



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-20-005

April 3, 2020

10 CFR 50.90

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

Watts Bar Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. NPF-90 and NPF-96  
NRC Docket Nos. 50-390 and 50-391

Subject: **Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request to Adopt TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position" (WBN-TS-20-02)**

Pursuant to 10 CFR 50.90, Tennessee Valley Authority (TVA) is submitting a request for an amendment to the Technical Specifications (TS) for Watts Bar Nuclear Plant (WBN) Units 1 and 2.

TVA requests adoption of Technical Specification Task Force (TSTF)-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the WBN Units 1 and 2 TS. The proposed amendment modifies certain TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system, or component (SSC) remains operable (i.e., capable of performing its specified safety function).

The enclosure provides a description and assessment of the proposed changes. Attachment 1 provides the existing TS pages marked up to show the proposed changes. Attachment 2 provides revised (clean) TS pages. Attachment 3 provides existing TS Bases pages marked to show the proposed changes. Changes to the existing TS Bases are provided for information only and will be implemented under the TS Bases Control Program.

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TVA requests that the amendment be reviewed under the Consolidated Line Item Improvement Process (CLIPP). Approval of the proposed amendment is requested within six months from the date of this submittal. Once approved, the amendment shall be implemented within 60 days.

There are no new regulatory commitments associated with this submittal.

In accordance with 10 CFR 50.91, "Notice for Public Comment; State Consultation," TVA is sending a copy of this letter and the enclosure to the Tennessee Department of Environment and Conservation.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 3rd day of April 2020.

Please address any questions regarding this submittal to Kimberly D. Hulvey, Fleet Licensing Manager, at 423-751-3275.

Respectfully,



James Barstow  
Vice President, Nuclear Regulatory Affairs & Support Services

Enclosure:

Description and Assessment

cc: (with Enclosure):

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant  
NRC Project Manager - Watts Bar Nuclear Plant  
Division of Radiological Health - Tennessee Department of Environment and  
Conservation

Enclosure

Description and Assessment

Subject: Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request to Adopt TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position" (WBN-TS-20-02)

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- 2. Proposed TS Changes (Final Typed) for WBN Units 1 and 2
- 3. Proposed TS Bases Page Changes (Mark-Ups) for WBN Units 1 and 2 (For Information Only)

## 1.0 DESCRIPTION

Tennessee Valley Authority (TVA) requests adoption of Technical Specification Task Force (TSTF)-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the Watts Bar Nuclear Plant (WBN) Units 1 and 2 Technical Specifications (TS). The proposed amendment modifies the TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system, or component (SSC) remains operable (i.e., capable of performing its specified safety function). The following SRs are affected by the proposed change.

- 3.6.9.3, "Emergency Gas Treatment System (EGTS)
- 3.7.10.3, "Control Room Emergency Ventilation System (CREVS)
- 3.7.12.3, "Auxiliary Building Gas Treatment System (ABGTS)

While the proposed exceptions permit automatic valves and dampers that are locked, sealed, or otherwise secured in the actuated position to be excluded from the SR in order to consider the SR met, the proposed changes will not permit a system that is made inoperable by locking, sealing, or otherwise securing an automatic valve or damper in the actuated position to be considered operable. As stated in the SR 3.0.1 Bases, "Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when: a. The systems or components are known to be inoperable, although still meeting the SRs."

## 2.0 ASSESSMENT

### 2.1 APPLICABILITY OF SAFETY EVALUATION

TVA has reviewed the safety evaluation for TSTF-541 provided to the TSTF in a letter dated December 10, 2019. This review included a review of the nuclear Regulatory Commission (NRC) staff's evaluation, as well as the information provided in TSTF-541. As described herein, TVA has concluded that the justifications presented in TSTF-541 and the safety evaluation prepared by the NRC staff are applicable to WBN Units 1 and 2 and justify this amendment for the incorporation of the changes to the WBN TS.

TVA acknowledges that under the proposed change, the affected valves and dampers may be excluded from the SR when locked, sealed, or otherwise secured in the actuated position. However, if the safety analysis assumes movement from the actuated position following an event, or the system is rendered inoperable by locking, sealing, or otherwise securing the valve or damper in the actuated position, then the system cannot perform its specified safety function and is inoperable regardless of whether the SR is met.

TVA acknowledges for components for which the SR allowance can be utilized, the SR must be verified to have been met within its required Frequency after removing the valve or damper from the locked, sealed, or otherwise secured status. If the SR exception is utilized to not test the actuation of a valve or damper and the specified Frequency of the

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SR is exceeded without testing the component, the SR must be performed on the component when it is returned to service in order to meet the SR.

### 2.2 VARIATIONS

TVA is proposing the following variations from the TS changes described in TSTF-541 or the applicable parts of the NRC staff's safety evaluation:

The WBN TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the WBN TS.

<b>TSTF-541 SR</b>	<b>Title</b>	<b>WBN SR</b>	<b>Title</b>
SR 3.6.13.3	Shield Building Air Cleanup System (SBACS)	SR 3.6.9.3	Emergency Gas Treatment System (EGTS) Air Cleanup Subsystem
SR 3.7.10.3	Control Room Emergency Filtration System	SR 3.7.10.3	Control Room Emergency Ventilation System
SR 3.7.14.3	Penetration Room Exhaust Air Cleanup System (PREACS)	SR 3.7.12.3	Auxiliary Building Gas Treatment System (ABGTS)

The WBN TS contain requirements that differ from the Standard Technical Specifications on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the WBN TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.11.3, Iodine Cleanup System (ICS)
- SR 3.6.11.4, Iodine Cleanup System (ICS)
- SR 3.7.12.3, ECCS Penetration Room Air Cleanup System (PREACS)
- SR 3.7.12.5, ECCS Penetration Room Air Cleanup System (PREACS)
- SR 3.7.13.3, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.13.5, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.14.5, ECCS Penetration Room Air Cleanup System (ECCS PREACS)

The WBN TS contain a Surveillance Frequency Control Program. Therefore, the Frequency for the affected SRs is "In accordance with the Surveillance Frequency Control Program." This has no effect on the applicability of the proposed change.

### 2.3 LICENSEE VERIFICATIONS

TVA confirms that existing administrative processes, such as the Corrective Action Program, Operability Determination process, the maintenance, design control, configuration control, and operating procedures, etc., will be used to assess the

operability of the system or of any supported systems when utilizing the SR allowances, which includes consideration of whether movement of the affected valves or dampers following an event is assumed in the safety analysis.

### 3.0 REGULATORY ANALYSIS

#### 3.1 NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Tennessee Valley Authority (TVA) requests adoption of Technical Specification Task Force (TSTF)-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the WBN Units 1 and 2 Technical Specifications (TS). The proposed amendment modifies the TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system, or component (SSC) remains operable (i.e., capable of performing its specified safety function).

TVA has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) 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 consequence of an accident previously evaluated?*

**Response: No.**

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or otherwise secured in the actuated position. The performance or lack of performance of SRs is not an initiator of any accident previously evaluated. As a result, the proposed change has no effect on the probability of any accident previously evaluated. The proposed change excludes performance of portions of certain SRs, but the SSC must still be capable of performing the safety functions assumed in the accident analysis. Otherwise, the SSC is inoperable, and the associated TS Actions are followed. As a result, the SSCs continue to perform their mitigating functions and the consequences of any accident previously evaluated are not affected.

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.**

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or

otherwise secured in the actuated position. The proposed change will not change the design function or operability requirements of the affected SSCs. The SSC must still be capable of performing the safety functions assumed in the accident analysis or the SSC is inoperable, and the associated TS Actions are followed. The proposed change does not create any credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases.

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.**

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or otherwise secured in the actuated position. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis assumptions and acceptance criteria are not affected by this change.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, TVA concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

### 3.2 CONCLUSION

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.

### 4.0 ENVIRONMENTAL CONSIDERATION

The proposed change 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 change 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 maybe released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change 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 change.

Attachment 1

Proposed TS Changes (Mark-Ups) for WBN Units 1 and 2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.9.3	Verify each EGTS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</b>	In accordance with the Surveillance Frequency Control Program
SR 3.6.9.4	Verify each EGTS train produces a flow rate $\geq 3600$ and $\leq 4400$ cfm within 20 seconds from the initiation of a Containment Isolation Phase A signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Two CREVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B or E.	H.1 Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Operate each CREVS train for $\geq 15$ minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.2 Perform required CREVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.10.3 Verify each CREVS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</b>	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4 Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each ABGTS train for $\geq 15$ continuous minutes with the heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	Verify each ABGTS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position</b>	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Verify one ABGTS train can maintain a pressure between -0.25 and -0.5 inches water gauge with respect to atmospheric pressure during the post accident mode of operation at a flow rate $\geq 9300$ and $\leq 9900$ cfm.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.9.3	Verify each EGTS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</b>	In accordance with the Surveillance Frequency Control Program
SR 3.6.9.4	Verify each EGTS train produces a flow rate $\geq 3600$ cfm and $\leq 4400$ cfm within 20 seconds from the initiation of a Containment Isolation Phase A signal.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.10.3	Verify each CREVS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</b>	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each ABGTS train for $\geq 15$ continuous minutes with the heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	Verify each ABGTS train actuates on an actual or simulated actuation signal, <b>except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.</b>	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Verify one ABGTS train can maintain a pressure between -0.25 inches and -0.5 inches water gauge with respect to atmospheric pressure during the post accident mode of operation at a flow rate $\geq 9300$ cfm and $\leq 9900$ cfm.	In accordance with the Surveillance Frequency Control Program

Attachment 2

Proposed TS Changes (Final Typed) for WBN Units 1 and 2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.9.3	Verify each EGTS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.9.4	Verify each EGTS train produces a flow rate $\geq 3600$ and $\leq 4400$ cfm within 20 seconds from the initiation of a Containment Isolation Phase A signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Two CREVS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B or E.	H.1 Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Operate each CREVS train for $\geq$ 15 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.2 Perform required CREVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.10.3 Verify each CREVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4 Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each ABGTS train for $\geq 15$ continuous minutes with the heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	Verify each ABGTS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Verify one ABGTS train can maintain a pressure between -0.25 and -0.5 inches water gauge with respect to atmospheric pressure during the post accident mode of operation at a flow rate $\geq 9300$ and $\leq 9900$ cfm.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.9.3	Verify each EGTS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.9.4	Verify each EGTS train produces a flow rate $\geq 3600$ cfm and $\leq 4400$ cfm within 20 seconds from the initiation of a Containment Isolation Phase A signal.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.10.3	Verify each CREVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each ABGTS train for $\geq 15$ continuous minutes with the heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABGTS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	Verify each ABGTS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Verify one ABGTS train can maintain a pressure between -0.25 inches and -0.5 inches water gauge with respect to atmospheric pressure during the post accident mode of operation at a flow rate $\geq 9300$ cfm and $\leq 9900$ cfm.	In accordance with the Surveillance Frequency Control Program

Attachment 3

Proposed TS Bases Page Changes (Mark-Ups) for WBN Units 1 and 2 (For Information Only)

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.9.3

The automatic startup ensures that each EGTS train responds properly. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.9.4

The proper functioning of the fans, dampers, filters, adsorbers, etc., as a system is verified by the ability of each train to produce the required system flow rate. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. Title 10, Code of Federal Regulations, Part 50, Appendix A, General Design Criterion 41, "Containment Atmosphere Cleanup."
  2. Watts Bar FSAR, Section 6.5, "Fission Product Removal and Control Systems."
  3. Watts Bar FSAR, Section 15.0, "Accident Analysis."
  4. Regulatory Guide 1.52, Rev. 2, "Design, Testing and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmospheric Cleanup System Air Filtration and Absorption Units of Light-Water Cooled Nuclear Power Plants."
  5. Watts Bar Drawing 1-47W605-243, "Electrical Tech Spec Compliance Tables."
  6. DCN 52216-A, "Elimination of A-AUTO STANDBY Hand Switch Position for EGTS Pressure Control Loops."
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BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.7.10.3

This SR verifies that each CREVS train starts and operates on an actual or simulated actuation signal. **The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency.** The Frequency of 18 months is based on industry operating experience and is consistent with the typical refueling cycle.

SR 3.7.10.4

This SR verifies the OPERABILITY of the CRE boundary by testing for unfiltered air leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem whole body or its equivalent to any part of the body and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air leakage is greater than the assumed flow rate, Condition B must be entered. Required Action B.3 allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, Section C.2.7.3 (Ref. 7), which endorses, with exceptions, NEI 99-03, Section 8.4 and Appendix F (Ref. 8). These compensatory measures may also be used as mitigating actions as required by Required Action B.2. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY (Ref. 9). Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope leakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

BASES

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REFERENCES  
(continued)

1. Watts Bar FSAR, Section 6.4, "Habitability Systems."
  2. Watts Bar FSAR, Section 9.4, "Air Conditioning, Heating, Cooling, and Ventilation Systems."
  3. Watts Bar FSAR, Section 3.7.3.18, "Seismic Qualification of Main Control Room Suspended Ceiling and Air Delivery Components."
  4. NRC Safety Evaluation dated February 12, 2004, for License Amendment 50.
  5. Watts Bar FSAR, Section 15.5.3, "Environmental Consequences of a Postulated Loss of Coolant Accident."
  6. Regulatory Guide 1.52, Revision 2, "Design, Testing, and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water Cooled Nuclear Power Plants."
  7. Regulatory Guide 1.196, Revision 0, "Control Room Habitability at Light-Water Nuclear Power Reactors"
  8. NEI 99-03, "Control Room Habitability Assessment," June 2001.
  9. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability." (ADAMS Accession No. ML040300694).
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BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.7.12.3

This SR verifies that each ABGTS train starts and operates on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.12.4

This SR verifies the integrity of the ABSCE. The ability of the ABSCE to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the ABGTS. During the post accident mode of operation, the ABGTS is designed to maintain a slight negative pressure in the ABSCE, to prevent unfiltered LEAKAGE. The ABGTS is designed to maintain a negative pressure between -0.25 and -0.5 inches water gauge (value does not account for instrument error, Ref. 10) with respect to atmospheric pressure at a nominal flow rate  $\geq 9300$  and  $\leq 9900$  cfm. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. Watts Bar FSAR, Section 6.5.1, "Engineered Safety Feature (ESF) Filter Systems."
2. Watts Bar FSAR, Section 9.4.2, "Fuel Handling Area Ventilation System."
3. Watts Bar FSAR, Section 15.0, "Accident Analysis."
4. Watts Bar FSAR, Section 6.2.3, "Secondary Containment Functional Design."

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BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)SR 3.6.9.2 (continued)

Specific test frequencies and additional information are discussed in detail in the VFTP. It should be noted that for the EGTS, the VFTP pressure drop value across the entire filtration unit does not account for instrument error.

SR 3.6.9.3

The automatic startup ensures that each EGTS train responds properly. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. This testing includes the automatic swapping logic of the EGTS pressure control isolation valves in response to the actuation signal. Performance of this swapping logic test will ensure the availability of EGTS functions in the event of an initial single failure of one of the pressure control loops. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.9.4

The proper functioning of the fans, dampers, filters, adsorbers, etc., as a system is verified by the ability of each train to produce the required system flow rate. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

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ACTIONS  
(continued)

H.1

If both CREVS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than Condition B or Condition E the CREVS may not be capable of performing the intended function and the plant is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE  
REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train provides an adequate check of this system. The systems need only be operated for  $\geq 15$  minutes to demonstrate the function of the system. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.10.2

This SR verifies that the required CREVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREVS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 6). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CREVS train starts and operates on an actual or simulated actuation signal. **The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program**

(continued)

BASES (continued)

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.7.12.3

This SR verifies that each ABGTS train starts and operates on an actual or simulated actuation signal. **The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.**

SR 3.7.12.4

This SR verifies the integrity of the ABSCE. The ability of the ABSCE to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the ABGTS. During the post accident mode of operation, the ABGTS is designed to maintain a slight negative pressure in the ABSCE, to prevent unfiltered LEAKAGE. The ABGTS is designed to maintain a negative pressure between -0.25 inches water gauge and -0.5 inches water gauge (value does not account for instrument error) with respect to atmospheric pressure at a nominal flow rate  $\geq 9300$  cfm and  $\leq 9900$  cfm. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

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BASES (continued)

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REFERENCES

1. Watts Bar FSAR, Section 6.5.1, "Engineered Safety Feature (ESF) Filter Systems."
  2. Watts Bar FSAR, Section 9.4.2, "Fuel Handling Area Ventilation System."
  3. Watts Bar FSAR, Section 15.0, "Accident Analysis."
  4. Watts Bar FSAR, Section 6.2.3, "Secondary Containment Functional Design."
  5. Regulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors."
  6. Title 10, Code of Federal Regulations, Part 100.11, "Determination of Exclusion Area, Low Population Zone, and Population Center Distance."
  7. Regulatory Guide 1.52 (Rev. 2), "Design, Testing and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmospheric Cleanup System Air Filtration and Adsorption Units of Light-Water Cooled Nuclear Power Plants."
  8. Deleted  
  
TVA Calculation MDQ0000302014000618, "Offsite and Control Room Doses without the Auxiliary Building Secondary Containment Enclosure (ABSCE) during a LOCA."
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