

September 3, 2003

Dr. W. T. Lough
Virginia State Corporation
Commission
Division of Energy Regulation
P.O. Box 1197
Richmond, VA 23218

SUBJECT: REPLACEMENT REACTOR VESSEL HEAD SERVICE LIFE

Dear Dr. Lough:

The purpose of this letter is to provide a response to your email dated August 22, 2003 (Enclosure 1). In your email, you requested information on the expected life of replacement reactor vessel heads.

As you are aware, I have been designated the point of contact for the Virginia State Corporation Commission on matters related to the replacement of the North Anna Power Station, Units 1 and 2 (North Anna) reactor pressure vessel heads. As I understand it, you are conducting a review of the replacement of the reactor pressure vessel heads for fiscal prudence on the part of Virginia Electric and Power Company (VEPCO), the licensee and operator of the North Anna units and the Surry Power Station, Units 1 and 2 (Surry).

The replacement reactor vessel heads procured for North Anna and Surry had head penetrations and connecting welds fabricated using materials (i.e., Alloy 690 and associated weld metal) more resistant to primary water stress corrosion cracking (PWSCC) than the materials used in the fabrication of the old heads (i.e., Alloy 600 and associated weld metal). It is believed that PWSCC was the root cause of the degradation observed in the North Anna Unit 2 reactor pressure vessel head that resulted in VEPCO's decision to replace the heads at all four of its units on an expedited schedule. These new head penetrations and connecting weld materials are expected to be more resistant to PWSCC and should result in a longer service life than the older materials, assuming new degradation mechanisms do not develop in the PWSCC resistant materials.

A copy of this letter is being provided to the licensee for North Anna and Surry, as well as to the other interested parties, as is the NRC's normal practice for correspondence related to specific docket files.

Dr. Lough

- 2 -

I hope this has been responsive to your request. Should you have additional questions, please contact me at (301) 415-1068.

Sincerely,

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Enclosure: As stated

Docket Nos. 50-338, 50-339,
50-280, and 50-281

cc: See next page

Dr. Lough

- 2 -

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