



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 13, 2009

Mr. Preston D. Swafford  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
3R Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 - REQUEST FOR  
ADDITIONAL INFORMATION REGARDING THE UPGRADE OF EMERGENCY  
CORE COOLING SYSTEM REQUIREMENTS PER NUREG-1431  
(TAC NO. ME1115 AND ME1116)

Dear Mr. Swafford:

By letter dated April 21, 2009, you submitted an application for license amendment to revise the Sequoyah Nuclear Plant, Units 1 and 2 (SQN) Technical Specifications (TSs), and upgrade the Emergency Core Cooling System (ECCS) requirements to be more consistent with NUREG-1431, Revision 3, "Standard Technical Specifications – Westinghouse Plants." The upgrade revises SQN TS Section 3/4.5.2, "ECCS Subsystems –  $T_{avg}$  Greater Than or Equal to 350 °F," TS Section 3/4.5.3, "ECCS Subsystems –  $T_{avg}$  Less Than 350 °F," and the corresponding surveillance requirements (SRs) that will resolve a nonconforming condition associated with SR 4.5.2.f.

The Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is required to complete its evaluation. This request was discussed with Mr. Rusty Proffitt of your staff on August 13, 2009, and it was agreed that a response would be provided within 30 days from the date of this letter.

If you have any questions regarding this matter, I can be reached at 301-415-1564.

Sincerely,

A handwritten signature in black ink that reads "Siva P. Lingam".

Siva P. Lingam, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-327 and 50-328

Enclosure: Request for Additional Information

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REQUEST FOR ADDITIONAL INFORMATION  
REGARDING TECHNICAL SPECIFICATION CHANGES  
AND UPGRADE OF EMERGENCY CORE COOLING SYSTEM  
REQUIREMENTS PER NUREG-1431, REVISION 3  
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-327 AND 50-328

By letter dated April 21, 2009 (Agencywide Documents Access and Management System Accession No. ML091120193), the Tennessee Valley Authority (the licensee), submitted a license amendment request to revise the Sequoyah Nuclear Plant, Units 1 and 2 (SQN) Technical Specifications (TSs) and upgrade the Emergency Core Cooling System (ECCS) requirements to be more consistent with NUREG-1431, Revision 3, "Standard Technical Specifications – Westinghouse Plants." The upgrade revises SQN TS Section 3/4.5.2, "ECCS Subsystems –  $T_{avg}$  Greater Than or Equal to 350 °F," TS Section 3/4.5.3, "ECCS Subsystems –  $T_{avg}$  Less Than 350 °F," and the corresponding surveillance requirements (SRs) that will resolve a nonconforming condition associated with SR 4.5.2.f. In order to complete its review of the above document, the Nuclear Regulatory Commission (NRC) staff needs the following additional information:

1. Numerous statements in the submittal used phrases such as, "standard language," "standard action requirements," "standard surveillance," "standard title," etc. Please confirm whether the term "standard" used in such phrases implied Improved Standard Technical Specifications (ISTS). If any of those statements did not mean ISTS, then clarify.
2. In page E-4 of the submittal, the licensee's proposed change to SR 4.5.2.b states, "Verify ECCS piping is full of water by venting the ECCS pump casings and accessible piping high points ...." Please provide the following additional information:
  - a) Define the phrase "full of water." Does this mean zero voids? If not, what is the acceptance criterion for void dimension and what is the basis for that?
  - b) In light of the proposed TS Change No. 07-05 for SQN ECCS, discuss your plan to implement the NRC Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," for SQN, including modification of the TSs and the SRs, to make the plant consistent with the GL requirements related to ECCS voids.
3. In page E-1 of the submittal, it was stated, "SR 4.5.2.f contains specific pump discharge pressure requirements for emergency core cooling system (ECCS) quarterly minimum flow recirculation testing. The discharge pressure values for the safety injection pumps and the centrifugal charging pumps are non-conservative to ensure that the performance of the ECCS pumps is consistent with the minimum performance credited by the plant safety

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analyses and ASME [American Society of Mechanical Engineers] Section XI test criteria. Although compliance with SR 4.5.2.f is being met, surveillance testing of the ECCS pumps is being performed in accordance with ASME Section XI inservice inspection requirements, in accordance with TS 4.0.5." Please provide the following additional information:

- a) Discuss the minimum pump performance requirements that were credited in the SQN safety analyses, and the above mentioned nonconservatism in the current SR 4.5.2.f discharge pressure values for the safety injection pumps and the centrifugal charging pumps.
  - b) Discuss how compliance with ASME Section XI in-service testing criteria ensured that the safety analyses minimum performance requirements are satisfied.
4. As part of the modification of the SQN ECCS TS, several SRs, such as SR 4.5.2.c, SR 4.5.2.g, and SR 4.5.2.h, items have been relocated to plant procedures. The NRC staff believes that relocating an item from the TSs to plant procedures is a significant relaxation of the required action from the standpoint of regulatory enforcement because plant procedures are licensee controlled actions. Please justify why it was necessary to relocate the SR items from the TSs to plant procedure, when the same task was being performed under the TSs, without any problem.

August 13, 2009

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*/RA/*

Siva P. Lingam, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-327 and 50-328

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