



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 8, 2009

Mr. Preston D. Swafford
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 1 - ISSUANCE OF AMENDMENT
REGARDING THE CHANGE TO TECHNICAL SPECIFICATION 3.3.2,
"ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS)
INSTRUMENTATION," (TAC NO. ME1436)

Dear Mr. Swafford:

The Commission has issued the enclosed Amendment No. 80 to Facility Operating License No. NPF-90 for Watts Bar Nuclear Plant, Unit 1. This amendment is in response to your application dated June 5, 2009.

The amendment revises Technical Specification (TS) TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Condition I, by changing a logic connector from "OR" to "AND" between Actions I.2.1 and I.2.2.

A copy of the safety evaluation is also enclosed. Notice of issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "John G. Lamb".

John G. Lamb, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosures: 1. Amendment No. 80 to NPF-90
2. Safety Evaluation

cc w/enclosures: Distribution via Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-390

WATTS BAR NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80
License No. NPF-90

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Tennessee Valley Authority (the licensee) dated June 5, 2009, 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 Title 10 *Code of Federal Regulations* (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.

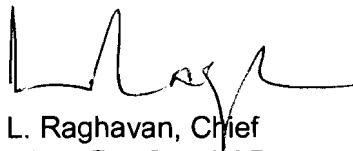
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-90 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 80 , 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. This license amendment is effective as of the date of its issuance, and shall be implemented no later than 30 days from the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



L. Raghavan, Chief
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to License
and Technical Specifications

Date of Issuance: September 8, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 80

FACILITY OPERATING LICENSE NO. NPF-90

DOCKET NO. 50-390

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

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

REMOVE

3.3-28

INSERT

3.3-28

- (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. 80 , 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.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>I. One Steam Generator Water Level--High High channel inoperable.</p>	<p>I.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p>	<p>72 hours</p>
	<p>Place channel in trip.</p>	
	<p><u>OR</u></p>	
	<p>I.2.1 Be in MODE 3.</p>	
	<p><u>AND</u></p>	<p>78 hours</p>
	<p>I.2.2 Be in MODE 4.</p>	<p>84 hours</p>
	<p>J. One or more Turbine Driven Main Feedwater Pump trip channel(s) inoperable.</p>	<p>J.1 Restore channel to OPERABLE status.</p>
<p><u>OR</u></p>		<p>54 hours</p>
<p>J.2 Be in MODE 3.</p>		
<p>K. One channel inoperable.</p>	<p>K.1 -----NOTE----- One channel may be bypassed for up to 12 hours for surveillance testing. -----</p>	<p>72 hours</p>
	<p>Place channel in bypass.</p> <p><u>OR</u></p>	

(continued)



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 80 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 June 5, 2009 (Agencywide Document and Management System Accession (ADAMS) No. ML091610066), the Tennessee Valley Authority (TVA, licensee) submitted a request for changes to the Technical Specifications (TSs) for Watts Bar Nuclear Plant (WBN), Unit 1.

The amendment revises TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Condition I, "One Steam Generator Water Level - High High Channel Inoperable," to change a logical connector from "OR" to "AND" between Actions I.2.1 and I.2.2.

Notice of this amendment was given in the *Federal Register* on June 30, 2009 (74 FR 31326).

2.0 REGULATORY EVALUATION

The provisions of Title 10, *Code of Federal Regulations* (10 CFR) 50.36, "Technical Specifications," include requirements for the contents of TSs. These shall include Surveillance Requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

3.0 TECHNICAL EVALUATION

TS 3.3.2, Condition I has three actions, and completion times, which the licensee must follow if a single steam generator water level channel is inoperable. Currently, the licensee must either trip the channel or reduce power to "Mode 3" (Hot Standby - subcritical with coolant temperature greater than or equal to 350 degrees Fahrenheit), in 78 hours or to "Mode 4" (Hot Shutdown - subcritical with coolant temperature between 200 degrees Fahrenheit and 350 degrees Fahrenheit) in 84 hours. During a shutdown, as the reactor cools, it passes through Mode 3 to Mode 4. The basis for TS 3.3.2, which provide a brief purpose or reason for the TS, show that the intent of the TS is to require the licensee to reach Mode 3 and proceed on to Mode 4. Thus, both modes are sequentially required given an untripped failed level instrument. The reactor cannot be in both Mode 3 *and* Mode 4 simultaneously; it is either in Mode 3 *or* it is in Mode 4.

The change makes the usage of "AND" and "OR" consistent with other portions of the plant's TS.

TVA reviewed the history of how the "AND" and "OR" were used in this TS and determined the original intent was to use "AND," as described below.

The U.S. Nuclear Regulatory Commission (NRC) letter, dated April 2, 1993 (ADAMS ML073230276), requested TVA to review and comment on a "Proof and Review" version of the WBN Unit 1 TSs. The Proof and Review TSs were developed from the Westinghouse Revised Standard TSs, NUREG-1431, dated September 1992. On page 3.3-27 (page 98 of 1460 in ML073230276) of this Proof and Review version, TS 3.3.2, Condition I had Required Action, I.2, "Be in Mode 3."

The TVA letter, dated June 4, 1993 (ADAMS ML073230460, ML073190382), provided comments to the U.S. Nuclear Regulatory Commission (NRC) on the above "Proof and Review" version. In this letter, TVA proposed a markup to TS 3.3.2 (page 12 of 84 in ML073190382), which broke Required Action I.2 into two separate Required Actions, I.2.1, "Be in Mode 3," and I.2.2, "Be in Mode 4." TVA proposed in the 1993 letter that the logic connector between Required Action I.2.1 and Required Action I.2.2 be "AND." This was the correct logic connector between Required Actions I.2.1 and I.2.2.

The TVA letter, dated October 18, 1995 (ML073200588, ML073460315), transmitted to the NRC the photo-ready version of the WBN Unit 1 TSs. In this TVA letter, TS 3.3.2, Condition I contained both Required Actions I.2.1 and I.2.2; however, there was an "OR" logic connector between Required Actions I.2.1 and I.2.2 (page 885 of 1450 in ML073460315). This introduced an incorrect logic connector between Required Actions I.2.1 and I.2.2.

The NRC letter, dated November 9, 1995 (ML020780254), transmitted to TVA the WBN Unit 1 low power operating license, which contained the issued WBN Unit 1 TSs. In this NRC letter, dated November 9, 1995, TS 3.3.2, Condition I contained both Required Actions I.2.1 and I.2.2 with the "OR" logic connector (page 126 of 1174 in ML020780254). This continued to use the incorrect logic connector between Required Actions I.2.1 and I.2.2, and this introduced the error into WBN Unit 1 TSs.

Amendment No. 68, dated June 30, 2008 (ML081620043), changed the completion times for Required Actions I.2.1 and I.2.2. The NRC staff reviewed the above documentation and the NRC staff determined that an administrative error occurred during the processing of the TVA letter, dated November 9, 1995, which introduced an incorrect logic connector of "OR" between Required Actions I.2.1 and I.2.2. The NRC determined also that the NRC staff carried the logic connector error into the processing of the WBN Unit 1 TS 3.3.2, Condition I.

Based on a review of above, and also a comparison of the WBN TS to NUREG-1431, Revision 3, "Standard Technical Specifications Westinghouse Plants," the correct logic connector between Condition D Required Actions D.2.1 and D.2.2 is "AND" for TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation." The NRC staff finds the proposed change is consistent with NUREG-1431.

The NRC staff finds that correcting the logic connector from “OR” to “AND” between Condition I Required Actions I.2.1 and I.2.2 for TS 3.3.2 has no adverse impact on safety and, therefore, is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, an official of the Tennessee Bureau of Radiological Health was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (74 FR 31326). 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 amendment.

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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principle Contributor: John G. Lamb

Date: September 8, 2009

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Executive Vice President
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Sincerely,
/RA/

John G. Lamb, Senior Project Manager
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