



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

July 20, 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: WATTS BAR NUCLEAR PLANT, UNIT 1 – EMERGENCY DIESEL  
GENERATOR FUEL OIL – ALTERNATIVE SAMPLING PROCEDURE  
OF STORAGE TANKS (TAC NO. ME1330)

Dear Mr. Swafford:

By letter dated May 19, 2009 (Agencywide Document and Management System Accession No. ML091400199), as supplemented by letter dated June 16, 2009 (ML091670518), Tennessee Valley Authority (TVA) submitted a licensing action request for Watts Bar Nuclear Plant (WBN), Unit 1. The licensing action request was to allow for an alternative sampling procedure for the emergency diesel generator (EDG) fuel oil storage tanks (FOST).

Technical Specification (TS) 5.7.2.16, "Diesel Fuel Oil Testing Program," requires that sampling and testing of new and stored fuel be performed in accordance with applicable American Society for Testing Materials (ASTM) standards. TVA has performed a manual "all-levels" sample in accordance with Section 8 of ASTM D4057-1988, "Standard Practice for Manual Sampling of Petroleum and Petroleum Products." However, Section 8.1 of ASTM D4057-1988 specified that alternate sampling methods may be used with agreement of the parties involved. TVA determined that U.S. Nuclear Regulatory Commission (NRC) staff approval of alternative sampling methods was necessary to satisfy the criteria of ASTM D4057-1988; there is no change to the Technical Specifications (TSs) or its bases.

The "all-levels" sample process draws a sample representative of the entire tank by opening an empty specialized container near the bottom of the tank and drawing the container upward to the top of the tank as it fills. Instead of this process, TVA proposed to take samples from the fuel oil transfer pump discharge lines of each storage tank. The transfer pumps take suction near the bottom of their respective storage tanks through a 5-inch diameter line. There is a 1-inch diameter line and valve off each discharge line that will be used as the sample point. To obtain a fuel oil sample, TVA proposed that the fuel oil transfer pump for the tank to be sampled will be placed in the recirculation mode for a period of time necessary to ensure adequate mixing based on the volume of diesel fuel in the tank. After the tank has been recirculated for the appropriate time, TVA proposed that the sample line will be flushed and a sample obtained. The sample line and transfer pump will then be secured and the fuel oil sample will be analyzed in accordance with existing TS requirements.

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The NRC staff reviewed the proposed sampling process and the comparison of test results of the sampling of Main Fuel Oil Storage Tank Number 1 taken from the top of the tank using the method specified in ASTM D40457-1988 and sampling taken using the proposed method. Based on a comparison of the methods and test results, the NRC staff finds that the proposed sampling method provides an equally representative sample of useable tank contents.

Based on the NRC staff review of the TVA request, the NRC staff finds the alternative sampling technique for WBN Unit 1 EDG FOST acceptable. Pursuant to ASTM D4057-1988, Section 8.1, TVA is authorized to obtain samples by the described process in lieu of specific methods described in applicable ASTM standards.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Raghavan', written in a cursive style.

L. Raghavan, Chief  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-390

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Sincerely,

**/RA/**

L. Raghavan, Chief  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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