

Docket
File

Docket Nos. 50-259/260/296

December 2, 1988

Mr. Oliver D. Kingsley, Jr.
Senior Vice President, Nuclear Power
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Dear Mr. Kingsley:

SUBJECT: REACTOR VESSEL MATERIALS SURVEILLANCE PROGRAM FOR BROWNS FERRY NUCLEAR
NUCLEAR POWER PLANT, UNITS 1, 2 AND 3 (TAC 59482, 59483, 59484)

In a letter from J. A. Domer (TVA) to D. Vassallo (NRC) dated July 23, 1985, the Tennessee Valley Authority (TVA) discussed its plans for the withdrawal of surveillance capsules from the reactor vessels of Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3 as required by 10 CFR Part 50, Appendix H. TVA proposed to withdraw the specimens at 8.0 effective full-power years (EFPY) and 24.0 EFPY.

Based on its review of the Browns Ferry FSAR and two supporting documents ("Browns Ferry Core Region Materials Information (Units 1, 2, and 3)," BAW-1845, August 1984, and "Analysis of the Vessel Wall Neutron Dosimeter from Browns Ferry Unit 1 Pressure Vessel," Final Report SWRI Project 02-4884-001, August 1978), the NRC staff found that the measured neutron fluence is 3.7 times larger than the calculated fluence. Accordingly, in a letter from R. J. Clark (NRC) to S. A. White (TVA) dated October 27, 1986, the NRC staff suggested that TVA develop an integrated surveillance program for all three BFN Units that is related to estimated fluence rather than to a predetermined exposure interval.

In a letter to the NRC dated May 15, 1987, TVA proposed to withdraw the first set of surveillance specimens from each reactor vessel at the end of each unit's cycle which most closely approximates 8.0 effective full-power years (EFPY) of operation. Furthermore, TVA proposed that the dosimetry measurements from the surveillance specimens be used to assess the need to develop a revised program. The reason for this proposal was that the development of an integrated surveillance program related to estimated fluence now would be premature because it would be based only on extrapolations of limited dosimetry measurements taken from Unit 1 during the first fuel cycle. Since dosimetry measurements for 8.0 EFPY would be more credible than cycle 1 dosimetry data, TVA prefers to consider the development of a revised program based on the testing and analysis results from an 8.0 EFPY capsule.

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The staff concurs with the approach to withdraw the first set of surveillance specimens from each reactor vessel at the end of each unit's cycle which most closely approximates 8.0 EFPY of operation. However, the staff requires at that time that a revised surveillance program based on estimated fluence be developed for future surveillance specimen withdrawal consistent with the test and analysis results from the 8.0 EFPY capsule. In accordance with 10 CFR Part 50 Appendix H, the test and analysis results as well as the revised surveillance program should be submitted for staff approval within one year of when the surveillance specimens were withdrawn. Appropriate changes to the Technical Specifications to reflect any changes to the reactor vessel material surveillance program should also be provided at that time.

Suzanne C. Black, Assistant Director
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Mr. Oliver J. Kingsley, Jr.

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Browns Ferry Nuclear Plant

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