



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

JUN 09 1994

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

Gentlemen:

In the Matter of the Application of)
Tennessee Valley Authority)

Docket Nos. 50-390
50-391

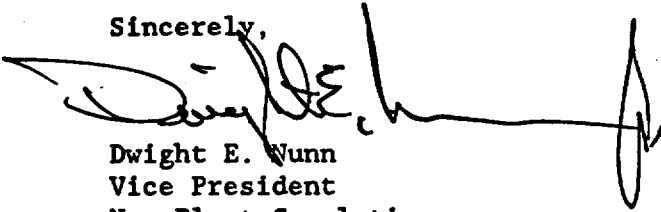
WATTS BAR NUCLEAR PLANT (WBN) - UNITS 1 AND 2 - NRC INSPECTION REPORT NO.
50-390, 391/94-30 - REPLY TO NOTICE OF DEVIATION

The purpose of this letter is to respond to Inspection Report 50-390, 391/94-30 dated May 10, 1994, which identified a deviation from a previous commitment made by TVA to retain mortar lined piping samples in the Tennessee River. In March 1991, TVA relocated the samples from the Tennessee River to the WBN yard holding pond.

TVA's response to the subject deviation and other related issues are contained in Enclosure 1. The commitments made by this submittal are listed in Enclosure 2.

If you should have any questions, contact P. L. Pace at (615)-365-1824.

Sincerely,



Dwight E. Wunn
Vice President
New Plant Completion
Watts Bar Nuclear Plant

Enclosures
cc: See page 2

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cc (Enclosures):

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 REPLY TO NRC'S MAY 10, 1994, LETTER TO TVA NOTICE OF DEVIATION 50-390, 391/94-30-01

Description Of Deviation

"The Advisory Committee on Reactor Safeguards recommended that periodic inspections and tests of the cement mortar lining in the Essential Raw Cooling Water (ERCW) system piping be carried out. That recommendation was documented in NUREG-0847, Safety Evaluation Report Watts Bar Nuclear Plant, Units 1 and 2, Supplement 1. A TVA letter to the NRC dated June 15, 1984, documented the results of the licensee's evaluation concerning the integrity of the ERCW mortar lining and committed to perform inspections and testing of samples of cement mortar lined piping as follows:

TVA will perform a yearly inspection of the mortar-lined samples that are submerged in the Tennessee River at TVA's Singleton Materials Engineering Laboratory. Also, an atomic absorption test will be performed once every 5 years on a 2- or 3-gram sample of the mortar lining to quantitatively determine the calcium ion content.

NUREG-0847, Supplement 4, issued in March 1985, documents NRC acceptance of that commitment made in the June 15, 1984 letter.

Contrary to the above, in March 1991, the mortar lined pipe samples were relocated from the Tennessee River to the Watts Bar site holding pond without notifying the NRC that the commitment had been changed. In addition, the licensee had not documented any technical justification for the move."

REASON FOR THE DEVIATION

The relocation of the samples occurred due to WBN Engineering's decision to move the cement mortar lined samples from an area no longer under TVA's control (Singleton Laboratory was sold) to the Watts Bar Site. The location for the samples was selected based on ease of access and the consideration that water chemistry in the yard holding pond would be representative of the water pumped through the ERCW system. This consideration was based on the fact that in addition to rain water, sump drains, and raw cooling water, the other water source for the yard holding pond is water which has been processed through the Intake Pumping Station and pumped through the ERCW system. However, Engineering failed to recognize that moving the samples would conflict with the commitment to maintain the samples submerged in the Tennessee River at TVA's Singleton Materials Engineering Laboratory.

The commitment closure package initiated by Engineering and reviewed by Licensing focused on the annual inspection requirements being incorporated into a preventive maintenance (PM) instruction. The relocation of the samples and the elapsed time between inspections was not considered.

CORRECTIVE ACTION STEPS TAKEN TO AVOID FURTHER DEVIATION

TVA will relocate the mortar lined samples to the cooling tower basin. This area should be more representative of the ERCW environment during the operation of the plant. TVA has issued problem evaluation report (PER) WBPEN 940212 to document this Deviation. The resolution to this PER will include the engineering evaluation of the environment and appropriate document changes. Engineering has concluded that the samples are acceptable in the holding pond until they can be relocated to the cooling tower basin.

The PM for the annual visual inspection has also been source noted to the PER and this Deviation identifying the sample location to assure NRC notification if consideration is given in the future to relocating the samples.

WBN Engineering personnel responsible for initiating and reviewing commitment closure packages were informed of this deviation and the expectations for addressing changes to commitments. In addition, Licensing personnel responsible for reviewing commitment closure packages were also informed of the deviation and reinstructed in the commitment completion guidelines. The responsible licensing engineer is no longer at WBN.

The design baseline and verification program is currently performing a review of the implementation of programmatic commitments. Therefore, since the subject deviation was identified during the review of employee concern special program (ECSP) subcategory reports and to determine if this is an isolated event, TVA will perform a review of additional ECSP subcategory reports for similar problems. The WBN subcategory reports will be reviewed to determine if they should be included in the population to be sampled. TVA, then will select an appropriate sample from the selected population based on the subject's impact on safety. A subcategory report will be excluded if the subject is already covered in a corrective action program, if the issue is not system specific, or is not safety related. If the sample determines that deviations exist to the commitments made, the deviations will be corrected as appropriate and a further evaluation will be performed to determine the extent of sample expansion.

DATE WHEN CORRECTIVE ACTION WILL BE COMPLETED

TVA mortar lined samples will be relocated to the cooling tower basin by December 31, 1994.

TVA will complete its sample review by August 31, 1994. If deviations to commitments are identified, an evaluation will be performed, and if appropriate, the sample will be expanded and the completion schedule adjusted accordingly.

ADDITIONAL INFORMATION

Preventive Maintenance Performances

In response to NRC's concern about the 17 months which had elapsed between 1988 and 1989 inspections, TVA has been unable to determine the specific cause for the inspection delay due to the amount of time which has passed since the situation occurred.

NRC's second concern involved the use of a PM instruction to complete the annual commitment. The PM was not scheduled for performance until 22 months had elapsed since the previous inspection (January 1992) and the PM was not completed for another month. The delay in this instance was due to a miscommunication between Engineering, and the Maintenance Engineering and Technical organization which put the PM instruction on hold. When the instruction was incorporated in the PM program, Engineering indicated that the inspection was required to be performed annually, but did not communicate a start date. The PM procedure requires that PMs must be in place 30 days after system turnover. If no other start date is communicated, the PM automatically remains on "Hold" until the system is turned over to Operations. This was the case for this PM. The subject PM is now scheduled to be completed annually, although the system has not been turned over.

As part of the design baseline verification program corrective action program, TVA identified programmatic commitments in the maintenance area. These commitments have been reviewed to confirm there were no similar problems with PMs currently on hold. No additional issues were identified.

Calcium Ion Test Results

The NRC's third concern regarding the unexpected value for the calcium ion in the 1990 atomic absorption test, involves a failure to track the additional actions noted on the commitment completion form. Absent a tracking mechanism, no priority was effectively established to complete the action or assure that the action would be completed in the future. Although the increase in calcium ion was from 19.8 percent to 34.8 percent, the Singleton Laboratory supervisor responsible for both tests confirmed that mortar maintained in water is subject to a calcification process which typically results in an increase in calcium ion of this magnitude. TVA does not consider that this increase represents an adverse condition.

TVA has revised the PM for the atomic absorption test to define what constitutes a significant deviation from previous tests and has implemented a requirement that such deviations be evaluated and resolved.

ENCLOSURE 2

**WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
REPLY TO NRC'S MAY 10, 1994, LETTER TO TVA
NOTICE OF DEVIATION 50-390, 391/94-30-01**

List of Commitments

1. TVA will relocate the mortar lined samples to the cooling tower basin by December 31, 1994.
2. To determine if this deviation is an isolated event, TVA will review a sample of subcategory reports for deviations to commitments by August 31, 1994. If deviations are identified the sample will be expanded and the completion schedule adjusted accordingly.