



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

NOV 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

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - NRC INSPECTION REPORT NO.
50-390/94-56, REPLY TO NOTICE OF VIOLATION

The purpose of this letter is to provide TVA's reply to Notice of Violation 50-390/94-56-01 cited in the subject inspection report dated October 6, 1994. The violation involves examples of not assuring that appropriate quality standards were specified in Radiation Monitoring System (RMS) design documents and not documenting a deviation from an RMS design standard.

TVA is concerned about the overall inspection findings and WBN is currently performing an overall assessment of the system to ensure that weaknesses are identified. Actions necessary to resolve the weaknesses will be developed and scheduled. TVA will keep Mr. Kuzo, NRC Region II, apprised of the status of efforts to resolve RMS deficiencies.

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Enclosure 1 to this letter addresses the specifics of the violation described in the inspection report and the corrective actions being taken by TVA. Enclosure 2 describes the commitments contained in this submittal. If you should have any questions, contact P. L. Pace at (615) 365-1824.

Sincerely,



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

Enclosures

cc (Enclosures):

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 1

WATTS BAR NUCLEAR PLANT UNIT 1
RESPONSE TO NRC'S SEPTEMBER 16, 1994, LETTER TO TVA
NRC VIOLATION 50-390/94-56-01

DESCRIPTION OF VIOLATION 50-390/94-55-01

During an NRC inspection conducted on August 8 - September 9, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

10 CFR Part 50, Appendix B, Criterion III Design Control, and TVA's approved Quality Assurance Plan requires, in part, that measures be established to assure that applicable regulatory requirements are translated correctly into drawings. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled.

Contrary to the above, as of August 8, 1994, the following examples of failure to assure appropriate quality standards are included in design documents and that deviations from such standards are controlled were identified:

VIOLATION EXAMPLE 1

Watts Bar Design Criteria (WB-DC) 40-24, Radiation Monitoring, Rev. 3, dated July 30, 1993, requires, in part, sample withdrawal points to be a minimum of five diameters downstream of flow disturbances, and sample tubing fittings such as tees and elbows be avoided.

Drawing Change Authorization (DCA) Number M-17610-A pages 17 and 18 incorporated in the Design Change Notice (DCN) design output document for the condenser exhaust radiation monitoring system (RMS) sample line did not include selected design criteria requirements specified in WB-DC 40-24. The document specifies a sample line "tee" leading to 1-RE-90-129 and 1-RE-90-99 particulate and gaseous monitoring systems, respectively. In addition, requirements for location of the sample probe withdrawal point within the condenser exhaust stack were not specified. As a result, the sample lines supplying monitors 1-RE-90-129 and 1-RE-90-99 were not located a minimum of five diameters downstream of flow disturbances.

TVA RESPONSE, EXAMPLE 1

TVA concurs with the violation example.

REASON FOR THE VIOLATION, EXAMPLE 1

SAMPLE LINE "T" - This example of the violation resulted from a lack of attention to detail. TVA previously identified the deficiency involving the improper use of the sample line "T" and intended to include correction of this condition in DCN P-06809-A. DCN P-06809-A was originally written to address

other sample line deficiencies. Subsequently, DCN P-06809-A was superseded by DCN M-17610-A which specified a different resolution to the sample line deficiencies originally being addressed by DCN P-06809-A. When DCN P-06809-A was cancelled, the individuals performing the cancellation did not ensure that correction of the sample line "T" deficiency was rolled into DCN M-17610-A.

SAMPLE PROBE LOCATION - This example of the violation resulted from an error by the individuals responsible for the development of DCN M-17610-A. The individuals responsible for developing DCN M-17610-A did not consider all necessary requirements when developing the design change to relocate the sample lines.

These issues are being tracked under Problem Evaluation Report (PER) WBPER940423.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED, EXAMPLE 1

1. The available individuals involved with the above design changes were counselled in accordance with the TVA disciplinary program.
2. The sample line "T" will be eliminated, the design changed to an acceptable configuration and system modifications performed where necessary.
3. Walkdowns of radiation monitoring system sample lines were performed to determine if the field configurations met TVA design requirements. During the walkdowns, additional deficiencies were identified. The deficiencies identified during the walkdown will be corrected, appropriate exceptions documented, or design requirements revised in accordance with the TVA design control program.

CORRECTIVE STEPS BEING TAKEN TO AVOID FURTHER VIOLATIONS, EXAMPLE 1

1. Engineering leads and supervisors that prepare design modifications to the radiation monitoring system will be trained on the specifics of this violation and cautioned that special requirements exist for the RMS which require detailed conformance to the system design criteria.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED, EXAMPLE 1

The above actions will be completed prior to closure of the RMS Special Program (SP).

VIOLATION EXAMPLE 2

WB-DC-40-24, Radiation Monitoring, Rev. 3, dated July 30, 1993, requires, in part, the design and procurement of RMS equipment to satisfy the pressure, temperature, and humidity ambient conditions described in WB-DC-40-42, and radiation dose values for normal operating conditions to be the maximum 40-year total integrated dose (TID) for the respective location in the plant. Section 7.1 requires exceptions to the design criteria to be technically supported and adequately documented.

Both the expected maximum continuous temperatures and TIDs for the main steam line low-range monitor locations in the north and south valve rooms exceeded the vendor instrument test specifications and no exceptions to the design criteria were documented.

TVA RESPONSE, EXAMPLE 2

TVA concurs with the violation example.

REASON FOR THE VIOLATION, EXAMPLE 2

This violation example resulted from a failure to specify complete corrective actions when TVA identified the inability of the radiation monitors to meet design requirements.

WBP910454 was initiated in 1991 when it became apparent at Sequoyah Nuclear Plant that similar steam line radiation monitor detectors were not meeting their design life. An extent of condition review was performed for WBP910454. Through resolution of WBP910454, the determination was made that elevated temperatures would only potentially impact the longevity of low range RMS Geiger-Mueller (GM) detectors which were installed in a location where the design maximum room temperature exceeded the continuous operating temperature of the GM detectors. Since a proven replacement detector that could meet TVA design requirements was not readily available, TVA evaluated and determined that the existing monitor design was acceptable until an alternative became practical. When this decision was reached, justifications were documented; however, responsible individuals did not prepare the proper design criteria deviation in accordance with the TVA design program.

Radiation monitoring equipment evaluations performed for the RMS SP identified the condition that Main Steam Valve Vault TIDs exceeded manufacturers' specifications for the detectors. At the time the condition was identified, the plan was to replace the detectors with an improved design. However, when this plan was changed to retain the existing installation as a result of the corrective action for WBP910454, the evaluations were not revisited to ensure all conditions identified were resolved.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED, EXAMPLE 2

1. The individuals responsible for developing the corrective actions for the PER were counselled in accordance with the TVA disciplinary program.
2. TVA is evaluating the design of the main steam line monitors to determine if the high range detector alone can meet Regulatory Guide 1.97 commitments. Based on the results of this evaluation, the design will be revised or other avenues pursued as specified by the TVA design control program.
3. TVA will review RMS monitor specifications to ensure that they meet their design requirements for maximum continuous temperatures and TIDs.

CORRECTIVE STEPS BEING TAKEN TO AVOID FURTHER VIOLATION, EXAMPLE 2

1. Engineering Department personnel will be briefed on this event to ensure that they are reminded of the need to adhere to all design program requirements.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED, EXAMPLE 2

The corrective steps will be completed by completion of the RMS SP.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNIT 1
RESPONSE TO NRC'S SEPTEMBER 16, 1994, LETTER TO TVA
NRC VIOLATION 50-390/94-56-01

LIST OF COMMITMENTS

1. The sample line "T" will be eliminated, the design changed to an acceptable configuration, and system modifications performed where necessary.
2. The deficiencies identified during the TVA sample line walkdown will be corrected, appropriate exceptions documented, or design requirements revised in accordance with the TVA design control program.
3. Engineering leads and supervisors that prepare design modifications to the radiation monitoring system will be trained on the specifics of this violation and cautioned that special requirements exist for the RMS which require detailed conformance to the system design criteria.
4. Engineering Department personnel will be briefed on Violation 50-390/94-56-01 to ensure that they are reminded of the need to adhere to all design program requirements.
5. TVA is evaluating the design of the main steam line monitors to determine if the high range detector alone can meet Regulatory Guide 1.97 commitments. Based on the results of this evaluation, the design will be revised or other avenues pursued as specified by the TVA design control program.
6. TVA will review RMS monitor specifications to ensure that they meet their design requirements for maximum continuous temperatures and TIDs.

The above corrective steps will be completed by completion of the RMS SP.