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

John A. Scalice
Site Vice President, Watts Bar Nuclear Plant

APR 2 2 1996

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

Gentlemen:

In the Matter of) Docket No. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - FACILITY OPERATING LICENSE NPF-90 - NRC INSPECTION REPORT NO. 50-390/96-02 - REPLY TO NOTICES OF VIOLATION

The purpose of this letter is to provide a reply to Violations 390/96-02-01 and 390/96-02-03 cited in the subject Inspection Report dated March 21, 1996. Violation 390/96-02-01 concerns a failure to follow existing procedural requirements for review and issuance of procedures. This issue was documented as Licensee Event Report (LER) 50-390/96001. TVA's letter dated February 16, 1996, provided details associated with the LER. Enclosure 1 provides TVA's reply to Violation 390/96-02-01.

Violation 390/96-02-03 concerns the documentation associated with calibration of the condenser vacuum exhaust mid- and high-range radiation monitor. No LER was required for the events associated with Violation 390/96-02-03. Enclosure 2 documents TVA's reply.

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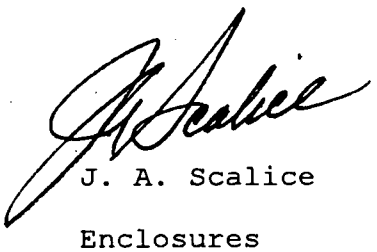
If you should have any questions, please contact P. L. Pace at (423) 365-1824.

Sincerely,



J. A. Scalice

Enclosures
cc (Enclosures):
NRC Resident Inspector
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
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 1

WATTS BAR NUCLEAR PLANT UNIT 1
REPLY TO NRC'S MARCH 21, 1996, LETTER
VIOLATION 390/96-02-01

DESCRIPTION OF VIOLATION

"Technical Specification Surveillance Requirement 3.7.8.1 requires the licensee to, "Verify each ERCW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position." Surveillance Requirement 3.7.8.1 is applicable in Modes 1, 2, 3, and 4 and is required to be performed at a frequency of 31 days.

Technical Specification Surveillance Requirement 3.0.4 requires that entry into a Mode or other specified condition in the Applicability of a Limiting Condition for Operation shall not be made unless the Limiting Condition for Operation's surveillance requirements have been met.

Contrary to the above, on December 15, 1995, the licensee entered Mode 4 with 54 Essential Raw Cooling Water (ERCW) manual valves in flow paths servicing safety-related equipment that had not been verified in the correct position and were not locked, sealed, or otherwise secured in position. The 54 valves had been omitted from both Surveillance Instruction 1-SI-67-01, ERCW Valves Servicing Safety Equipment: Position Verification, Revision 1, and from the locked valve program implemented by Plant Administrative Instruction PAI-2.14, Administrative Control of Locked Valves and Breakers, Revision 2, which implemented Surveillance Requirement 3.7.8.1. Consequently, the licensee failed to perform the requirements of Surveillance Requirement 3.7.8.1 on these valves before entering Mode 4."

TVA RESPONSE

TVA agrees that this violation occurred.

REASON FOR THE VIOLATION

The violation occurred because of a failure to follow existing procedural requirements for review and issue of procedures. A total of 55 valves were omitted from the Surveillance Instruction (SI) and the locked valve program. Fifty-two of the 55 valves were throttle valves that were intentionally removed from the draft SI to be locked and placed in the locked valve program, Plant Administrative Instruction (PAI) 2.14. This SI was issued during the system turnover from modifications to operations. The practice of issuing

procedures that were dependent on procedures not yet issued was generally accepted because procedures could not be issued concurrently by the system turnover process. The System Operating Instruction (SOI) should have been revised to lock the valves and add the valves to the PAI. Three other valves were inadvertently deleted during a revision to the SI because of an inadequate technical review of the procedure revisions.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

Upon identification that Surveillance Requirement (SR) 3.7.8.1 had been implemented without a complete list of valves, an extent of condition review for the ERCW system was performed. This review identified a total of 55 valves that were missing from the SI or the PAI. Change notices were issued to add the missing valves to the SI and the SI was performed to verify position of the valves. Each valve was found to be in the correct position.

Fifty-four of the 55 valves in the ERCW system were removed from the SI and administratively locked. The SOI was revised to identify the valves as locked in position and the PAI was revised to add the valves to the locked valve program. One flow control valve remained in the SI.

A review was also conducted of the remaining four systems in the Technical Specifications that required valve position verification every 31 days. Based on this review, five valves were identified that were not in the SI for implementation of SR 3.5.2.2. These five valves, located on bypass or recirculation lines, were conservatively added to the SI and position verified. Each was found to be in the correct position. Three of the valves were subsequently locked and added to the PAI for the locked valve program. Two valves remained in the SI.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN TO AVOID FURTHER VIOLATIONS

The involved technical reviewers and procedure writers were counseled on attention to detail and the circumstances that led to the event.

The Operations Manager issued a briefing memorandum to Operations personnel defining the expectation to immediately address concerns expressed to Operations by site personnel. The understanding of this expectation has been documented by signature.

Site department managers and qualified technical reviewers that are assigned the responsibility of issuing Technical Specifications implementation procedures have been briefed to ensure awareness of this event with emphasis on the cause and effect of the procedural noncompliance that resulted in the event. Samples of improper independent review and management expectations concerning the independent review process were included in the briefing.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With respect to the above violation, TVA is in full compliance with the corrective actions taken.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNIT 1
REPLY TO NRC'S MARCH 21, 1996, LETTER
VIOLATION 390/96-02-03

DESCRIPTION OF VIOLATION

"10 CFR Section 20.2103 requires, in part, that each licensee maintain records showing the results of surveys and calibrations required by Sections 20.1501 and 20.1906(b). 10 CFR Section 20.1501 requires, in part, licensees to calibrate periodically, instruments and equipment used for quantitative effluent monitor radiation measurements.

Instrument Maintenance Instruction (IMI) 90.092, 18 Month Channel Calibration of the Unit 1, Condenser Vacuum Vent Post Accident Radiation Monitoring Loop 1-LPR-90-404, Revision 0, provides guidance and data sheets to perform and document calibration alignment and associated electronic testing for the mid- and high-range radiation monitors.

Contrary to the above, records dated October 6, 1995, for the Condenser Vacuum Vent Post Accident Radiation Monitoring Loop (1-LPR-90-404) for IMI-90.092 calibration activities completed in accordance with Work Order 94-05643 were inadequate in that Appendices G, H, and I instrument data sheets did not document the calibration source used, did not identify the detector type associated with each detector channel, did not document clearly that an exposure rate of 10 millirad per hour (mR/hr) was established correctly, and did not document the detector to calibration source distance as outlined in supporting Vendor Technical Document data sheets.

This is a Severity Level IV violation (Supplement IV)."

TVA RESPONSE

TVA agrees that this violation occurred.

REASON FOR THE VIOLATION

The cause of the violation is attributed to an inadequate procedure, IMI 90.092. During performance of the IMI, the Plant Scaling and Setpoint Document (SSD) is used as a "performance reference." Therefore, the SSD is used during implementation of the IMI and the calibration source is identified in the SSD. For proper calibration of monitor 1-LPR-90-404, the calibration source must produce a 10 millirad per hour (mR/hr) field. Two sources are identified in the

SSD and either is capable of establishing the required field. Therefore, identification of the specific source within the IMI which was used for the calibration was considered not necessary because either source is capable of producing the required 10 mR/hr field. It was, however, considered important to maintain traceability to the radiological survey instrument used for the establishment of the 10 mR/hr field. This meter [Number RSO-50, TVA Identification Number 530298] was documented on the appropriate data sheets of the IMI. In a manner similar to the source, the detector is identified in the SSD. Therefore, the identification of the detector in the calibration instruction was considered unnecessary.

The basic concern with the calibration of monitor 1-LPR-90-404 focused on the specific methods used to establish the 10 mR/hr field and on whether the meter was placed correctly in relation to the source during the establishment of the field. In conjunction with this, there was no requirement for the Radiation Control personnel to indicate in the instruction that the field had been established as required by the instruction.

The method used by TVA for calibration of the monitor in question establishes the position required for either of the two sources at the time of the calibration. This was accomplished by measuring the 10 mR/hr field position using a calibrated survey meter. Therefore, recording the detector to calibration source distance was also considered unnecessary for proper calibration of the monitor.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

TVA recalibrated the monitor in question.

The calibrated dose rate meter used for establishment of the field has alignment markings for use in determining the physical point at which the meter is indicating dose rate. During the recalibration, special attention was given to the use of the meter for the establishment of the field. Completion of the calibration provided results which were well within expected ranges and consistent with the readings obtained during the initial calibration.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION

The implementation of the IMI was questioned because the specific steps taken to establish the 10 mR/hr field were not documented in the instruction. This issue focuses on the level of detail defined

in IMI-90.092 and whether additional detail is required for proper documentation of the establishment of the field. Monitor 1-LPR-90-404 is the only monitor installed at WBN for which an exposure field must be established using a calibrated rate meter. Therefore, the impact on System 90, Radiation Monitoring, is limited to monitor 1-LPR-90-404 and IMI-90.092.

In reviewing the questions raised by NRC, TVA found that certain changes could be made to IMI-90.092 to more clearly align the instruction with the expected documentation criteria. It is believed that these changes will be helpful in the future and provide for better understanding of the calibration methodology during post-performance reviews. Therefore, the following changes were incorporated into Revision 2 of IMI-90.092:

1. The note which provides instructions for establishment of the 10 mR/hr calibration field was revised to read:

   "Measurements for radiation fields must be made from center of detector. The field should be perpendicular to the long axis of detector. Both detector and source should be located as far as practical from surrounding objects to reduce scatter. This includes placing source and detector off of floor."

2. The sections of the instruction concerning detector calibration were revised and additional pages were added following each detector calibration data sheet where the performer records the data specified below. Performer signoffs are included for each measurement taken. The signature block for establishment of the radiation field is assigned to Radiological Control:

   a. The identification number of the Cs-137 source used for the calibration.

   b. The distance between the centerline of the detector and face of radiation source.

   c. The actual measured field at center of detector.

   d. The distance between the detector and the floor.

   e. The distance between the source and the floor.

   f. The distance between the detector and the nearest structure.

g. The distance between the source and the nearest structure.

3. The following note was added to the instruction between steps b and c above:

Position of detector at 10 mR/hr must account for actual center line of survey instrument sensor used to make measurement.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With respect to the cited violation example, TVA is in full compliance.