

August 22, 2002

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

SUBJECT: SEQUOYAH NUCLEAR PLANT (SQN), UNITS 1 AND 2 - REQUEST FOR  
ADDITIONAL INFORMATION ON TECHNICAL SPECIFICATION CHANGE NO.  
00-06, REGARDING TRITIUM PRODUCTION CORE AMENDMENTS  
(TAC NOS. MB2972 AND MB2973)

Dear Mr. Scalice:

The subject Technical Specification Amendment Request was submitted to the U.S. Nuclear Regulatory Commission (NRC) for review and approval on September 21, 2001, by the Tennessee Valley Authority (TVA). The proposed license amendments would allow SQN, Units 1 and 2, to produce tritium in their cores. The NRC staff is in the process of reviewing TVA's submittal.

As discussed during a conference call on August 13, 2002, the NRC staff requires responses to the enclosed Request for Additional Information (RAI) to proceed with its review. This is the second RAI on this amendment request. During the call, Mr. Jim Smith of the SQN Licensing Staff stated that TVA would respond to this request by August 30, 2002.

Please have your staff contact me at (301) 415-2010 if there are any questions regarding the enclosed request.

Sincerely,

*/RA/*

Ronald W. Hernan, Senior Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosure: Request for Additional Information

cc w/enclosure: See next page

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REQUEST FOR ADDITIONAL INFORMATION

TRITIUM PRODUCTION CORE

SEQUOYAH NUCLEAR PLANT

DOCKET NOS. 50-327 and 50-328

1. Section 2.15.6 of Topical Report BAW-10237 summarizes changes to the previously docketed design basis radiological consequence analyses. The staff finds the presented summaries insufficient for the staff to make the requisite finding that the consequences of the accidents are consistent with regulatory criteria. The staff must make this finding on the basis of the licensee's analyses since the licensee's analyses will comprise the Sequoyah Nuclear Plant (SQN) licensing basis. The Tennessee Valley Authority (TVA) is requested to provide the following information to enable the staff to make the requisite finding. If you believe that some of this information has already been docketed, please provide a specific reference. For each accident analyzed, provide the following:
  - 1.1 A tabulation of analysis inputs and assumptions used in offsite and control room habitability analyses in sufficient detail to enable the staff to evaluate the appropriateness of these data and, if deemed necessary, to perform confirmatory calculations.
  - 1.2 A summary of radiological analysis control room dose results for accidents other than the loss-of-coolant accident (LOCA).
  - 1.3 A description of any analysis methodology or modeling that is different from that previously approved by the NRC in a licensing action for SQN. Provide a justification for each change. For the atmospheric dispersion factor (X/Q) changes described in Section 1.5.5 of BAW-10237, please provide (1) a copy of the meteorological data files (on floppy disk or CD-ROM) used in the reanalysis; (2) a tabulation of the values of the parameters input to the ARCON96 code in sufficient detail to enable the staff to evaluate the appropriateness of these data and, if deemed necessary, to perform confirmatory calculations.
  - 1.4 A justification for the assumed 51 cfm control room unfiltered inleakage given recent industry experience with integrated tracer gas testing of the control room envelope
2. Section 1.5.5 discusses the issue of control room habitability. The discussion is limited to the emergency core cooling system (ECCS) leakage component of the LOCA, consistent with the interface item. However, reference is made in Section 1.5.5 of BAW-10237 to Table 2.15.6-2 as the basis of the TVA conclusion that General Design Criteria -19 (GDC-19) will continue to be met with tritium-producing burnable absorber rod (TPBAR) use. The staff notes that the language of GDC-19 is not restricted to LOCAs, but applies to all accidents. In its letter dated May 21, 2002 with regard to Watts Bar Nuclear Plant, TVA stated that accidents other than the LOCA were limiting with regard to control room doses. TVA is requested to explain whether and how its conclusion that GDC-19 will be met considers all of the design basis radiological accidents addressed in the SQN Updated Final Safety Analysis Report.

**Enclosure**

3. TVA determined the radiological consequence of tritium releases by analyzing the total effective dose equivalent as well as the whole body and thyroid doses. The TVA submittal does not appear to request that the total estimated dose equivalent (TEDE) dose quantity and its associated dose criteria will replace the whole body and thyroid dose guidelines currently in the SQN licensing basis. The staff requests TVA to confirm the staff's understanding that future design basis accident radiological analyses intended to demonstrate compliance with regulatory criteria, will continue to assess whole body and thyroid doses, as well as TEDE for tritium.

Mr. J. A. Scalice

**SEQUOYAH NUCLEAR PLANT**  
Tennessee Valley Authority

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