



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

June 5, 2009

10 CFR 50.90

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of )  
Tennessee Valley Authority )

Docket No. 50-390

**WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - TECHNICAL SPECIFICATIONS (TS)  
CHANGE TS-09-14, APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT  
TO EXTEND THE COMPLETION TIME FOR ACTION B.1 OF TECHNICAL  
SPECIFICATION 3.5.1, "ACCUMULATORS," USING THE CONSOLIDATED LINE ITEM  
IMPROVEMENT PROCESS (CLIIP)**

Pursuant to 10 CFR 50.90, Tennessee Valley Authority (TVA) is submitting a request for a TS change (TS-09-14) to License NPF-90 for WBN Unit 1.

The proposed amendment would extend the completion time from 1 hour to 24 hours for Action B.1 of TS 3.5.1, "Accumulators." The change is consistent with Nuclear Regulatory Commission approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-370, "Risk Informed Evaluation of an Extension to Accumulator Completion Times for Westinghouse Plants." The availability of this TS improvement was announced in the Federal Register on March 12, 2003, as part of the CLIIP.

Enclosure 1 provides a description of the proposed change and confirmation of applicability. Enclosure 2 provides the existing TS pages marked-up to show the proposed change. Enclosure 3 provides the existing TS Bases pages marked-up to reflect the proposed change (for information only). Changes to the TS Bases will be provided in a future update in accordance with the Bases Control Program. There are no new regulatory commitments associated with this proposed change.

In accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Tennessee State Department of Public Health.


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TVA does not have specific schedule needs for this proposed change and processing can be pursued as appropriate. TVA requests that the implementation of the revised TS be within 45 days of NRC approval.

There are no regulatory commitments associated with this submittal. If you have any questions concerning this matter, please call Mike Brandon, Site Licensing and Industry Affairs Manager, at (423) 365-1824.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 5th day of June 2009.

A handwritten signature in black ink, appearing to read 'M Skaggs', with a large circular flourish at the end.

Mike Skaggs  
Site Vice President  
Watts Bar Nuclear Plant

Enclosures  
cc See Page 3

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Enclosures

cc (w/ Enclosures):

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## ENCLOSURE 1

### TENNESSEE VALLEY AUTHORITY (TVA) WATTS BAR NUCLEAR PLANT (WBN) UNIT 1

#### Description and Assessment

#### **1.0 DESCRIPTION**

The proposed License amendment extends the completion time from 1 hour to 24 hours for Condition B of Technical Specification (TS) 3.5.1, "Accumulators." The changes are consistent with NRC approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-370, "Risk Informed Evaluation of an Extension to Accumulator Completion Times for Westinghouse Plants." The availability of this technical specification improvement was announced in the *Federal Register* on March 12, 2003 as part of the consolidated line item improvement process (CLIP).

#### **2.0 ASSESSMENT**

##### **2.1 Applicability of Published Safety Evaluation**

TVA has reviewed the safety evaluation published on July 15, 2002 (67 FR 46542) as part of the CLIP. This verification included a review of the NRC staff's evaluation as well as the supporting information provided to support TSTF-370 (i.e., WCAP-15049-A, Rev. 1, "Risk-Informed Evaluation of an Extension to Accumulator Completion Times," dated April, 1999). TVA has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to WBN Unit 1 and justify this amendment for the incorporation of the changes to the WBN Technical Specifications.

##### **2.2 Optional Changes and Variations**

TVA is not proposing any variations or deviations from the technical specification changes described in TSTF-370 or the NRC staff's model safety evaluation published on July 15, 2002.

#### **3.0 REGULATORY ANALYSIS**

##### **3.1 No Significant Hazards Determination**

TVA has reviewed the proposed no significant hazards consideration determination published on July 15, 2002 (67 FR 46542) as part of the CLIP. TVA has concluded that the proposed determination presented in

the notice is applicable to WBN and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

### **3.2 Verification and Commitments**

There are no new regulatory commitments associated with this proposed change.

### **4.0 ENVIRONMENTAL EVALUATION**

TVA has reviewed the environmental evaluation included in the model safety evaluation published on July 15, 2002 (67 FR 46542) as part of the CLIP. TVA has concluded that the NRC staff's findings presented in that evaluation are applicable to WBN and the evaluation is hereby incorporated by reference for this application.

**ENCLOSURE 2**

**PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)**

**I. AFFECTED PAGE LIST**

3.5-1

**II. MARKED PAGES**

See attached

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 ACCUMULATORS

LCO 3.5.1 Four ECCS accumulators shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,  
MODE 3 with pressurizer pressure > 1000 psig.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One accumulator inoperable due to boron concentration not within limits.	A.1 Restore boron concentration to within limits.	72 hours
B. One accumulator inoperable for reasons other than Condition A.	B.1 Restore accumulator to OPERABLE status.	1 hour 24 S
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	6 hours.
	<u>AND</u> C.2 Reduce pressurizer Pressure to ≤ 1000 psig.	12 hours
D. Two or more accumulators inoperable.	D.1 Enter LCO 3.0.3.	Immediately

**ENCLOSURE 3**

**POSSIBLE CHANGES TO TS BASES PAGES**

**I. AFFECTED PAGE LIST**

B 3.5-6  
B 3.5-7  
B 3.5-9

**II. MARKED PAGES**

See attached



BASES (continued)

ACTIONS

A.1

If the boron concentration of one accumulator is not within limits, it must be returned to within the limits within 72 hours. In this Condition, ability to maintain subcriticality or minimum boron precipitation time may be reduced. The boron in the accumulators contributes to the assumption that the combined ECCS water in the partially recovered core during the early reflooding phase of a large break LOCA is sufficient to keep that portion of the core subcritical. One accumulator below the minimum boron concentration limit, however, will have no effect on available ECCS water and an insignificant effect on core subcriticality during reflood. Boiling of ECCS water in the core during reflood concentrates boron in the saturated liquid that remains in the core. In addition, current analysis techniques demonstrate that the accumulators do not discharge following a large main steam line break for the majority of plants. Even if they do discharge, their impact is minor and not a design limiting event. Thus, 72 hours is allowed to return the boron concentration to within limits.

B.1

If one accumulator is inoperable for a reason other than boron concentration, the accumulator must be returned to OPERABLE status within 1 hour. In this Condition, the required contents of three accumulators cannot be assumed to reach the core during a LOCA. Due to the severity of the consequences should a LOCA occur in these conditions, the 1 hour Completion Time to open the valve, remove power to the valve, or restore the proper water volume or nitrogen cover pressure ensures that prompt action will be taken to return the inoperable accumulator to OPERABLE status. The Completion Time minimizes the potential for exposure of the plant to a LOCA under these conditions.

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s

C.1 and C.2

**The 24 hours allowed to restore an inoperable accumulator to OPERABLE status is justified in WCAP-15049-A, Rev. 1 (Ref. 6).**

If the accumulator cannot be returned to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 6 hours and pressurizer pressure reduced to  $\leq 1000$  psig within 12 hours.

(continued)

BASES

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ACTIONS

C.1 and C.2 (continued)

The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1

If more than one accumulator is inoperable, the plant is in a condition outside the accident analyses; therefore, LCO 3.0.3 must be entered immediately.

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SURVEILLANCE  
REQUIREMENTS

SR 3.5.1.1

Each accumulator valve should be verified to be fully open every 12 hours. This verification ensures that the accumulators are available for injection and ensures timely discovery if a valve should be less than fully open. If an isolation valve is not fully open, the rate of injection to the RCS would be reduced. Although a motor operated valve position should not change with power removed, a closed valve could result in not meeting accident analyses assumptions. This Frequency is considered reasonable in view of other administrative controls that ensure a mispositioned isolation valve is unlikely.

SR 3.5.1.2 and SR 3.5.1.3

Every 12 hours, borated water volume and nitrogen cover pressure are verified for each accumulator (refer to the note below). This Frequency is sufficient to ensure adequate injection during a LOCA. Because of the static design of the accumulator, a 12 hour Frequency usually allows the operator to identify changes before limits are reached. Operating experience has shown this Frequency to be appropriate for early detection and correction of off normal trends.

Note:

In the discussion contained in the Applicable Safety Analyses of this Bases section, the borated water volume and nitrogen cover pressure specified for SR 3.5.1.2 and SR 3.5.1.3 account for instrument accuracy (Ref. 6).

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(continued)

BASES

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REFERENCES

1. IEEE Standard 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations."
2. Watts Bar FSAR, Section 6.3, "Emergency Core Cooling System."
3. Title 10, Code of Federal Regulations, Part 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Plants."
4. Watts Bar FSAR, Section 15.0, "Accident Analysis."
5. NUREG-1366, Improvements to Technical Specifications Surveillance Requirements, December 1992.
6. Watts Bar Drawing 1-47W605-243, "Electrical Tech Spec Compliance Tables."

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6. WCAP-15049-A, Rev. 1, April, 1999