VIRGINIA ELECTRIC AND POWER COMPANY RICHMOND, VIRGINIA 23261

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W. L. STEWART Vice President Nuclear Operations

United States Nuclear Regulatory Commission	Serial No.	87-474C
Attention: Document Control Desk	NO/DJV:jmj	
Washington, D.C. 20555	Docket Nos.	50-338 50-339
	License Nos.	NPF-4 NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY NORTH ANNA POWER STATION UNITS 1 AND 2 SAFETY EVALUATION OF STEAM GENERATOR DOWNCOMER FLOW RESISTANCE PLATE MODIFICATION

Virginia Electric and Power Company letter dated September 15, 1987 provided the results of our evaluation of the North Anna Unit 1 steam generator tube rupture event including the cause of the tube failure and planned corrective actions. As part of these corrective actions, the North Anna Units 1 and 2 steam generators are being modified to include a downcomer flow resistance plate (DFRP). The DFRP will reduce the steam generator recirculation flow and thereby reduce the flow induced vibrational loadings that are believed to have caused the tube failure. The purpose of this letter is to provide the results of our safety evaluation of the DFRP modification and to request your review and approval of the modification.

The attached safety evaluation assesses the impact of the DFRP modification on the accident analyses presented in Chapter 15 of the North Anna UFSAR. Each of the accident analyses were evaluated. It was concluded that the applicable acceptance criteria will continue to be met for each accident. However, a reanalysis of the steam generator tube rupture event has resulted in a calculated offsite dose which is greater than reported in the UFSAR. The increase in dose consequences for the steam generator tube rupture event occurs only for rated thermal power levels above approximately 59%, and the consequences are still well within established acceptance criteria as defined in the UFSAR and the bases for Technical Specification 3/4.4.8.

As a result of the increase in consequences for the steam generator tube rupture event, it has been determined that the DFRP modification appears to involve an unreviewed safety question as defined in 10 CFR 50.59, and therefore NRC review and approval of the modification is being requested. Until this approval is obtained, power will be limited to 50% consistent with the conclusion that the consequences are not increased for rated thermal power levels less than approximately 59%.

8709290377 870925 PDR ADOCK 05000338 P PDR This safety evaluation has been reviewed by the Station Nuclear Safety and Operating Committee and by the Safety Evaluation and Control staff. It has been determined that the modification appears to involve an unreviewed safety question as defined in 10 CFR 50.59, but does not involve a significant hazards consideration as defined in 10 CFR 50.92.

If you have any questions, please contact us immediately. We are available to meet with you about this request at your earliest convenience.

Very truly yours,

W. L. Stewarts

Attachment

cc: U. S. Nuclear Regulatory Commission 101 Marietta Street, N.W. Suite 2900 Atlanta, GA 30323

> Mr. J. L. Caldwell NRC Senior Resident Inspector North Anna Power Station