

October 4, 2002

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

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - REQUEST FOR
ADDITIONAL INFORMATION REGARDING ANNUAL STEAM GENERATOR
INSERVICE INSPECTION SUMMARY REPORT (TAC NOS. MB4593 AND
MB4594)

Dear Mr. Christian

The staff has reviewed your submittal dated February 28, 2002, that provided the annual steam generator inservice inspection report for North Anna Power Station, Units 1 and 2. Your response to the enclosed request for additional information (RAI) is required in order for the staff to complete this review.

Our questions are provided in the Enclosure. The staff requests a response to the RAI within 60 days of the date of this letter. This response was discussed with Mr. Tom Shaub of your licensing staff on September 30, 2002, who indicated that Virginia Electric and Power Company will be able to meet this date.

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

Enclosure: As stated

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

NORTH ANNA POWER STATION, UNITS 1 AND 2

STEAM GENERATOR INSERVICE INSPECTION SUMMARY REPORT

1. Please describe the basic design of the North Anna Power Station, Units 1 and 2 steam generators including information such as tube diameter (e.g., 7/8-inch), tube wall thickness (e.g., 0.050-inch), number of tubes (e.g., 3592), tube expansion method (e.g., hydraulic), tube support design (support plates and antivibration bars), tube pitch, etc.

Please include a sketch of the tube support plate naming convention and a tubesheet map in this description.

2. It was indicated that two techniques were used in sizing the indication found in steam generator C of North Anna, Unit 2 in Row 43, Column 56. Discuss whether the qualification data had indications that were observed at this location. Discuss whether any other diagnostic exams besides eddy current testing were performed on this tube (e.g., ultrasonic testing, visual, in-situ pressure testing).

The indication in this tube was located within the confines of the tube support plate (presumably during shutdown) and was believed to be mechanically induced. Discuss whether the indication would be expected to be within the tube support plate during normal operation. If not, discuss the effects on your operational assessment/root cause investigation.

One possible cause for this indication was that it was a result of a burr or some other small discrete particle located at the edge of one of the quatrefoil lands. Discuss whether any scratches or manufacturing burnishing marks are located on the portions of this tube below the 5th cold-leg tube support.

In assessing the growth rate of this indication, it was assumed that the indication initiated immediately upon placing the replacement steam generators in service. In the licensee's 2000 Annual Report, it was indicated that antivibration bar wear indications in earlier F-type steam generators typically begin during the 4th to 5th cycle of operation. Given the potential for wear-type indications not to initiate immediately upon start-up, discuss the basis for the assumption that this indication initiated at start-up.

3. Please clarify what is meant by "close gap antivibration wear tolerance techniques." Refer to page 5 of 7 of Attachment 1 to the February 28, 2002, submittal.

Mr. David A. Christian
Virginia Electric and Power Company

North Anna Power Station
Units 1 and 2

cc:

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