From: Stephen Raul Monarque
To: Tom Shaub
Date: 9/3/02 1:19PM
Subject: NORTH ANNA POWER STATION, STEAM GENERATOR INSERVICE INSPECTION REPORT

TAC Numbers (TAC MB4593 and MB4594)

By letter dated February 28, 2002, Virginia Electric and Power Company (VEPCO), submitted the North Anna Power Station, Units 1 and 2, "Annual Steam Generator Inservice Inspection Summary Report" to the staff for review.

VEPCO is requested to review the questions below and provide the staff with a response time to complete this request for additional information.

1. Please describe the basic design of the North Anna 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. VEPCO stated that two techniques were used in sizing the indication found in steam generator C of Unit 2 in Row 43, Column 56. Discuss whether the qualification data set had indications such as that 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 VEPCO's 2000 Annual Report, it was indicated that antivibration bar wear indications in earlier F-type steam generators typically begin at 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 the 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.

Sincerely,

Stephen R. Monarque