

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 26, 1991

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 91-088
NL&P/JBL:jmj R0
Docket No. 50-338
License No. NPF-4

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 1
STEAM GENERATOR CATEGORY C-3 INSPECTION RESULTS
REQUEST FOR STARTUP APPROVAL

North Anna Power Station Unit 1 shutdown on January 11, 1991 for a scheduled refueling outage. During the refueling outage, eddy current examinations of the steam generator tubes were conducted as required by the augmented inservice inspection program described in the Technical Specification 4.4.5.

The results of the steam generator inservice inspections have been classified as Category C-3 (as defined in Technical Specification 4.4.5.2) for each of the unit's three steam generators, i.e., greater than 1% of the inspected tubes are defective and require plugging. In accordance with the requirements of Technical Specification 4.4.5.5.c, prompt notification of the inspection results was made to the NRC pursuant to 10 CFR 50.72. The required notifications were made on January 30, 1991 for the "B" steam generator and on February 8, 1991 for the "A" and "C" steam generators. A subsequent Licensee Event Report (LER) will be submitted pursuant to 10 CFR 50.73 providing further description of the investigations conducted to determine the cause of the tube degradation and any additional corrective measures to be taken to prevent recurrence.

The purpose of this letter is to request NRC approval to return to power operation following this refueling outage. In this case, return to power operation is defined as entry into Mode 4, i.e., compliance with Technical Specification 3.4.5 requires steam generator operability prior to entry into Mode 4. We are presently scheduled to enter Mode 4 on March 1, 1991. As specified in Table 4.4-2 of the North Anna Unit 1 Technical Specifications, NRC approval is required prior to operation when the inspection results of any two of the steam generators are classified as Category C-3. The inspection results and a technical evaluation of those results were discussed in detail at our February 26, 1991 meeting. Also, the basis for our determination that approval for resumption of power operation should be granted was included in the Virginia Electric and Power Company and Westinghouse Electric Corporation (Reference Letter Serial No. NS-NRC-91-2571) presentation material provided at that meeting.

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In summary, the steam generator tube bundle integrity has been re-established by tube plugging and, where necessary, tube stabilizers installed. We have evaluated growth rates of the circumferential indications in the top of tubesheet region and the circumferential and axial indications at the tube support plates. The projected end-of-cycle average crack sizes have been determined acceptable with respect to the structural performance margin (burst capability criteria) established per Regulatory Guide 1.121.

The Technical Specification surveillance requirement for primary-to-secondary leakage monitoring will continue to be applicable. In addition, the conservative primary-to-secondary administrative leakage limits (50 gpd maximum in any individual steam generator) will continue to be maintained.

Based on the information available at this time, the inspection results do not preclude full cycle operation. However, the tube pull results and assessments are needed to further substantiate our final conclusion. These assessments include the potential for burst pressure reduction due to combined axial plus circumferential degradation, the potential for crack propagation of circumferential cracks due to tube vibration, and the potential leakage during a postulated steam line break for the end-of-cycle crack distribution. The NRC will continue to be kept informed of the progress on tube pull results.

Should you have any questions or require additional information, please contact us.

Very truly yours,



W. L. Stewart
Senior Vice President - Nuclear

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