

December 18, 2006

Mr. Karl W. Singer
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT
REGARDING THE INSERVICE TESTING PROGRAM (TAC NO. MD2380)
(TS-06-04)

Dear Mr. Singer:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 66 to Facility Operating License No. NPF-90 for the Watts Bar Nuclear Plant, Unit 1. This amendment consist of changes to the technical specifications (TSs) in response to your application dated June 16, 2006, "American Society of Mechanical Engineers (ASME) Code to Support Second Interval of Inservice Testing (IST) Program."

The amendment revises TS Section 5.7.2.11, "Inservice Testing Program", consistent with Technical Specification Task Force (TSTF) Traveler 479, Revision 0, "Changes to Reflect Revision of 10 CFR 50.55a" and TSTF 279, Revision 0, "Remove 'applicable supports' from Inservice Testing Program." The changes replace references to Section XI of the ASME Boiler and Pressure Vessel Code with the ASME Operation and Maintenance Code for IST activities and removes reference to "applicable supports" from the IST program. In addition, the changes limit the applicability of Surveillance Requirement 3.0.2 provisions to other normal and accelerated frequencies specified as two years or less in the IST program.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosures: 1. Amendment No. 66 to NPF-90
2. Safety Evaluation

cc w/enclosures: See next page

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-390

WATTS BAR NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 66
License No. NPF-90

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Tennessee Valley Authority (TVA, the licensee) dated June 16, 2006, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-90 is hereby amended to read as follows:

(B) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 66, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in the license. TVA shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, and shall be implemented no later than the start of the second 10-year IST interval.

FOR THE NUCLEAR REGULATORY COMMISSION

Evangelos C. Marinos for

Douglas V. Pickett, Acting Branch Chief
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to License No. NPF-90
and the Technical Specifications

Date of Issuance: December 18, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 66

FACILITY OPERATING LICENSE NO. NPF-90

DOCKET NO. 50-390

Replace page 3 of Facility Operating License No. NPF-90 with the attached page 3.

Replace the following page of the Appendix A Technical Specifications with the attached page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove page

5.0-14

Insert page

5.0-14

- (4) TVA, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required, any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis, instrument calibration, or other activity associated with radioactive apparatus or components; and
- (5) TVA, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and is subject to the additional conditions specified or incorporated below.

(1) Maximum Power Level

TVA is authorized to operate the facility at reactor core power levels not in excess of 3459 megawatts thermal.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A as revised through Amendment No. 66 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. TVA shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Safety Parameter Display System (SPDS) (Section 18.2 of SER Supplements 5 and 15)

Prior to startup following the first refueling outage, TVA shall accomplish the necessary activities, provide acceptable responses, and implement all proposed corrective actions related to having the Watts Bar Unit 1 SPDS operational.

(4) Vehicle Bomb Control Program (Section 13.6.9 of SSER 20)

During the period of the exemption granted in paragraph 2.D.(3) of this license, in implementing the power ascension phase of the approved initial test program, TVA shall not exceed 50% power until the requirements of 10 CFR 73.55(c)(7) and (8) are fully implemented. TVA shall submit a letter under oath or affirmation when the requirements of 73.55(c)(7) and (8) have been fully implemented.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 66 TO

FACILITY OPERATING LICENSE NO. NPF-90

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-390

1.0 INTRODUCTION

By application dated June 16, 2006 (Agencywide Documents Access Management Systems Accession No. ML061720176), the Tennessee Valley Authority (TVA, the licensee) requested changes to the technical specifications (TSs) for the Watts Bar Nuclear Plant (WBN), Unit 1. The proposed amendment would revise TS Section 5.7.2.11, "Inservice Testing Program", consistent with TS Task Force (TSTF) Traveler 479, Revision 0, "Changes to Reflect Revision of 10 CFR 50.55a" and TSTF 279, Revision 0, "Remove 'applicable supports' from Inservice Testing Program." The changes replace references to Section XI of the ASME Boiler and Pressure Code with the ASME Operation and Maintenance (OM) Code for inservice testing (IST) activities and removes reference to "applicable supports" from the IST program. In addition, the changes would limit the applicability of Surveillance Requirement 3.0.2 provisions to other normal and accelerated frequencies specified as two years or less in the IST program.

2.0 REGULATORY EVALUATION

Title 10 to the *Code of Federal Regulations* (10 CFR) Section 50.55a(f)(5)(ii) requires that if a revised inservice test program for a facility conflicts with the TSs for that facility, the licensee shall apply to the Nuclear Regulatory Commission (NRC or the Commission) for amendment of the TSs to conform with the revised program. The licensee is required to submit the application, as specified in 10 CFR 50.4, at least 6 months before the start of the period during which the provisions become applicable, as determined by 10 CFR 50.55a(f)(4).

In 1990, the ASME published the initial edition of the ASME OM Code, which provides requirements for IST of pumps and valves. The ASME OM Code was developed and is maintained by the ASME Committee on OM of Nuclear Power Plants. The ASME OM Code was developed in response to the ASME Board on Nuclear Codes and Standards directive that transferred responsibility for development and maintenance of requirements for the IST of pumps and valves from the ASME, Section XI, Subcommittee on Nuclear Inservice Inspection to the ASME OM Committee. The ASME intended the ASME OM Code to replace Section XI rules for IST of pumps and valves, and the Section XI requirements for IST of pumps and valves that had been incorporated by reference into NRC regulations have been deleted from

Section XI. The WBN second 10-year interval IST programs were developed to meet the requirements of the 2001 Edition through 2003 Addenda of the ASME OM Code pursuant to 10 CFR 50.55a(f)(4)(ii) as required by 10 CFR 50.55a(f)(4). The TS 5.7.2.11 reference to Section XI of the ASME Code for IST requirements results in a reference to a deleted portion of the ASME Code. TVA submitted this TS amendment to revise the TS to reference the current ASME Code requirements.

NUREG-1431, Standard Technical Specifications Westinghouse Plants, Revision 3.0, was modified via TS Task Force (TSTF) Traveler TSTF-479 in December 2005. This traveler addressed changes to Section 5.5.8, IST Program, in Revision 3.1 of the standard TS, to reflect revisions of 10 CFR 50.55a referencing the ASME OM Code and the application of SR 3.0.2 to test frequencies specified in the IST program. In addition, NUREG-1431 was modified earlier in Revision 2 by TSTF-279 to remove reference to “applicable supports” from the IST program description.

3.0 TECHNICAL EVALUATION

3.1 Specific Changes Requested

The licensee has proposed the following changes to the WBN TSs:

For TS Section 5.7.2.11, IST Program, delete “including applicable supports” in the first sentence.

For TS Section 5.7.2.11, IST Program, the reference to Section XI of the ASME Boiler and Pressure Vessel Code for IST requirements would be replaced with “ASME OM Code” in TS Sections: 5.7.2.11.a and 5.7.2.11.d.

For TS Section 5.7.2.11, IST Program, Section 5.7.2.11.b would be revised to apply SR 3.0.2 to other normal and accelerated frequencies specified as two years or less in the IST Program.

The associated TS Surveillance Requirements Bases Sections B 3.4.10, B 3.4.11, B 3.4.12, B 3.4.14, B 3.5.2, B 3.6.6, B 3.7.1, B 3.7.2, B 3.7.3 and B 3.7.5 would be revised to replace references to the ASME Boiler and Pressure Vessel Code, Section XI with references to the ASME OM Code for consistency with the TS changes.

3.2 Basis for Changes

The Standard TSs originally referenced ASME Code Class 1, 2 and 3 components, including applicable supports. However, supports are addressed under the inservice inspection (ISI) program, not the IST program. The NRC-approved deletion of the reference to “applicable supports” from the IST program via TSTF traveler 279 was incorporated into Revision 2 of NUREG-1431. The change to delete “applicable supports” revises the WBN TSs to be consistent with the standard TSs.

TS 5.7.2.11, IST Program, establishes the SRs for IST of ASME Class 1, 2, and 3 components for WBN. TS Section 5.7.2.11 currently references Section XI of the ASME Boiler and

Pressure Vessel Code as the source of requirements for the IST of ASME Code Class 1, 2, and 3 pumps and valves.

The regulations in 10 CFR 50.55a(f)(4) establish the effective Code edition and addenda to be used by licensees for performing IST of pumps and valves. The regulations in 10 CFR 50.55a(f)(4)(ii) require licensees to update their IST program to the latest approved edition of the ASME OM Code incorporated by reference into 10 CFR 50.55a(b). The licensee states that the IST Program for the WBN second interval was updated to comply with the appropriate revisions of the ASME OM Code and included the 2001 Edition through 2003 Addenda as the new Code of Record for performing IST at WBN. As a consequence, the TS 5.7.2.11 reference to Section XI of the ASME Code results in a reference to a deleted portion of the ASME Code.

According to 10 CFR 50.55a(f)(5)(ii), if a revised IST program for a facility conflicts with the TS for the facility, the licensee is required to apply to the Commission for amendment of the TS to conform the TS to the revised program. The licensee must submit the application, as specified in 10 CFR 50.4, at least 6 months before the start of the period during which the provisions become applicable as determined by 10 CFR 50.55a(f)(4). Since TS 5.7.2.11 and several TS bases reference ASME Section XI for the IST requirements for pumps and valves, the TS for WBN require revision to change the IST code references from ASME Section XI to the ASME OM Code.

The TSTF recognized that IST programs may have frequencies for testing that are based on risk and do not conform to standard testing frequencies specified in the TS. Traveler TSTF-479 proposed a change to the standard TS contained in NUREG-1431, Standard Technical Specifications Westinghouse Plants, Revision 3.0, to extend the applicability of SR 3.0.2 to "other normal and accelerated frequencies specified in the IST program." This change was incorporated in Revision 3.1 of NUREG-1431. The NRC staff expressed concern that applying the 25 percent extension permitted by SR 3.0.2 to frequencies in excess of two years (such as 5 or 10 years as permitted by the ASME OM Code in certain cases) would be inappropriate and has requested a change to TSTF-479 to revise the provision for applying SR 3.0.2 to IST test frequencies. Application of SR 3.0.2 to frequencies of two years or less, however, is consistent with the staff position contained in NUREG-1482, Guidelines for IST at Nuclear Power Plants.

3.3 Evaluation

The proposed change to delete "including applicable supports" from TS 5.7.2.11, IST Program, is consistent with the standard TS for Westinghouse plants contained in the current NUREG-1431. TSTF-279 documents that supports are addressed under the ISI program, and as such, are not a part of the IST program. The NRC staff finds that this change is acceptable.

In 1990, the ASME published the initial edition of the ASME OM Code, which provides requirements for IST of pumps and valves. The OM Code was developed and is maintained by the ASME Committee on Operation and Maintenance of Nuclear Power Plants. The ASME OM Code was developed in response to the ASME Board on Nuclear Codes and Standards directive that transferred responsibility for development and maintenance of rules for the IST of pumps and valves from the ASME, Section XI, Subcommittee on Nuclear Inservice Inspection to the ASME OM Committee. The ASME intended the ASME OM Code to replace Section XI

rules for IST of pumps and valves, and the Section XI rules for IST of pumps and valves that had been incorporated by reference into NRC regulations have been deleted from Section XI. Section 50.55a(f), "Inservice Testing Requirements," requires, in part, that ASME Class 1, 2, and 3 components must meet the requirements of the ASME OM Code. The ASME publishes a new edition of the ASME OM Code every 3 years, and a new addendum every year. The WBN second interval IST program was updated to comply with the 2001 Edition through 2003 Addenda of the ASME OM Code as required by 10 CFR 50.55a(f)(4)(ii).

As a consequence, the TS 5.7.2.11 reference to Section XI of the ASME Code for IST requirements results in a reference to a deleted portion of the ASME Code. The TS changes do not eliminate any IST's and do not relinquish the licensee of its responsibility to seek relief from Code test requirements when they are impractical. The changes will eliminate the ASME Code inconsistency between the IST program and the TS as required by 10 CFR 50.55a(f)(5)(ii). The proposed change of the ASME Code from "ASME Section XI" to "ASME OM Code" will maintain consistency with the Code requirements, therefore, the NRC staff finds this proposed change to be acceptable. Additionally, the proposed changes are consistent with the comparable section 5.5.8 of the standard TS, contained in NUREG-1431, Revision 3.1.

The licensee's proposed change to TS 5.7.2.11.b applies SR 3.0.2 to the frequencies specified in TS 5.7.2.11.a and other normal and accelerated frequencies specified as two years or less in the IST program. This change recognizes that the IST program may direct that additional tests be performed in accordance with the ASME OM Code that are not at the standard intervals listed in TS 5.7.2.11.a. This is consistent with the intent of the 25 percent extension as described in the bases for SR 3.0.2, in that the extension would provide operational flexibility, but would not significantly degrade the reliability that results from performing the surveillance at the specified frequency. Further, the licensee's proposal to limit application of SR 3.0.2 to frequencies specified as 2 years or less limits the maximum incremental time period between surveillances that could be added by the 25 percent extension. Without this limitation, some components, such as safety and relief valves which may be tested at surveillance intervals significantly greater than 2 years, could have extensions applied which would be much greater than needed for operational flexibility. These aspects of the proposed change support ASME Code provisions which provide the basis for the IST program and are consistent with guidance contained in NUREG-1482 regarding maximum allowable extensions of test intervals. Therefore, the NRC staff finds this proposed change to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. 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 amendment involves 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 (71 FR 46939). Accordingly, the amendment meets 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John McHale, NRR

Date: December 18, 2006

Tennessee Valley Authority

cc:

Mr. Ashok S. Bhatnagar, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Preston D. Swafford, Senior Vice President
Nuclear Support
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Larry S. Bryant, Vice President
Nuclear Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Michael D. Skaggs, Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

General Counsel
Tennessee Valley Authority
6A West Tower
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. John C. Fornicola, Manager
Nuclear Assurance
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Robert H. Bryan, Jr., General Manager
Licensing and Industry Affairs
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

WATTS BAR NUCLEAR PLANT

Ms. Beth A. Wetzel, Manager
Corporate Nuclear Licensing and
Industry Affairs
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Mr. James D. Smith, Acting Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. Jay Laughlin, Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. Jonathan Bartley
Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN 37381

County Executive
375 Church Street
Suite 215
Dayton, TN 37321

County Mayor
P. O. Box 156
Decatur, TN 37322

Mr. Lawrence E. Nanney, Director
Division of Radiological Health
Dept. of Environment & Conservation
Third Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Ms. Ann P. Harris
341 Swing Loop Road
Rockwood, Tennessee 37854