



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

DEC 18 1995

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

Gentlemen:

In the Matter of the ) Docket Nos. 50-390  
Tennessee Valley Authority )

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - FACILITY OPERATING  
LICENSE NPF-20 - LICENSEE EVENT REPORT (LER) 50-390/95001

The enclosed report provides details regarding the failure to  
implement surveillance requirements within the required time  
interval. Submittal of the report is in accordance with  
10 CFR 50.73(a)(2)(i).

Sincerely,

D. V. Kehoe  
Nuclear Assurance  
and Licensing Manager

Enclosure  
cc: See page 2

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cc (Enclosure):

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Institute of Nuclear Power Operations  
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**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.

<b>FACILITY NAME (1)</b> Watts Bar Nuclear Plant - Unit 1	<b>DOCKET NUMBER (2)</b> 05000390	<b>PAGE (3)</b> 1 OF 9
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**TITLE (4)**  
Missed surveillances due to procedural and personnel errors.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	16	95	95	95-001	00	12	15	95		05000
										05000

**OPERATING MODE (9)** 6

**POWER LEVEL (10)** 00

**THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)**

20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	50.73(a)(2)(viii)
20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below
20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	or in NRC Form 366A

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b> Jerry Bushnell, Compliance Licensing Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> (423)-365-8048
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

**SUPPLEMENTAL REPORT EXPECTED (14)**

<b>YES</b> (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> <b>NO</b>	<b>EXPECTED SUBMISSION DATE (15)</b>	<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>
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**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

Surveillance Requirement (SR), SR 3.9.3.1, requires that a channel check of the Source Range Neutron Flux Monitors be performed every 12 hours while in Mode 6. On November 16, 1995, at 0315 hours (EST), Operations personnel identified that SR 3.9.3.1 had not been performed within the required interval. The channel check of the monitors was performed at 2300 hours on November 14, 1995 and subsequently on November 15, 1995 at 1520 hours and found to be operable. SR 3.3.7.1, requires that a channel check of the Control Room Radiation Monitor be performed every 12 hours. On November 16, 1995, at 0500 hours (EST), Operations personnel identified that SR 3.3.7.1 had not been performed from November 10, 1995 to November 16, 1995. During this time period the unit was in mode 6 and starting at 0020 hours on November 16, 1995, the unit was in Mode 5. The cause for the failure to implement SR 3.9.3.1 is attributed to procedural inadequacies associated with Surveillance Instruction (SI), 1-SI-79-1, Refueling Surveillance Log. For SR 3.3.7.1, the primary cause is attributed to improper interpretation/implementation of 1-SI-0-2, Shift and Daily Surveillance Log. Corrective measures include revision of 1-SI-79-1 and 1-SI-0-2, review of SIs to ensure that SRs are appropriately implemented, and a review for proper interpretation of conditions applied to applicability statements in the Technical Specifications.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**I. PLANT CONDITIONS:**

At 0020 hours (EST) on November 16, 1995, Watts Bar Unit 1 was in Mode 5 following initial fuel loading. At approximately 0315 (EST) and 0500 (EST) on November 16, 1995, licensed Operations personnel identified surveillances required to be performed on a 12 hour basis during Mode 6 were not performed or were not performed within the specified time interval.

**II. DESCRIPTION OF EVENT****A. Event****1. Failure to implement SR 3.9.3.1:**

SR 3.9.3.1, requires that a channel check of the Source Range Neutron Flux Monitors be performed every 12 hours while in Mode 6. Surveillance Instruction (SI) 1-SI-79-1 is performed to implement SR 3.9.3.1 and was initiated on November 9, 1995, in support of initial fuel load. The SI was performed, as required, up to 2300 hours on November 14, 1995. Performance of the SI was next required at 1100 hours on November 15, 1995. The SI was not performed at 1100 hours by the Unit Operator (UO), a licensed Reactor Operator. The UO interpreted 1-SI-79-1 to be required only during core alterations. At the time this occurred, the UO considered core alterations to be complete. In addition, the UO's understanding was that 1-SI-79-1 was to be performed only once more to support the lifting of the reactor head for initial placement on the vessel. This understanding was based on verbal instructions provided by the Assistant Shift Operations Supervisor (ASOS), a licensed Senior Reactor Operator. Implementation of 1-SI-79-1 was reinitiated at 1520 hours on November 15, 1995, in support of the lifting of the head. Subsequent to this, the ASOS reviewed the data sheets which documented the previous performances of 1-SI-79-1. The ASOS noted that the Source Range channel check should have been performed by 1100 hours to fulfill SR 3.9.3.1.

**2. Failure to implement SR 3.3.7.1**

Based on the previously described event associated with SR 3.9.3.1, the ASOS initiated a review of 1-SI-0-2, Shift and Daily Surveillance Log, to ensure all required surveillances had been performed. On November 16, 1995, at 0500 hours (EST), the ASOS identified that SR 3.3.7.1 had not been performed from November 10, 1995 to November 16, 1995. SR 3.3.7.1 requires that a channel check of the Control Room Radiation Monitor be performed every 12 hours. This SR is implemented as Step 8 on Appendix G of 1-SI-0-2. During this time period, Step 8 was marked as "not applicable" by the Unit Operators (UOs). The basis for marking the step as being not applicable was that Footnote 26 on Appendix G of the SI

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**2. Failure to implement SR 3.3.7.1 (continued)**

implied that the SR was only required during the movement of irradiated fuel assemblies. Since the principal operation in process was the initial loading of the core, the UOs considered irradiated fuel to not be involved. The status of the plant during this time period was Mode 6 for initial loading of the core, and starting at 0020 hours on November 16, 1995, the unit was in Mode 5.

Incident Investigation (II) W-95-020 was initiated to document both events in the TVA Corrective Action Program.

**B. Inoperable Structures, Components, or Systems that Contributed to the Event**

There were no structures, components, or systems inoperable at the start of the event that contributed to the event.

**C. Dates and Approximate Times of Major Occurrences**

**1. Dates and times associated with failure to implement SR 3.9.3.1**

November 9, 1995, approximately 1700 hours (EST) - 1-SI-79-1 was initiated based on the start of the initial loading of the core.

November 10, 1995, 0345 hours (EST) - Entered Mode 6 during initial fuel loading.

November 9, 1995, through November 14, 1995, - SR 3.9.3.1 was performed as required to meet the 12 hour interval. SR consistently performed up to 2300 hours on November 14, 1995.

November 15, 1995, 1100 hours (EST) - SR 3.9.3.1 should have been performed to meet the 12 hour interval.

November 15, 1995, 1520 hours (EST) - 1-SI-79-1 performed in support of the initial placement of the vessel head.

November 16, 1995, 0020 hours (EST) - Unit entered Mode 5.

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**C. Dates and Approximate Times of Major Occurrences (Continued)**

November 16, 1995, at 0315 hours (EST) - ASOS identified that SR 3.9.3.1 had not been performed within the required interval. Action initiated to address the event in the TVA corrective action program.

**2. Dates and times associated with failure to implement SR 3.3.7.1**

November 10, 1995, 0345 hours (EST) - Entered Mode 6 during initial fuel loading.

November 10, 1995 through November 16, 1995 - 1-SI-0-2 performed. Data sheet step for performance of SR 3.3.7.1 marked as being not applicable.

November 16, 1995, 0020 hours (EST) - Unit entered Mode 5.

November 16, 1995, 0500 hours (EST) - ASOS identified that SR 3.3.7.1 had not been performed from November 10, 1995 to November 16, 1995. Action initiated to address the event in the TVA corrective action program.

**D. Other Systems or Secondary Functions Affected**

No other systems or secondary functions were affected by this event.

**E. Method of Discovery**

For SR 3.9.3.1, the ASOS performed a review the data sheets completed for performance of 1-SI-79-1. Based on this review, the ASOS noted that the Source Range channel check should have been performed by 1100 hours to fulfill SR 3.9.3.1. The performance of the SR did occur on November 16, 1995, at 1520 hours in preparation for the initial placement of the vessel head. Based on the review performed for SR 3.9.3.1, the ASOS initiated a review of 1-SI-0-2, Shift and Daily Surveillance Log, to ensure all required surveillances had been performed. On November 16, 1995, at 0500 hours (EST), the ASOS identified that SR 3.3.7.1 had not been performed from November 10, 1995 to November 16, 1995.

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**F. Operator Actions**

The actions taken by Operations personnel related to this event are discussed in Section V, Corrective Actions, Item 1, Immediate Corrective Actions.

**G. Automatic and manual safety system responses**

There were no automatic or manual safety system responses and none were necessary.

**III. CAUSE OF EVENT**

**A. Immediate Cause**

The immediate cause of this event was the failure to perform surveillance requirements established for Mode 6.

**B. Root Cause**

**1. Failure to implement SR 3.9.3.1**

The root cause for the failure to implement SR 3.9.3.1 was the result of an error in an approved procedure, 1-SI-79-1. The method in which the procedure was written allowed for it to be interpreted that it was only required to be performed in Mode 6, while core alterations were in process. The interpretation was based on Section 1.1, Purpose, of 1-SI-79-1.

**2. Failure to implement SR 3.3.7.1**

The root cause for the failure to implement SR 3.3.7.1 was the result of an error in an approved procedure, 1-SI-0-2. The method in which the procedure was written allowed for it to be interpreted that it was only required to be performed in Mode 6, during the movement of irradiated fuel. The interpretation was based on Footnote 26 in Appendix G of 1-SI-0-2.

**IV. ANALYSIS OF EVENT - ASSESSMENT OF SAFETY CONSEQUENCES**

**A. General**

There were no failures that rendered a train or a safety system inoperable. Based on this, there were no safety implications to the public related to the event. Since the plant had not been critical at the time of the missed surveillance, the safety significance associated with not performing SR 3.9.3.1 and SR 3.3.7.1 is insignificant.

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**IV. ANALYSIS OF EVENT - ASSESSMENT OF SAFETY CONSEQUENCES (Continued)**

**B. Failure to implement SR 3.9.3.1**

SR 3.9.3.1 is required to be performed once every 12 hours. The time interval between performances of the SR went for 16 hours and 20 minutes on November 15, 1995. This exceeded the 1.25 times the required interval allowed by SR 3.0.2. During this time, the audible count rate was in service, the source range high flux at shutdown alarm was operable, and the shutdown margin calculation was being performed every 12 hours. No activities were being performed that would have decreased the shutdown margin during the time the channel check was not performed. Although the surveillance interval was exceeded by 1 hour and 20 minutes, Operations personnel had other reliable indications that would have warned them of a decrease in shutdown margin.

**C. Failure to implement SR 3.3.7.1**

Technical Specification surveillance requirement SR 3.3.7.1 requires a channel check of the Control Room Emergency Ventilation System (CREVS) to be performed every 12 hours. The basis for performing the surveillance of the CREVS is to ensure the Operations personnel stationed in the Control Room during accident recovery and post accident operations are kept in a habitable environment. The radiation monitor actuation of the CREVS in Modes 5 and 6, during core alterations, is the primary means to ensure control room habitability in the event of a fuel handling or waste gas decay tank rupture accident. During the time the surveillance was not performed, the plant was in Mode 6, and since this was the initial core load, no irradiated fuel was being moved, and no radioactive gases had been produced.

**V. CORRECTIVE ACTIONS**

**A. Immediate Corrective Actions**

**1. Failure to implement SR 3.9.3.1**

Based on the ASOS's review of the data sheets which documented the previous performances of 1-SI-79-1, it was noted that the Source Range channel check should have been performed by 1100 hours on November 15, 1995, to fulfill SR 3.9.3.1. Action was initiated to document the failure to implement the SR in the TVA corrective action program. The failure to implement SR 3.9.3.1 was identified after the plant had entered Mode 5. 1-SI-79-1 is only required to be performed during Mode 6. The surveillance of the Source Range channels is controlled by SR 3.3.1.1 in Modes 2, 3, 4, and 5. SR 3.3.1.1 is implemented as an element of 1-SI-0-2.

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**V. CORRECTIVE ACTIONS (continued)**

**2. Failure to implement SR 3.3.7.1**

Upon identification that SR 3.3.7.1 had not been implemented the action for LCO 3.3.7 was entered. The operability of the Main Control Room Radiation Monitor was verified and the action exited on November 16, 1995, at 0500 hours.

**B. Corrective Actions to Prevent Recurrence**

1. Revise 1-SI-79-1, Refueling Surveillance Log, and/or 1-SI-0-2, Shift and Daily Surveillance Log to ensure proper implementation of Surveillance Requirement (SR) 3.9.3.1 (Source Range Monitor channel check) and SR 3.3.7.1 (Main Control Room Monitor channel check).  
Completion Date: December 31, 1995
2. For Surveillance Instructions (SIs) which implement several SRs in one instruction, perform a review to ensure that SRs are appropriately implemented. This will include an action to ensure the SIs clearly communicate the actions to be performed by the Operator. Completion Date: December 31, 1995
3. Using SR 3.3.7.1 as an example (conditional statements in the applicability statements of the Technical Specifications), review the Technical Specifications to identify similar types of conditional statements that may be subject to interpretation. Ensure implementing procedures address the correct meaning of the Technical Specifications. Completion Date: December 31, 1995
4. Perform a review of the procedure change forms (PCFs) initiated based on the performance of the Surveillance Matrix review. For the PCFs which identify the need to clarify or initially incorporate the implementation of an SR in a procedure, ensure incorporation of the SR was correct and clearly stated such that a misinterpretation should not occur. Completion Date: December 31, 1995
5. Revise the Site Writers Manual to define guidelines which ensure the Purpose and Applicability statements of site procedures appropriately define, if required, the operational mode and/or any conditional requirements established by documents such as the Technical Specifications, the Technical Requirements Manual, the Offsite Dose Calculation Manual or the Fire Protection Report. Completion Date: December 31, 1995
6. Issue a memorandum to the procedure writers appraising them of II-W-95-020 and alerting them to the need to ensure changes to procedures are written and added to appropriate sections of procedures such that users clearly understand the purpose, scope, applicability and actions required by the revised procedure. Date Completed: December 11, 1995

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**VI. ADDITIONAL INFORMATION**

**A. Failed Components**

**1. Safety Train Inoperability**

There were no failures that rendered a train or a safety system inoperable.

**2. Component/System Failure Information**

**a. Method of Discovery of Each Component or System Failure:**

There were no component failures involved.

**b. Failure Mode, Mechanism, and Effect of Each Failed Component:**

There were no component failures involved.

**c. Root Cause of Failure:**

There were no component failures involved.

**d. For Failed Components With Multiple Functions, List of Systems or Secondary Functions Affected:**

There were no component failures involved.

**e. Manufacturer and Model Number of Each Failed Component:**

There were no component failures involved.

**B. Previous Similar Events**

For Watts Bar Nuclear Plant, no events similar to the events described in this report have been previously reported under 10 CFR 50.72 or 10 CFR 50.73.

**VII. COMMITMENTS**

The actions committed to be implemented in response to this event are tabulated in Section V, Corrective Actions.