

January 13, 2006

Mr. Karl W. Singer  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNIT 2 - REQUEST FOR ADDITIONAL  
INFORMATION REGARDING THE 15-DAY AND 90-DAY STEAM GENERATOR  
TUBE INSERVICE INSPECTION REPORTS FOR THE END-OF-CYCLE 13  
REFUELING OUTAGE IN 2005 (TAC NO. MC8118)

Dear Mr. Singer:

By letter dated May 31, 2005 (ADAMS No. ML051600187), Tennessee Valley Authority (TVA, the licensee) submitted the 15-day steam generator (SG) plugging report in accordance with Technical Specification 4.4.5.5.a for the Sequoyah Nuclear Plant, Unit 2. By letter dated August 15, 2005 (ADAMS No. ML052340503), TVA submitted the 90-day SG voltage-based alternate repair criteria and W\* (WEXTEx-expanded region alternate tube plugging criteria) report in accordance with License Condition 2.C.(8)(b). In addition to these reports, the Nuclear Regulatory Commission staff summarized additional information concerning the Unit 2 2005 SG tube inspection in a letter dated June 7, 2005 (ADAMS No. ML051810694).

In order for the staff to complete its review of the reports, we request that the licensee provide responses to the enclosed request for additional information (RAI). Based on discussions with your staff, we understand that you intend to respond to this RAI within 60 days of receipt of this letter.

Sincerely,

*/RA/*

Douglas V. Pickett, Senior Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-328

Enclosure: As stated

cc w/encl: See next page

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Douglas V. Pickett, Senior Project Manager  
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REQUEST FOR ADDITIONAL INFORMATION

SEQUOYAH UNIT 2 END-OF-CYCLE 13 15-DAY AND 90-DAY (INCLUDING W\*)

STEAM GENERATOR INSERVICE INSPECTION REPORTS

DOCKET NO. 50-328

1. On Page 4-6, it was stated that only one indication was 2-volts or greater out of the 302 (sizing sample) indications at the End-Of-Cycle (EOC) 13 that were tested with a worn probe during the EOC 12 inspection. With this information, you concluded that probe wear has no significant effect on the population of indications. In addition, it was stated that out of 365 (population sample) indications at the EOC 13, only 81 were inspected with a worn probe during the EOC 12 inspection. You further concluded that this information indicated that tubes inspected with worn probes do not contain a larger number of new indications. The basis for these statements is not clear to the NRC staff, therefore, please provide justification for these statements.

This justification should include a comparison of the percentage of new indications at the EOC 13 that were inspected with a worn probe during the EOC 12 inspection to the percentage of new indications that were inspected with a good probe during the EOC 12 inspection. In addition, please compare the percentage of new indications greater than or equal to 0.5-volts at the EOC 13 that were inspected with a worn probe during the EOC 12 inspection to the percentage of new indications greater than or equal to 0.5-volts at EOC 13 that were inspected with a good probe during the EOC 12 inspection. If there are significant differences, please provide an assessment of the adequacy of the probe wear criteria and its impact on your operational assessment for EOC 14. A value of 0.5-volts was chosen to be consistent with the NRC staff's approval of the alternate probe wear criterion (refer to NRC letter to the Nuclear Energy Institute dated February 9, 1996).

2. In Section 6.4 of Enclosure 1 to your August 15, 2005, letter, it was indicated that the EOC 14 voltage distribution (using both the Cycle 12 and Cycle 13 growth rates) are shown in Table 6-2 and in Figures 6-1 through Figure 6-4. In reviewing the table and figures only one voltage distribution was provided for each steam generator. Please clarify whether the tables and graphs provided were determined using the Cycle 12 or Cycle 13 voltage growth rate distribution.

In addition, Section 6.4 indicates that the voltage distributions predicted using both growth rates are similar, however, the predictions using the Cycle 13 growth rates were populated with somewhat greater frequency in the lower voltages and with higher tail-end voltages. Since the most limiting voltage growth rate distribution is the one that results in the highest projected probability of burst and leakage, discuss how it was determined that the Cycle 12 growth rate distribution was the most limiting. The NRC staff notes that sometimes the higher tail-end voltages can result in more limiting probability of burst or leakage estimates (i.e., the largest voltage indication may have a significant effect on the leakage and burst calculations depending on the distribution of

indications).

Enclosure

Mr. Karl W. Singer  
Tennessee Valley Authority

**SEQUOYAH NUCLEAR PLANT**

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