

## **NRR-PMDAPem Resource**

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**From:** Buckberg, Perry  
**Sent:** Thursday, May 11, 2017 2:00 PM  
**To:** Wells, Russell Douglas  
**Cc:** 'garent@tva.gov'; Beasley, Benjamin; Schaaf, Robert; cedmondson@tva.gov  
**Subject:** Request for Additional Information - Watts Bar Unit 2 SR Extension LAR - MF8895  
**Attachments:** Draft RAIs - Watts Bar Unit 2 Surveillance Requirement extension (CAC MF8895); WB2 MF8895 RAIs - SBPB EICB 5-11-17.pdf

Russ,

By letter dated November 23, 2016, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16333A250), Tennessee Valley Authority (TVA), submitted a license amendment request (LAR) for Watts Bar Nuclear Plant, Unit 2. The LAR proposes to revise Technical Specification Surveillance Requirement (SR) 3.0.2 to extend, on a one-time basis, specific SRs that are normally performed on an 18-month frequency in conjunction with a refueling outage. The review of the of 19 SRs represented in LAR attachments 8, 9 and 11 has been completed and the staff is currently reviewing the 33 SRs represented in LAR attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17. The staff has identified areas where additional information is needed to complete the review.

In the attached May 8, 2017, e-mail, the staff issued 5 draft Requests for Additional Information (RAIs) to TVA. TVA requested clarification on these draft RAIs and a phone conference between TVA and the staff was held on May 11, 2017. The attached final RAI document includes minor edits to RAI-MF8895-EICB-01 part c. as a result of the phone conference. The NRC requests that the licensee respond to these final RAIs within 30 days of this email.

Thanks,

**Perry Buckberg**

Senior Project Manager

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U.S. Nuclear Regulatory Commission

Office of Nuclear Reactor Regulation

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**Subject:** Request for Additional Information - Watts Bar Unit 2 SR Extension LAR - MF8895  
**Sent Date:** 5/11/2017 2:00:21 PM  
**Received Date:** 5/11/2017 2:00:00 PM  
**From:** Buckberg, Perry

**Created By:** Perry.Buckberg@nrc.gov

**Recipients:**

"garent@tva.gov" <garent@tva.gov>  
Tracking Status: None  
"Beasley, Benjamin" <Benjamin.Beasley@nrc.gov>  
Tracking Status: None  
"Schaaf, Robert" <Robert.Schaaf@nrc.gov>  
Tracking Status: None  
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Tracking Status: None  
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Tracking Status: None

**Post Office:**

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	1519	5/11/2017 2:00:00 PM
Draft RAIs - Watts Bar Unit 2 Surveillance Requirement extension (CAC MF8895) 51393		
WB2 MF8895 RAIs - SBPB EICB 5-11-17.pdf		95767

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

**REQUEST FOR ADDITIONAL INFORMATION**  
**WATTS BAR NUCLEAR PLANT, UNIT 2**  
**LICENSE AMENDMENT REQUEST FOR ONE-TIME EXTENSION OF TECHNICAL**  
**SPECIFICATION SURVEILLANCE REQUIREMENTS**  
**GROUP 2 (LAR ENCL. 1 ATTACHMENTS 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17)**  
**(CAC NO. MF8895)**

By letter dated November 23, 2016, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16333A250), Tennessee Valley Authority (TVA), submitted a license amendment request (LAR) for Watts Bar Nuclear Plant, Unit 2. The LAR proposes to revise Technical Specification (TS) Surveillance Requirement (SR) 3.0.2 to extend, on a one-time basis, specific SRs that are normally performed on an 18-month frequency in conjunction with a refueling outage. Of the 52 SRs in the LAR, the staff is currently reviewing the 33 SRs represented in attachments 5, 6, 7, 9, 12, 13, 14, 15, 16, and 17, to Enclosure 1 of the LAR.

The staff has identified areas where additional information is needed to complete its technical review and make a regulatory finding regarding this LAR in accordance with the requirements of Title 10 of the Code of Federal Regulations (10 CFR) 50.36, which sets forth the regulatory requirements for the content of the TSs. Specifically, 10 CFR 50.36(c)(3) requires SRs to be included in the TS, and states that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. The following 5 requests for additional information (RAIs) are from the NRC/NRR Balance of Plant and Instrumentation & Controls Branches.

**RAI-MF8895-SBPB-01**

In attachment 15 to Enclosure 1 of the November 23, 2016, LAR, the section titled, "Review of Operating Experience" states:

On June 5, 2016, an automatic SI occurred. This functionally tested the automatic actuation logic for ECCS, CIVs, CSS, EGTS, CCS, and ERCW systems. All safety systems functioned as designed and previously evaluated in the UFSAR.

This functionally tested the automatic actuation logic for the ECCS SR via the slave relays K603, K604, and K608. The K603 and K604 relays provided the automatic alignment of the ECCS valves. K608 provided the automatic start signal to the ECCS pumps. ECCS responded as expected to the automatic SI signal. The automatic actuation signal to ECCS was functionally tested on June 5, 2016. All other functions of the circuit were tested and were within frequency, which includes the end device operation of ECCS.

Did the June 5, 2016, automatic Safety Injection (SI) also result in pumps/fans starting in the Containment Spray System (CSS), Emergency Gas Treatment System (EGTS), Component Cooling System (CCS) and essential raw cooling water (ERCW) systems, and cause valves and dampers in these systems to reposition, and containment isolation valves (CIVs) in other systems to reposition? If so, which components were observed to respond properly and which were already operating or in their safety position such that the automatic SI did not yield much in the way of verification for those components and associated circuitry that performing the SR implementing procedures would obtain?

### **RAI-MF8895-EICB-01**

In Attachment 6 to Enclosure 1 of the LAR, the licensee identified SR 3.3.2.2 and SR 3.3.2.3, as providing alternate means of partially satisfying SR 3.3.2.5 and SR 3.3.2.7. SR 3.3.2.2 requires an actuation logic test to be performed on the engineered safety feature actuation system (ESFAS) instrumentation. The WBN Unit 2 SR 3.3.2.2 Bases state, "The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. In addition, the master relay coil is pulse tested for continuity." SR 3.3.2.3 requires a master relay test to be performed on the ESFAS instrumentation. The WBN Unit 2 SR 3.3.2.3 Bases state, "The MASTER RELAY TEST is the energizing of the master relay, verifying contact operation and a low voltage continuity check of the slave relay coil. Upon master relay contact operation, a low voltage is injected to the slave relay coil. This voltage is insufficient to pick up the slave relay, but large enough to demonstrate signal path continuity." Neither SR 3.3.2.2 nor SR 3.3.2.3 actually exercise the slave relays.

- a. Please provide the rationale as to why the continuity check satisfies the SR 3.3.2.5 requirement to perform an actuation logic test of the slave relays. Specifically, please explain how the slave relay coil is powered on or off while simultaneously monitoring the circuit that is driven by the slave relay contacts.
- b. Please explain what specific parameters are being monitored in the slave relay output circuit when the slave relay coil is being powered on or off. Please explain how the change of state of the output relay in response to application of power to the slave relay coil is verified.
- c. Please provide equivalent Unit 1 and Unit 2 data, including failure date, for the testing performed as part of SRs 3.3.2.5 and 3.3.2.7.

### **RAI-MF8895-EICB-02**

In Attachment 7 to Enclosure 1 of the LAR the licensee stated that no additional testing has been performed since the surveillance activity for SR 3.3.2.8, functions 1.a, 2.a, 3.a.1, and 3.b.1 was last performed. The licensee identified the performance of SR 3.3.2.2 and SR 3.3.2.3 as providing further assurance of the operability of the ESFAS instrumentation. SR 3.3.2.2 requires an actuation logic test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis, and SR 3.3.2.3 requires a master relay test to be performed on the ESFAS instrumentation every 92 days on a staggered test basis.

- a. Please identify if the manual initiation of the hand switches is tested under SR 3.3.2.2 or SR 3.3.2.3.
- b. If the hand switches are not part of the test performed under SR 3.3.2.2 or SR 3.3.2.3, please identify the last time the hand switches for SR 3.3.2.8, functions 1.a, 2.a, 3.a.1, and 3.b.1 were exercised under test or operational conditions, where the results of the hand switch changing state were observable.

### **RAI-MF8895-EICB-03**

In Attachment 9 to Enclosure 1 of the LAR the licensee identified the level transmitters are the same make and model (Barton 764) for both units, and two of the three wide range pressure transmitters are the same make and model (Barton 763) for both units. The third pressure transmitter is a Weed transmitter with manufacturer's drift specification of 0.4% of the range (6000 psig) over 24 months (i.e., a drift of 24 psig).

- a. For the Barton 764 level transmitters and the Barton 763 pressure transmitters, please provide equivalent Unit 1 calibration results data as well as channel check results for the previous 2 years.
- b. Please identify any verification performed to confirm the manufacturer's drift values for the Weed transmitter.
- c. Please include the design basis "as-found" and "as-left" tolerances for the transmitters associated with these SRs in your responses to a. and b. above.

### **RAI-MF8895-EICB-04**

In Attachment 14 to Enclosure 1 of the LAR the licensee did not identify any operating experience applicable to SR 3.4.12.8, or any other testing as providing alternate means of partially satisfying SR 3.4.12.8.

- a. Please provide equivalent Unit 1 calibration data for the testing performed as part of this surveillance. Please include the as-found and as-left tolerances.