

October 10, 2006

MEMORANDUM TO: Jennifer Dixon-Herrity, Acting Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Timothy J. Kobetz, Chief **/RA/**
Technical Specifications Branch
Division of Inspections and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: WATTS BAR NUCLEAR PLANT UNIT 1 - STAFF'S REVIEW OF
THE STEAM GENERATOR TUBE INTEGRITY TECHNICAL
SPECIFICATION AMENDMENT (TAC NO. MC9271)

By letter dated December 15, 2005 (ML053540067) as supplemented by two letters dated June 12, 2006 (ML061650267) and September 8, 2006 (ML062550371), Tennessee Valley Authority (the licensee) submitted a license amendment request (LAR) regarding Watts Bar Nuclear Plant Unit 1 steam generator (SG) tube integrity technical specifications (TSs). The proposed amendment would revise the existing SG tube surveillance program and was modeled after the U.S. Nuclear Regulatory Commission's approved Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-449, "Steam Generator Tube Integrity," Revision 4. TSTF-449 is part of the consolidated line item improvement process (CLIP).

The staff of the Technical Specifications Branch (ITSB) of the Division of Inspections and Regional Support (DIRS) has completed its review of the LAR. The staff's review is enclosed.

Docket No.: 50-390

Enclosure:
Staff Safety Evaluation

CONTACTS: Trent I. Wertz, ITSB/DIRS
301-415-1568

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OFFICE	ITSB:DIRS	BC:ITSB:DIRS	BC:CSGB:DCI
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DATE	09/29/2006	10/10/2006	10/04/2006

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. TO
FACILITY OPERATING LICENSE NO. NPF-90
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT UNIT 1
DOCKET NO. 50- 390

1.0 INTRODUCTION

By letter dated December 15, 2005 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML053540067), as supplemented by two letters dated June 12, 2006 (ADAMS Accession No. ML061650267) and September 8, 2006 (ADAMS Accession No. ML062550371), Tennessee Valley Authority (TVA, the licensee) requested changes to the Technical Specifications (TSs) for the Watts Bar Nuclear Plant Unit 1 (Watts Bar 1). The supplements dated June 12, 2006 and September 8, 2006, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on [DATE] ([] FR []).

The licensee has proposed to implement these new technical specifications prior to entering Mode 4 (Hot Shutdown) during startup following the replacement of their steam generators (which is scheduled to occur during the Unit 1 Cycle 7 outage in the fall of 2006).

The proposed changes would revise the existing steam generator (SG) tube surveillance program. The changes are modeled after TS Task Force (TSTF) traveler TSTF-449, Revision 4, "Steam Generator Tube Integrity," and the model safety evaluation prepared by the Nuclear Regulatory Commission (NRC) and published in the *Federal Register* on March 2, 2005 (70 FR 10298). In this regard, the scope of the application includes changes to the definition of leakage, changes to the primary-to-secondary leakage requirements, changes to the SG tube surveillance program (SG tube integrity), changes to the SG reporting requirements, and associated changes to the TS Bases.

2.0 REGULATORY EVALUATION

The background, description, and applicability of the proposed changes associated with the SG tube integrity issue and the applicable regulatory requirements were included in the NRC staff's model safety evaluation (SE) published in the *Federal Register* on March 2, 2005 (70 FR 10298). The "Notice of Availability of Model Application Concerning Technical Specification Improvement To Modify Requirements Regarding Steam Generator Tube Integrity Using the Consolidated Line Item Improvement Process" was published in the *Federal Register* on May 6, 2005 (70 FR 24126), and made the model SE available for licensees to reference.

3.0 TECHNICAL EVALUATION

3.1 Overview

In its December 15, 2005, application, and the June 12, 2006 and September 8, 2006, supplements, the licensee proposed changes to the TSs that are modeled after Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-449, "Steam Generator Tube Integrity." There were minor differences between TSTF-449 and the licensee's application. These included differences in the facility licensing basis (than that discussed in TSTF-449) and differences in TS numbering and format, since the licensee has a different TS format (than that assumed in TSTF-449).

With respect to the differences in the facility licensing basis, the differences did not invalidate the technical evaluation on TSTF-449; rather they resulted in the licensee having to slightly deviate from some of the modifications discussed in TSTF-449. For example, in the Bases section for Reactor Coolant System Operational Leakage, the licensee provided additional details regarding the assumptions in their accident analysis. These additional details simply reflect the assumptions in their accident analysis (which was previously reviewed and approved). Another example is that the licensee clarified in their Bases that the RCS Operational Leakage specification satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii) (rather than just indicating it satisfied Criterion 2 of the NRC Policy Statement). Since these differences were minor in nature, they were consistent with the plant's licensing basis (e.g., in the level of detail incorporated into the TS Bases), and they were consistent with the intent of TSTF-449, the NRC staff determined they were acceptable.

With respect to the differences in the numbering of the technical specifications, these differences were administrative in nature and did not affect the technical adequacy of the submittal. As a result, the NRC staff determined they were acceptable.

In addition to these minor changes, the licensee proposed to delete reference to previously approved alternate tube repair criteria and repair methods (e.g., sleeving) since these alternate repair criteria and repair methods would no longer be applicable to their replacement steam generators. Removal of the alternate repair criteria and methods is acceptable since the licensee will be required to plug tubes that exceed the standard 40-percent depth-based repair criteria and plugging is an acceptable method for removing tubes from service.

The remainder of the application was generally consistent with TSTF-449. As a result, the staff determined that the model SE is applicable to this review and finds the proposed changes acceptable.

Consistent with TSTF-449, the proposed TS changes include: (1) a revised definition of LEAKAGE, (2) a revised TS 3.4.13, "RCS Operational Leakage," (3) a new TS 3.4.17, "Steam Generator Tube Integrity," (4) a revised TS 5.7.2.12, "Steam Generator (SG) Tube Surveillance Program," (5) a revised TS 5.9.9, "SG Tube Inspection Report," and (6) a revised Table of Content pages to reflect the proposed changes.

3.2 Conclusion

The proposed TS changes establish a programmatic, largely performance-based regulatory framework for ensuring SG tube integrity is maintained. The NRC staff finds that it addresses key shortcomings of the current framework by ensuring that SG programs are focused on accomplishing the overall objective of maintaining tube integrity. It incorporates performance criteria for evaluating tube integrity that the NRC staff finds consistent with the structural margins and the degree of leak tightness assumed in the current plant licensing basis. The NRC staff finds that maintaining these performance criteria provides reasonable assurance that the SGs can be operated safely without increase in risk.

The revised TSs will contain limited specific details concerning how the SG Program is to achieve the required objective of maintaining tube integrity; the intent being that the licensee will have the flexibility to determine the specific strategy for meeting this objective. However, the NRC staff finds that the revised TSs include sufficient regulatory constraints on the establishment and implementation of the SG Program such as to provide reasonable assurance that tube integrity will be maintained.

Failure to meet the performance criteria will be reportable pursuant to the requirements in 10 CFR Parts 50.72 and 50.73. The NRC reactor oversight process provides a process by which the NRC staff can verify that the licensee has identified any SG Program deficiencies that may have contributed to such an occurrence and that appropriate corrective actions have been implemented.

In conclusion, the NRC staff finds that the TS changes proposed by the licensee in its December 15, 2005, application and June 12, 2006 and September 8, 2006 supplements conform to the requirements of 10 CFR 50.36 and establish a TS framework that will provide reasonable assurance that SG tube integrity is maintained without undue risk to public health and safety.

The licensee included in its application the revised TS Bases to be implemented with the TS change. The NRC staff finds that the TS Bases Control Program is the appropriate process for updating the affected TS Bases pages and has, therefore, not included the affected Bases pages with this amendment.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the [STATE] State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding ([] FR []). Accordingly, the amendment[s] meet the eligibility criteria for categorical exclusion

set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

A complete list of references used to complete this review can be found in the NRC's model SE published in the *Federal Register* on March 2, 2005 (70 FR 10298).

Principal Contributor: Trent L. Wertz, 9/29/2006