



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

JUL 18 1995

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of ) Docket Nos. 50-390  
Tennessee Valley Authority ) 50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - LOOSE PARTS  
MONITORING SYSTEM (LPMS)

- References: 1) Letter from L. M. Mills (TVA) to E. Adensam (NRC)  
dated February 25, 1982
- 2) Letter from L. M. Mills (TVA) to E. Adensam (NRC)  
dated November 10, 1982

This letter describes changes in the Loose Parts Monitoring System and associated changes to commitments provided in the references listed. These changes include the removal of the solenoid operated impact subsystem, and alternate methods used to demonstrate periodic channel functional testing and channel calibration during refueling outages due to sensor inaccessibility.

The solenoid operated impact subsystem was designed to demonstrate channel operability as part of periodic channel functional testing. During the conduct of preoperational testing, the subsystem was found to be ineffective in the performance of its intended design. Problems with the subsystem included excessive electromagnetic interference with the sensor output signal and the inability to detect a solenoid induced impact.

As a result of these identified problems, the solenoid operated impact subsystem was removed, and a portable system added to upgrade the performance of the LPMS. The portable system is used as one of the actions needed to demonstrate channel functional test requirements as described in Regulatory Guide (RG) 1.133, Rev. 1, Section C.3.a.2.d.

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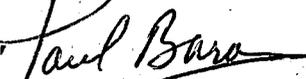
The portable system collects signal information from each LPM channel and performs spectral and statistical analyses. The system provides improved techniques in obtaining information that can be used to 1) determine if a channel exhibits proper functional characteristics, 2) discriminate loose part impact frequency signature from normal plant noise, 3) trend the behavior of the channels for comparison purposes, and 4) determine the relative size and mass of a loose part impact.

In addition, RG 1.133, Rev. 1, Section C.3.a.3 specifies the use of a controlled mechanical input at cold shutdown or refueling as part of channel calibration activities. After initial channel calibration and baseline spectral data are obtained, the computer-based analytical system may be used to demonstrate channel calibration as an option to the use of a control mechanical input. This option applies to sensors located in areas where plant personnel radiation exposure is considered to be excessive.

The LPMS was approved in Supplemental Safety Evaluation Report (SSER) No. 3 based on information provided in References 1 and 2, Final Safety Analysis Report (FSAR) Section 7.6.7 (Amendment 49), and Technical Specification 3.3.3.10/4.3.3.10. Since then, FSAR Section 7.6.7, LPMS System Description, was revised in Amendment 89 to accommodate the changes made to the system, and information contained in the Tech Specs was moved to the Technical Requirements Manual, Section 3.3.6. The commitments related to the LPMS, as revised in this letter, impact the information reviewed at that time by the NRC. The Enclosure lists specific changes to previous commitments.

If you have any questions concerning this matter, please telephone John Vorees at (615) 365-8819.

Sincerely,



E. R. Baron  
Nuclear Assurance  
and Licensing Manager (Acting)

Enclosure  
cc: See page 3

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Enclosure

cc (Enclosure):

NRC Resident Inspector  
Watts Bar Nuclear Plant  
Rt. 2, Box 700  
Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

ENCLOSURE  
LOOSE PARTS MONITORING SYSTEM  
REVISED COMMITMENTS

1. In Reference 1, the second response identified "solenoid operated devices" as being used in periodic channel functional testing. The solenoid operated impact subsystem is being removed from service.
2. In Reference 2, the response to C.3.a(2)(d) is changed to read as follows:  

"Step (c) plus:

  - 1) Use the alarm simulator to verify that the alarm circuitry is operable, and
  - 2) Monitor channel output signal for proper frequency bandwidth using computer-based spectral and statistical analyses."
3. In Reference 2, the response to C.3.a(3), Item 3, is changed to read as follows:  

"3. After each channel is restored to its normal condition, use a mechanical input such as a spring loaded center punch to input an impact and verify the channel operation. After initial channel calibration and baseline spectral data are obtained, the computer-based analytical system in conjunction with the original calibration results may be used to demonstrate channel calibration as an option to the use of a control mechanical input. This option applies to sensors located in areas where plant personnel radiation exposure is considered by Plant Management to be excessive."