



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

CNL-19-086

October 9, 2019

10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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: **Supplement to Application for License Amendment Request to Make Miscellaneous Administrative Changes (WBN-TS-19-02)**

- References:
1. TVA Letter to NRC, CNL-19-038, "License Amendment Request to Make Miscellaneous Administrative Changes (WBN-TS-19-02)," dated June 7, 2019 (ML19158A398)
 2. NRC Letter to TVA, "Watts Bar Nuclear Plant, Unit 1 - Issuance of Amendment to Extend Surveillance Requirements 3.3.1.5, 3.3.2.2, and 3.3.6.2 Specified Intervals (EPID L-2018-LLA-0187)," dated August 16, 2018 (ML18204A252)

In Reference 1, Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) to make miscellaneous administrative changes to the Watts Bar Nuclear Plant (WBN), Units 1 and 2 Technical Specifications (TS). One of the changes was to delete several historical footnotes associated with TS 3.6.15, Condition B for WBN Unit 1. However, a separate LAR is currently under development that overlaps this change. Accordingly, TVA has elected in this supplement to rescind this proposed change from Reference 1.

Additionally, subsequent to the Reference 1 LAR submittal, the Nuclear Regulatory Commission (NRC) informed TVA that the markup pages to WBN Unit 1 TS Surveillance Requirement (SR) 3.0.2 and Table SR 3.0.2-1 in Attachment 1 to Reference 1 did not reflect the changes made by License Amendment 121 (Reference 2). Accordingly, TVA is supplementing Reference 1 to include the revisions to WBN Unit 1 TS Surveillance Requirement (SR) 3.0.2 and Table SR 3.0.2-1 based on Reference 2. Changes to the Attachment 3 clean pages and the Attachment 5 Bases change accurately incorporated Amendment 121, so inclusion of these pages is unnecessary.

U.S. Nuclear Regulatory Commission
CNL-19-086
Page 2
October 9, 2019

An additional errata change is made to Table of Contents Page iii of Attachment 1 to address a typographical error.

The enclosure to this letter provides change instructions to the LAR to make the above supplements. This enclosure does not change the no significant hazards consideration or the environmental considerations contained in the referenced LAR. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and the enclosure to the Tennessee Department of Environment and Conservation.

There are no new regulatory commitments associated with this submittal. Please address any questions regarding this request to Kimberly D. Hulvey, TVA Fleet Licensing Manager, at 423-751-3275.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 9th day of October 2019.

Respectfully,



James T. Polickoski
Director, Nuclear Regulatory Affairs

Enclosure: Change Instructions to the June 7, 2019, License Amendment Request

cc (Enclosure):

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

Enclosure

Change Instructions to the June 7, 2019, License Amendment Request

(9 Pages)

1. Replace Enclosure Page E2 of 7 to include License Amendment 121 as a Relevant Amendment to the WBN1 TS 3.0 changes, and to rescind the change to WBN1 TS 3.6.15.
2. Replace Attachment 1 Page iii for WBN1 to correct a typographical error in the designation of the TS 3.7.16 page number.
3. Replace Attachment 1 Pages 3.0-4 and 3.0-6 for WBN1 to reflect the current pages of Record, which include License Amendment 121. Delete Attachment 1 Page 3.0.7, which was removed with License Amendment 121.
4. Delete Attachment 1 Page 3.6-40 and Attachment 3 Page 3.6-40 to rescind change to WBN1 TS 3.6.15.
5. Delete Attachment 5 Pages B 3.6-97 and B 3.6-98 to rescind change to WBN1 TS 3.6.15.

Note: General page instructions are provided in green font. Specific changes on each page are provided in red font.

1.0 SUMMARY DESCRIPTION

In accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.90, "Application for amendment of license, construction permit, or early site permit," Tennessee Valley Authority (TVA) is requesting a license amendment to the Watts Bar Nuclear Plant (WBN) Units 1 and 2 Technical Specifications (TS). The proposed amendment would modify the TS by making various administrative changes. This includes:

- Elimination of historical one-time License Amendments from the Unit 1 and Unit 2 TS.
- Replacing dated TS Figures 4.1-1 and 4.1-2 with analogous text for Units 1 and 2.
- Revising Unit 2 TS 3.7.7 and 3.9.6 for consistency with the WBN Unit 1 TS.
- Correcting the Table of Contents (TOC) based on previous License Amendments.

2.0 DETAILED DESCRIPTION

2.1 DESCRIPTION OF THE PROPOSED CHANGE

The following TS changes are being made by this License Amendment Request (LAR).

2.2.1 One-Time License Amendment Removal

The following table describes the one-time TS that are being removed and the originating License Amendments.

Unit	Technical Specification	Information Being Removed	Relevant Amendments
WBN1	TS 3.0	Delete Table SR 3.0.2-1 (and pages) and the text invoking it in SR 3.0.2.	114 ←
WBN1	TS 3.5.2	Delete Note in Frequency column of SR 3.5.2.3.	43
WBN1	TS 3.6.6	Delete footnote for Completion Time of Condition A.	93
WBN1	TS 3.6.8	Delete footnote for LCO 3.6.8, Condition A and Condition B. Delete footnote for SR 3.6.8.1.	10
WBN1	TS 3.6.12	Delete Note in Frequency column of SR 3.6.12.3, SR 3.6.12.4, and SR 3.6.12.5.	3
WBN1	TS 3.6.15	Delete footnotes regarding Penetration 1 EQH 271-0010 and 11 in the Note to Condition B.	59
WBN1	TS 3.7.8	Delete Condition C and associated footnote.	69
WBN1	TS 5.7.2.19	Delete second paragraph regarding conducting the 10-year Type A test.	63
WBN2	TS 3.0	Delete Table SR 3.0.2-1 (and pages) and the text invoking it in SR 3.0.2.	3, 10, 12, 13, 14
WBN2	TS 5.7.2.19	Delete Table-5.7.2-1 (and page) and the text invoking it in TS 5.7.2.19.	11

121

3.7.16	Component Cooling System (CCS) - Shutdown	3.7-33
3.7.17	Essential Raw Cooling Water (ERCW) System - Shutdown . . .	3.7-36

TABLE OF CONTENTS

Replace this page
in Attachment 1 to
the LAR

3.7	PLANT SYSTEMS (continued)	
3.7.3	Main Feedwater Isolation Valves (MFIVs) and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves	3.7-7
3.7.4	Atmospheric Dump Valves (ADVs)	3.7-9
3.7.5	Auxiliary Feedwater (AFW) System	3.7-11
3.7.6	Condensate Storage Tank (CST)	3.7-15
3.7.7	Component Cooling System (CCS)	3.7-17
3.7.8	Essential Raw Cooling Water (ERCW) System	3.7-19
3.7.9	Ultimate Heat Sink (UHS)	3.7-21
3.7.10	Control Room Emergency Ventilation System (CREVS)	3.7-22
3.7.11	Control Room Emergency Air Temperature Control System (CREATCS)	3.7-25
3.7.12	Auxiliary Building Gas Treatment System (ABGTS)	3.7-27
3.7.13	Fuel Storage Pool Water Level	3.7-29
3.7.14	Secondary Specific Activity	3.7-30
3.7.15	Spent Fuel Assembly Storage	3.7-31
3.8	ELECTRICAL POWER SYSTEMS	3.8-1
3.8.1	AC Sources—Operating	3.8-1
3.8.2	AC Sources—Shutdown	3.8-18
3.8.3	Diesel Fuel Oil, Lube Oil, and Starting Air	3.8-21
3.8.4	DC Sources—Operating	3.8-24
3.8.5	DC Sources—Shutdown	3.8-30
3.8.6	Battery Cell Parameters	3.8-33
3.8.7	Inverters—Operating	3.8-37
3.8.8	Inverters—Shutdown	3.8-39
3.8.9	Distribution Systems—Operating	3.8-41
3.8.10	Distribution Systems—Shutdown	3.8-43
3.9	REFUELING OPERATIONS	3.9-1
3.9.1	Boron Concentration	3.9-1
3.9.2	Unborated Water Source Isolation Valves	3.9-2
3.9.3	Nuclear Instrumentation	3.9-4
3.9.4	Containment Penetrations	3.9-6
3.9.5	Residual Heat Removal (RHR) and Coolant Circulation—High Water Level	3.9-8
3.9.6	Residual Heat Removal (RHR) and Coolant Circulation—Low Water Level	3.9-10
3.9.7	Refueling Cavity Water Level	3.9-12
3.9.8	Reactor Building Purge Air Cleanup Units	3.9-14
3.9.9	Spent Fuel Pool Boron Concentration	3.9-16
4.0	DESIGN FEATURES	4.0-1
4.1	Site	4.0-1
3.9.10	Decay Time	3.9-17
4.2	Reactor Core	4.0-1
4.3	Fuel Storage	4.0-2

(continued)

~~to be implemented no later than completion of the Refueling modification or
prior to the movement of fuel assemblies into the spent fuel pool for the
cycle 1 refueling outage~~

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1 SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

SR 3.0.2 The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. ~~In addition, for each of the SRs listed in Table SR 3.0.2-1 the specified Frequency is met if the Surveillance is performed on or before the date listed on Table SR 3.0.2-1. The Surveillance Frequency extension limits expire on the dates listed in Table SR 3.0.2-1 or when the unit enters MODE 5, whichever occurs first.~~

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

(continued)

Replace this page
in Attachment 1 to
the LAR

Delete this page

SR Applicability
3.0

Table SR 3.0.2-1 (continued)

Surveillance Requirement (SR)	Description of SR Requirement	Frequency Extension Limit
3.3.1.5, Table 3.3.1-1, Function 19	Perform RTS Instrumentation Actuation Logic Test of Automatic Trip Logic	10/1/18
3.3.2.2, Table 3.3.2-1, Function 1.b	Perform Engineered Safety Feature Actuation System (ESFAS) Instrumentation Actuation Logic Test of Safety Injection - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.2.2, Table 3.3.2-1, Function 2.b	Perform ESFAS Instrumentation Actuation Logic Test of Containment Spray - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.2.2, Table 3.3.2-1, Function 3.a(2)	Perform ESFAS Instrumentation Actuation Logic Test of Containment Isolation - Phase A Isolation	10/1/18
3.3.2.2, Table 3.3.2-1, Function 3.b(2)	Perform ESFAS Instrumentation Actuation Logic Test of Containment Isolation - Phase B Isolation	10/1/18
3.3.2.2, Table 3.3.2-1, Function 4.b	Perform ESFAS Instrumentation Actuation Logic Test of Steam Line Isolation - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.2.2, Table 3.3.2-1, Function 5.a	Perform ESFAS Instrumentation Actuation Logic Test of Turbine Trip and Feedwater Isolation - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.2.2, Table 3.3.2-1, Function 6.a	Perform ESFAS Instrumentation Actuation Logic Test of Auxiliary Feedwater - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.2.2, Table 3.3.2-1, Function 7.a	Perform ESFAS Instrumentation Actuation Logic Test of Automatic Switchover to Containment Sump - Automatic Actuation Logic and Actuation Relays	10/1/18
3.3.6.2, Table 3.3.6-1, Function 2	Perform Containment Vent Isolation Instrumentation Actuation Logic Test of Automatic Actuation Logic and Actuation Relays	10/1/18

Delete this page in
Attachment 1 to
the LAR

Delete this page

SR Applicability
3.0

Table SR 3.0.2-1

Surveillance Requirement (SR)	Description of SR Requirement	Frequency Extension Limit
3.8.1.19	<p>Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal:</p> <ul style="list-style-type: none">a. De-energization of emergency buses;b. Load shedding from emergency buses; andc. DG auto-starts from standby condition and:<ul style="list-style-type: none">1. energizes permanently connected loads in ≤ 10 seconds,2. energizes auto-connected emergency loads through load sequencer,3. achieves steady state voltage: ≥ 6800 V and ≤ 7260 V,4. achieves steady state frequency ≥ 59.8 Hz and ≤ 60.1 Hz, and5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	11/30/17

Delete this page in
Attachment 1 to
the LAR

Shield Building
3.6.15

3.6 CONTAINMENT SYSTEMS

3.6.15 Shield Building

LCO 3.6.15 The Shield Building shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Shield building Inoperable.	A.1 Restore shield building to OPERABLE status.	24 hours
<p>B. -----NOTE----- Annulus pressure requirement is not applicable during venting operations, required annulus entries, or Auxiliary Building Isolations not exceeding 1 hour in duration. or while Penetration 1-EQH-271-0010 or 1-EQH-271-0011 in the Shield Building dome is open until annulus pressure is restored.* -----</p> <p>Annulus pressure not within limits.</p>	B.1 Restore annulus pressure within limits.	8 hours
C. Required Action and associated Completion Time not met.	<p>C.1 Be in MODE 3. <u>AND</u></p> <p>C.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

- ~~*1. The combined opening time of Penetrations 1-EQH-271-0010 or 1-EQH-271-0011 is limited to a total time of five hours a day, six days a week during Cycle 7 operation.~~
- ~~2. Penetrations 1-EQH-271-0010 or 1-EQH-271-0011 in the Shield Building Dome may not be opened if in Action Conditions LCO 3.6.9A or 3.8.1B.~~
- ~~3. Upon opening Penetration 1-EQH-271-0010 or 1-EQH-271-0011 in the Shield Building Dome, both EGTS control loops shall be placed in the A-Auto Stand-by position and returned to normal position following closure of penetration.~~

Delete this page in
Attachment 3 to
the LAR

3.6 CONTAINMENT SYSTEMS

3.6.15 Shield Building

LCO 3.6.15 The Shield Building shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Shield Building inoperable.	A.1 Restore Shield Building to OPERABLE status.	24 hours
B. -----NOTE----- Annulus pressure requirement is not applicable during ventilating operations, required annulus entries, or Auxiliary Building isolations not exceeding 1 hour in duration. ----- Annulus pressure not within limits.	B.1 Restore annulus pressure within limits.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 5.	6 hours 36 hours

BASES

ACTIONS

A.1

In the event shield building OPERABILITY is not maintained, shield building OPERABILITY must be restored within 24 hours. Twenty-four hours is a reasonable Completion Time considering the limited leakage design of containment and the low probability of a Design Basis Accident occurring during this time period.

B.1

The Completion Time of 8 hours is based on engineering judgment. The normal alignment for both EGTS control loops is the A-Auto position. With both EGTS control loops in A-Auto, both trains will function upon initiation of a Containment Isolation Phase A (CIA) signal. In the event of a LOCA, the annulus vacuum control system isolates and both trains of the EGTS pressure control loops will be placed in service to maintain the required negative pressure. If annulus vacuum is lost during normal operations, the A-Auto position is unaffected by the loss of vacuum. This operational configuration is acceptable because the accident dose analysis conservatively assumes the annulus is at atmospheric pressure at event initiation. (Ref. 3)

A Note has been provided which makes the requirement to maintain the annulus pressure within limits not applicable for a maximum of 1 hour during: Ventilating operations, Required annulus entries, or Auxiliary Building isolations. Ventilating operations include containment venting, the Reactor Building Purge Ventilating system alternate containment pressure relief function, and testing of the Emergency Gas Treatment system. In addition to Note makes the requirement to maintain the annulus pressure within limits not applicable while Penetration 1-EQH-271-0010 or 1-EQH-271-0011 in the Shield Building dome is open until annulus pressure is restored. Allowing one of the Shield Building dome penetrations to be open is based on provisions being in place to close it within fifteen minutes of LOCA initiation. Limiting the time for opening either of the penetrations to a combined total of five hours a day, six days a week keeps the amount of time the Shield Building is inoperable to approximately 60 percent of the eight hour completion time for LCO-B.

During normal plant operation, the Annulus is maintained at a negative pressure equal to or more negative than -5 inches water gauge (wg) by the Annulus Vacuum Control subsystem (non-safety related) of the Emergency Gas Treatment System (EGTS). One train (loop) of the Annulus Vacuum Control subsystem is operating (controls in A-Auto) and one train is in standby (controls in A-Auto Stand-by).

Opening Shield Building dome Penetration 1-EQH-271-0010 or 1-EQH-271-0011 during Modes 1-4 will result in the Annulus pressure becoming more positive than the -5 inches wg required by Technical Specification 3.6.15. When the Annulus pressure becomes more positive than -0.812 inches wg, the EGTS control system perceives that the loop in A-Auto (i.e., the operating train) has failed. Control of Annulus pressure is then transferred to the loop in A-Auto Stand-by (i.e., the train in standby). Since the loop originally controlling Annulus pressure is

Note:

The highlighted text on this page and the following page was incorporated as part of Amendment 59. This amendment also added a series of notes to Technical Specification 3.6.15. As stated in NRC's Safety Evaluation for Amendment 59 (NRC's letter dated January 6, 2006), these controls were only applicable until WBN Unit 1 entered Mode 5 at the start of the Cycle 7 refueling outage. The highlighted text in this Bases section and the notes in Technical Specification 3.6.15 will be deleted via a future amendment to the Technical Specifications.

(continued)

BASES

ACTIONS

B.1 (continued)

~~perceived to have failed, only one control loop (the controller originally in A-Auto Stand-by) remains functional. If a single failure of the remaining control loop were to occur, this would result in both control loops failing and would render the safety-related portion of EGTS inoperable. To prevent this situation, operator action will be taken to place both EGTS control loops in the A-Auto Stand-by position when the annulus differential pressure is more positive than a -5 inches wg. If EGTS is subsequently initiated in this configuration, both trains of EGTS will start. Absent a single failure, one EGTS control loop train will manually be returned to the A-Auto position when the Annulus differential pressure becomes more negative than -0.812 inches wg. In addition, the remaining EGTS control loop train will be turned off, then immediately placed in the A-Auto Stand-by position (i.e., the associated isolation valves shall be closed by means of the MCR hand switch). This action is in the design and is necessary to restore the EGTS to the normal operational configuration and to prevent excess EGTS exhaust and Annulus in-leakage.~~

~~Additional assurance is administratively provided of support system operability by restricting the opening of Penetration 1-EQH-271-0010 or 1-EQH-271-0011 if in Actions for LCO 3.6.9.A EGTS, or 3.8.1.B, AC Sources—Operating. If a hatch is opened and one of the above systems becomes inoperable, the hatch will be closed.~~

C.1 and C.2

If the shield building cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to 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 3.6.15.1

Verifying that shield building annulus negative pressure is within limit (equal to or more negative than - 5 inches water gauge, value does not account for instrument error, Ref. 2) ensures that operation remains within the limit assumed in the containment analysis. The 12 hour Frequency of this SR was developed considering operating experience related to shield building annulus pressure variations and pressure instrument drift during the applicable MODES.

SR 3.6.15.2

Maintaining shield building OPERABILITY requires maintaining each door in the access opening closed, except when the access opening is being used for normal transient entry and exit. The 31 day Frequency of this SR is based on engineering judgment and is considered adequate in view of the other indications