately July 2, 1984.

This letter is provided for your information and planning. However, should you have questions, please contact us at your earliest convenience.

Very truly yours,


W. L. Stewart

Attachment

(1) Core Surveillance Report for North Anna 1, Cycle 5

cc: Mr. James P. O'Reilly
Regional Administrator
Region II

Mr. Leon B. Engle
NRC Project Manager - North Anna
Operating Reactors Branch No. 3
Division of Licensing

Mr. M. W. Branch
NRC Resident Inspector
North Anna Power Station

ATTACHMENT 1

Core Surveillance Report

North Anna 1, Cycle 5

TABLE 1

NORTH ANNA UNIT 1, CYCLE 5 CORE SURVEILLANCE LIMITS, $FQ = 2.20$

- I. The F_{xy} limits for RATED THERMAL POWER within specific core planes shall be:
1. $F_{xy}\text{-RTP} \leq 1.71$ for all core planes containing bank "D" control rods, and
 2. $F_{xy}\text{-RTP} \leq 1.60$ for all unrodded core planes.
- II. The axial power distribution surveillance threshold power level shall be:
1. $P_m = 100\%$ of RATED THERMAL POWER.

NORTH ANNA UNIT 1, CYCLE 5

MAXIMUM ($F^T Q \times P-REL$) VS. AXIAL CORE HEIGHT
DURING NORMAL OPERATION