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

JUN 05 2009

10 CFR 50.90

WBN-TS-09-11

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

In the Matter of) Docket No. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) – UNIT 1 – CHANGE TO TS 3.6.3, CONTAINMENT ISOLATION VALVES, REGARDING POSITION VERIFICATION REQUIREMENTS (TSTF-269-A, TSTF-45-A, AND TSTF-440-A)

Pursuant to 10 CFR 50.90, Tennessee Valley Authority (TVA) is submitting a request for a Technical Specification (TS) change (WBN-TS-09-11) to License NPF-90 for WBN Unit 1. The proposed amendment would provide alternatives for valve position verification in various Required Actions and Surveillance Requirements in TS 3.6.3, "Containment Isolation Valves."

The TS changes are based on TS Task Force (TSTF) change traveler TSTF-269-A (Revision 2, approved July 27, 1999) to allow administrative means of position verification for locked or sealed valves and TSTF-45-A (Revision 2, approved July 26, 1999), which exempts verification of containment isolation valves that are locked, sealed or otherwise secured. In support of the TS changes, Bases B 3.6.3 and B 3.6.6 will also be changed to eliminate the Bases requirement for performing a system walkdown to verify a valve's position. The TS Bases changes are based on TSTF-440-A (approved October 11, 2002). The proposed changes are consistent with the guidance contained in NUREG-1431, "Standard Technical Specifications: Westinghouse Plants," Revision 3, published June 2004.

The enclosure provides the evaluation for the proposed amendment. Also included in the enclosure are the WBN Unit 1 existing TS pages marked up to show the proposed changes, existing TS Bases pages marked up to show the proposed changes (for information only), and revised (clean) TS pages.

TVA requests routine processing of this TS change by the NRC and that the implementation of the revised TS be within 60 days of NRC approval. The enclosed changes to the TS Bases will be implemented concurrently with the TS change in accordance with the WBN Unit 1 TS Bases Control Program (TS Section 5.6).

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TVA has determined that there are no significant hazards considerations associated with the proposed change and that the TS change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and attachments to the Tennessee State Department of Public Health.

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

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

Sincerely,

Mike Skaggs
Site Vice President
Watts Bar Nuclear Plant

Enclosure
cc: See Page 3

Enclosure: Evaluation of the Proposed Change

cc (w/enclosure):

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Enclosure
Tennessee Valley Authority
Watts Bar Nuclear Plant
WBN-TS-09-11
Operating License NPF-90

Evaluation of the Proposed Change

Subject: CHANGE TO TS 3.6.3, CONTAINMENT ISOLATION VALVES, REGARDING POSITION VERIFICATION REQUIREMENTS (TSTF-269-A, TSTF-45-A AND TSTF-440-A)

1.0 SUMMARY DESCRIPTION

This evaluation supports a request to amend Operating License Number NPF-90 for Tennessee Valley Authority (TVA) Watts Bar Nuclear Plant (WBN) Unit 1.

The proposed changes would revise the Operating License to allow administrative verification of isolation devices that are locked, sealed, or otherwise secured in the closed position. The changes are consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 3 (published June 2004). The changes are based on Technical Specification Task Force (TSTF) change traveler TSTF-269-A (Revision 2) to allow administrative means of position verification for locked or sealed valves (approved July 27, 1999) and TSTF-45-A (Revision 2), which exempts verification of containment isolation valves that are locked, sealed or otherwise secured (approved July 26, 1999). In support of the TS changes, Bases B 3.6.3 and B 3.6.6 will also be changed to remove the words "through a system walkdown" from the valve position verification discussion, which is based on TSTF-440-A (approved October 11, 2002).

Incorporating these changes at WBN Unit 1 will prevent repetitive verification of valve closure for locked, sealed, or otherwise secured valves. TVA requests routine processing of this TS change by the NRC.

2.0 DETAILED DESCRIPTION

The change below is based on TSTF-269-A (Revision 2), which impacts TS 3.6.3, "Containment Isolation Valves."

The change would be implemented by adding the following as a second note in each of the note boxes associated with TS 3.6.3 Required Actions A.2, C.2, and E.2:

> "Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means."

The change would also number the existing note in the text box as 1 and the new note as 2. In addition, the word "NOTE" would be changed to "NOTES."

The associated TS Bases for the above changes will also be revised to describe the changes made in the TS.

The change below is based on TSTF-45-A (Revision 2), which has been approved generically for the Standard Technical Specifications (NUREG-1431). This change adds the words "and not locked, sealed, or otherwise secured" to the following Surveillance Requirements (SRs).

SR 3.6.3.2 would be changed to:

> "Verify each containment isolation manual valve and blind flange that is located outside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls."

SR 3.6.3.3 would be changed to:

> "Verify each containment isolation manual valve and blind flange that is located inside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls."

Bases Section B 3.6.3 would also be revised to reflect the above-listed changes.

In addition, the Bases would be revised to incorporate TSTF-440-A (approved October 11, 2002), which eliminates the Bases requirement for performing a system walkdown. The TSTF-440-A Bases change deletes the words "through a system walkdown" from the Bases of Specifications B 3.6.3 and B 3.6.6. Specifying in the Bases that a system walkdown must be performed to meet these requirements is inconsistent with the remainder of the Specifications and would require a walkdown to verify the position of a valve indicated in the Control Room. Other similar Actions and Surveillances which require verification that a flow path is isolated or that valves are in the correct position (such as SR 3.7.5.1) do not specify in the Bases how this verification must be accomplished. This level of detail eliminates flexibility in performance of the actions.

Marked-up pages of the affected TSs are provided in Attachment 1 of this enclosure. A marked-up copy of the affected TS Bases pages is provided in Attachment 2 for information only. Attachment 3 contains final typed (clean) copies of the affected TS with the requested changes included.

3.0 TECHNICAL EVALUATION

The containment isolation valves form part of the containment pressure boundary and provide a means for fluid penetrations not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on a containment isolation signal or which are normally closed. These isolation devices are either passive or active (automatic). Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are

considered passive devices. Check valves, or other automatic valves designed to close without operator action following an accident, are considered active devices.

Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. One of these barriers may be a closed system. These barriers (typically containment isolation valves) make up the Containment Isolation System.

Approval of the requested amendment will allow isolation devices that are locked, sealed, or otherwise secured to be verified by administrative means. It is sufficient to assume that the initial establishment of component status (e.g., isolation valves closed) was performed correctly. Subsequent verification is intended to ensure that the component has not been inadvertently repositioned. Given that the function of locking, sealing, or securing components is to ensure the same avoidance of inadvertent repositioning, the periodic re-verification should only be a verification of the administrative control that ensures that the component remains in the required state. It would be inappropriate to remove the lock, seal, or other means of securing the component solely to perform an active verification of the required state.

The change to Surveillance Requirements 3.6.3.2 and 3.6.3.3 is consistent with other valves required to be in the correct position prior to an accident in other system Specifications e.g., Emergency Core Cooling Systems (SR 3.5.2.2), Auxiliary Feedwater System (SR 3.7.5.1), Component Cooling System (SR 3.7.7.2), and Emergency Raw Cooling Water System (SR 3.7.8.1). Verification of the position of valves is not necessary when valves have been secured under administrative means. Since access to areas inside containment and high radiation areas are typically restricted, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

In support of the TS changes, Bases B 3.6.3 and B 3.6.6 will also be changed to remove the words "through a system walkdown" from the valve position verification discussion. The change remedies the duplicity involved in verifying a valve's position by a system walkdown. This leads to inefficient resource usage since valve position can often be verified by more efficient means, such as, valve position indication in the control room. While a system walkdown may still be used to meet the required verification that valves are in the correct position, other methods, such as the use of remote valve position indication still meet the intent of the Specifications without increased personnel dose exposure.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

WBN Unit 1 was designed to meet the intent of the "Proposed General Design Criteria for Nuclear Power Plant and Construction Permits" published in July 1967, including Criterion 4 as amended October 27, 1987. However, the Unit 1 Updated Final Safety Analysis Report addresses Title 10 of the Code of Federal Regulations 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear

Power Plants," which provides the minimum requirements for the principle design criteria for water-cooled nuclear power plants. In general, the containment isolation system is designed to the requirements of General Design Criteria (GDC) 54, 55, 56, and 57 of 10 CFR 50 Appendix A.

The following GDCs contain the requirements for the containment and related systems:

Criterion 16 - Containment Design
Reactor containment and associated systems shall be provided to establish an essentially leaktight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.

Criterion 50 - Containment Design Basis
The reactor containment structure, including access openings, penetrations, and the containment heat removal system shall be designed so that the containment structure and its internal compartments can accommodate, without exceeding the design leakage rate and, with sufficient margin, the calculated pressure and temperature conditions resulting from any LOCA. This margin shall reflect consideration of (1) the effects of potential energy sources which have not been included in the determination of the peak conditions, such as energy in steam generators and energy from metal-water and other chemical reactions that may result from degraded emergency core cooling functioning, (2) the limited experience and experimental data available for defining accident phenomena and containment responses, and (3) the conservatism of the calculational model and input parameters.

Criterion 54 - Piping Systems Penetrating Containment
Piping systems penetrating primary reactor containment shall be provided with leak detection, isolation, and containment capabilities having redundance, reliability, and performance capabilities which reflect the importance to safety of isolating these piping systems. Such piping systems shall be designed with a capability to test periodically the operability of the isolation valves and associated apparatus and to determine if valve leakage is within acceptable limits.

Criterion 55 - Reactor Coolant Pressure Boundary Penetrating Containment
Each line that is part of the reactor coolant pressure boundary and that penetrates primary reactor containment shall be provided with containment isolation valves as follows, unless it can be demonstrated that the containment isolation provisions for a specific class of lines, such as instrument lines, are acceptable on some other defined basis:

1. One locked closed isolation valve inside and one locked closed isolation valve outside containment; or

2. One automatic isolation valve inside and one locked closed isolation valve outside containment; or

3. One locked closed isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or

4. One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment.

Isolation valves outside containment shall be located as close to containment as practical, and automatic isolation valves shall be designed to take the position that provides greater safety upon loss of actuating power.

Other appropriate requirements to minimize the probability or consequences of an accidental rupture of these lines or of lines connected to them shall be provided as necessary to assure adequate safety. Determination of the appropriateness of these requirements, such as higher quality in design, fabrication, and testing, additional provisions for inservice inspection, protection against more severe natural phenomena, and additional isolation valves and containment, shall include consideration of the population density, use characteristics, and physical characteristics of the site environs.

Criterion 56- Primary Containment Isolation
Each line that connects directly to the containment atmosphere and penetrates primary reactor containment shall be provided with containment isolation valves as follows, unless it can be demonstrated that the containment isolation provisions for a specific class of lines, such as instrument lines, are acceptable on some other defined basis:

1. One locked closed isolation valve inside and one locked closed isolation valve outside containment; or

2. One automatic isolation valve inside and one locked closed isolation valve outside containment; or

3. One locked closed isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or

4. One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment.

Isolation valves outside containment shall be located as close to containment as practical, and automatic isolation valves shall be designed to take the position that provides greater safety upon loss of actuating power.

Criterion 57 - Closed Systems Isolation Valves
Each line that penetrates primary reactor containment and is neither part of the reactor coolant pressure boundary nor connected directly to the containment atmosphere shall have at least one containment isolation valve which shall be either automatic, or locked closed, or capable of remote manual operation. This valve shall be outside containment and located as

close to the containment as practical. A simple check valve may not be used as the automatic isolation valve.

WBN Unit 1 containment systems are designed to prevent and mitigate the release of fission products to the environment during and after a design-basis accident. If a fission product release to the environment does occur, the design of the containment is such that the exposure limits of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 100, will not be exceeded. Containment isolation mechanisms such as valves and blind flanges serve as a barrier between fluids inside and outside the containment. The proposed TS change pertains to containment isolations that are designed to be shut during accident conditions.

TVA is not proposing a change to the physical design or operation of any containment systems in this proposed change nor does it alter the position for any isolation device or change the functionality of any isolation device. Therefore, the proposed change does not impact any regulatory requirements or criteria.

4.2 Precedent

The following nuclear power plants received approved license amendment requests that included TSTF-269 changes:

- Peach Bottom Atomic Power Station Units 2 and 3 received Amendments 259 and 262 May 10, 2006.

- Perry Nuclear Power Plant, Unit 1 received Amendment 149 June 19, 2008.

The above license amendment requests were different from this request as additional TSTF-approved changes were also submitted in their requests. In addition, WBN Unit 1 is a Westinghouse 4-Loop Pressurized Water Reactor (PWR), while Peach Bottom is a BWR/4, and Perry Nuclear Power Plant is a BWR/6. The approved TSTF changes for BWR/6 plants included changes to the drywell isolation valve TS that were not part of the approved TSTF changes for BWR/4 and Westinghouse 4-Loop PWR plants. Although differences exist between this amendment request and the amendments approved for Peach Bottom and Perry, the basis for the request remains the same. As evaluated in TSTF-269 and included in the requests above, the act of locking, sealing, or otherwise securing the isolation device is considered sufficient to prevent inadvertent repositioning of the device. Therefore, the aforementioned precedents are relevant to this request.

October 24, 2001, TVA's Sequoyah Nuclear Plant, which is a similarly designed Westinghouse plant, received Amendments 271 (Unit 1) and 260 (Unit 2) regarding containment isolation valve position verification surveillance requirements (TSTF-45, Revision 2).

4.3 Significant Hazards Consideration

TVA has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed amendment will revise the position verification requirements for manual containment isolation devices that are locked, sealed, or otherwise secured in the closed position. Revising the verification requirements will not introduce any physical changes or result in the equipment being operated in a new or different manner. All systems, structures, and components previously required for mitigation of a transient remain capable of performing their designed functions. Furthermore, although the proposed change would revise the position verification requirements, no physical change is being made to the assumed position of the valves for accident analysis. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   No new accident scenarios or failure mechanisms are introduced as a result of this proposed change. The proposed amendment would revise the position verification requirements but not alter any valve positions. With no changes to the plant lineup, no new or different accidents are possible. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

   Response: No.

   Changes to the position verification requirements of normally closed manual containment isolation valves that are locked, sealed, or otherwise secured do not change the position/status of these valves. The proposed amendment does not impact the ability of these valves to perform their design function of controlling containment leakage rates during design basis radiological accidents. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, TVA concludes that the proposed amendment does not involve a significant hazards consideration for WBN under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. Exelon Nuclear letter to the NRC, "License Amendment Request, Incorporation of Previously NRC-Approved Generic Technical Specification Changes," dated June 24, 2004 (ADAMS Accession No. ML04184055).

2. NRC letter to Exelon Nuclear, "Peach Bottom Atomic Power Station, Units 2 and 3 - Issuance of Amendments RE: Incorporation of Previously NRC Approved Generic Technical Specification Changes" (Amendments 259 and 262), issued May 10, 2006 (ADAMS Accession No. ML061070292).

3. FirstEnergy Nuclear Operating Company (FENOC) letter to the NRC, "License Amendment Request to Revise Technical Specification 3.6.1, 3.6.4, and 3.6.5 for Containment and Drywell Isolation Device," dated September 5, 2007 (ADAMS Accession No. ML072550547).

4. NRC letter to FENOC, "Perry Nuclear Power Plant, Unit No. 1 - Issuance of Amendment RE: Revise Technical Specifications 3.6.1, 3.6.4, and 3.6.5 for Containment and Drywell Isolation Device (TAC No. MD6744)," dated June 19, 2008 (ADAMS Accession No. ML081360209).

5. TVA to the NRC, "Sequoyah Nuclear Plant (SQN) - Units 1 and 2 - Technical Specification (TS) Change No. 01-05 Containment Isolation Valve (CIV) Verification Change," dated August 6, 2001 (ADAMS Accession No. ML012270260).

6. NRC to TVA, "Sequoyah Nuclear Plant, Units 1 and 2 - Issuance of License Amendment Regarding Containment Isolation Valve Position Verification Surveillance Requirements (TAC Nos. MB2587 and MB2588) (TS 01-05)," dated October 24, 2001 (ADAMS Accession No. ML012980112).

7. NUREG-1431, "Standard Technical Specifications: Westinghouse Plants," Revision 3, Published June 2004.

8. TSTF-45-A, "Exempt Verification of CIVs that are Locked, Sealed or Otherwise Secured," Revision 2, approved July 26, 1999.

9. TSTF-269-A, "Allow Administrative Means of Position Verification for Locked or Sealed Valves," Revision 2, approved July 27, 1999.

10. TSTF-440-A, "Eliminate Bases Requirement for Performing a System Walkdown," Revision 0, approved October 11, 2002.

11. Watts Bar Nuclear Plant Unit 1 Technical Specification 3.6.3, "Containment Isolation Valves."

12. Watts Bar Nuclear Plant Unit 1 Technical Specification Bases B 3.6.3, "Containment Isolation Valves."

13. TVA Watts Bar Nuclear Plant, Unit 1, Updated Final Safety Analysis Report, Section 3.1, "Conformance with NRC General Design Criteria.

Attachment 1

Tennessee Valley Authority
Watts Bar Nuclear Plant
WBN-TS-09-11
Operating License NPF-90

Subject: **CHANGE TO TS 3.6.3, CONTAINMENT ISOLATION VALVES, REGARDING POSITION VERIFICATION REQUIREMENTS (TSTF-269-A, TSTF-45-A, AND TSTF-440-A)**

Proposed Technical Specification Changes (Markup)

Technical Specification Pages

3.6-9
3.6-10
3.6-11
3.6-12
Insert Page 3.6-a

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 --------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated. Insert 1	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
B. --------NOTE--------- Only applicable to penetration flow paths with two containment isolation valves. ---------- One or more penetration flow paths with two containment isolation valves inoperable except for purge valve or shield building bypass leakage not within limit.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. -------NOTE--------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND C.2 --------NOTE--------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	4 hours Once per 31 days
D. Shield building bypass not within limit.	D.1 Restore leakage within limit.	4 hours
E. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	E.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	24 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. (continued)	E.2 --------NOTE--------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated. Insert 1	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment Once per 92 days
	AND E.3 Perform SR 3.6.3.5 for the resilient seal purge valves closed to comply with Required Action E.1.	Once per 92 days
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1	Verify each containment purge valve is closed, except when the containment purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days
SR 3.6.3.2	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. ---------- Verify each containment isolation manual valve and blind flange that is located outside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ---------- Verify each containment isolation manual valve and blind flange that is located inside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days

and not locked, Sealed, or otherwise secured

(continued)

INSERT 1

2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.

Attachment 2

Tennessee Valley Authority
Watts Bar Nuclear Plant
WBN-TS-09-11
Operating License NPF-90

Subject: **CHANGE TO TS 3.6.3, CONTAINMENT ISOLATION VALVES, REGARDING POSITION VERIFICATION REQUIREMENTS (TSTF-269-A, TSTF-45-A, AND TSTF-440-A)**

Proposed Technical Specification Bases Revisions (Markup) for Information Only

Technical Specification Bases Pages

B 3.6-18
B 3.6-19
B 3.6-21
B 3.6-22
B 3.6-23
B 3.6-24
B 3.6-40
Insert Page B 3.6-a

Note: TS Bases pages are provided for information. Following approval of the proposed TS change, Bases changes will be implemented in accordance with TS 5.6, "Technical Specifications (TS) Bases Control Program."

BASES

ACTIONS (continued)

compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

In the event the isolation valve leakage results in exceeding the overall containment leakage rate, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable except for purge valve or shield building bypass leakage not within limit, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides the appropriate actions.

Required Action A.2 is modified by a Note that applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is small.

B.1

With two containment isolation valves in one or more penetration flow paths inoperable, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

specifically address those penetration flow paths in a closed system. Required Action C.2 is modified by a Note that applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

D.1

With the shield building bypass leakage rate not within limit, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of shield building bypass leakage to the overall containment function.

E.1, E.2, and E.3

In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge valve leakage must be restored to within limits, or the affected penetration flow path must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, closed manual valve, or blind flange. A purge valve with resilient seals utilized to satisfy Required Action E.1 must have been demonstrated to meet the leakage

(continued)

BASES

ACTIONS

E.1, E.2, and E.3 (continued)

requirements of SR 3.6.3.5. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

In accordance with Required Action E.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment potentially capable of being mispositioned are in the correct position. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

For the containment purge valve with resilient seal that is isolated in accordance with Required Action E.1, SR 3.6.3.5 must be performed at least once every 92 days. This assures that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.5, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 3). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per 92 days was chosen and has been shown to be acceptable based on operating experience.

Insert 3

F.1 and F.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this

(continued)

BASES

ACTIONS

F.1 and F.2 (continued)

status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. 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.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

This SR ensures that the purge valves are closed as required or, if open, open for an allowable reason. If a purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the purge valves are open for the reasons stated. The valves may be opened for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. All purge valves are capable of closing in the environment following a LOCA. Therefore, these valves are allowed to be open for limited periods of time. The 31 day Frequency is consistent with other containment isolation valve requirements discussed in SR 3.6.3.2.

and not locked, sealed, or otherwise secured

SR 3.6.3.2

This SR requires verification that each containment isolation manual valve and blind flange located outside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those containment isolation valves in areas where the valves are capable of being mispositioned are in the correct position. Since verification of valve position for these valves is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time the valves are open.

Insert 4

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.2 (continued)

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is small.

SR 3.6.3.3

and not locked, sealed, or otherwise secured

This SR requires verification that each containment isolation manual valve and blind flange located inside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. For these containment isolation valves , the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls (eg: locked valve program) and may be verified by administrative means, because the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open.

Insert 4

The Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

SR 3.6.3.4

Verifying that the isolation time of each power operated and automatic containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1

Verifying the correct alignment of manual, power operated, and automatic valves, excluding check valves, in the Containment Spray System provides assurance that the proper flow path exists for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position since they were verified in the correct position prior to being secured. This SR does not require any testing or valve manipulation. Rather, it involves verification through a system walkdown that those valves outside containment and capable of potentially being mispositioned, are in the correct position.

SR 3.6.6.2

Verifying that each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential head are normal tests of centrifugal pump performance required by the American Society of Mechanical Engineers (ASME) OM Code. (Ref. 4). Since the containment spray pumps cannot be tested with flow through the spray headers, they are tested on bypass flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

(continued)

INSERT 2

Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

INSERT 3

Required Action E.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.

INSERT 4

This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

Attachment 3

Tennessee Valley Authority
Watts Bar Nuclear Plant
WBN-TS-09-11
Operating License NPF-90

Subject: **CHANGE TO TS 3.6.3, CONTAINMENT ISOLATION VALVES, REGARDING POSITION VERIFICATION REQUIREMENTS (TSTF-269-A, TSTF-45-A, AND TSTF-440-A)**

Proposed Technical Specification Revisions
(Final Typed)

Technical Specification Pages

3.6-9
3.6-10
3.6-11
3.6-12

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. --- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment
B. ----------NOTE---------- Only applicable to penetration flow paths with two containment isolation valves. --- One or more penetration flow paths with two containment isolation valves inoperable except for purge valve or shield building bypass leakage not within limit.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. ----------NOTE---------- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ---------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND C.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	4 hours Once per 31 days
D. Shield building bypass not within limit.	D.1 Restore leakage within limit.	4 hours
E. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	E.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	24 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. (continued)	E.2 ----------NOTES---------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment Once per 92 days
	AND E.3 Perform SR 3.6.3.5 for the resilient seal purge valves closed to comply with Required Action E.1.	Once per 92 days
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	Verify each containment purge valve is closed, except when the containment purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days
SR 3.6.3.2	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. ----------	
	Verify each containment isolation manual valve and blind flange that is located outside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ----------	
	Verify each containment isolation manual valve and blind flange that is located inside containment, the containment annulus, and the Main Steam Valve Vault Rooms, and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days

(continued)