



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

MAR 28 1996

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

Gentlemen:

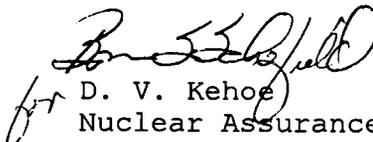
In the Matter of ) Docket Nos. 50-390  
Tennessee Valley Authority )

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - FACILITY OPERATING LICENSE  
NPF-90 - LICENSEE EVENT REPORT (LER) 50-390/96003

The enclosure provides LER 50-390/96003 concerning noncompliance with a Technical Specification surveillance requirement for inspection of the lower compartment personnel access hatch after it was used. This LER is provided in accordance with 10 CFR 50.73 (a)(2)(i).

If you should have any questions, please contact P. L. Pace at (423) 365-1824.

Sincerely,

  
for D. V. Kehoe  
Nuclear Assurance  
and Licensing Manager

Enclosure  
cc: See page 2

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U.S. Nuclear Regulatory Commission

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cc (Enclosure):

NRC Resident Inspector  
Watts Bar Nuclear Plant  
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Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager  
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Region II  
101 Marietta Street, NW, Suite 2900  
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ENCLOSURE

**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

FACILITY NAME (1)

WATTS BAR NUCLEAR PLANT - UNIT 1

DOCKET NUMBER (2)

05000-390

PAGE (3)

1 OF 6

TITLE (4)

SURVEILLANCE INSPECTION OF THE CONTAINMENT DIVIDER BARRIER PERSONNEL ACCESS HATCH

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
02	27	96	96	003	00	03	28	96		
OPERATING MODE (9)		4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)			20.2203(a)(2)(v)			X 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 or in NRC Form 366A
			20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

R. M. Brown

TELEPHONE NUMBER (include Area Code)

(423) 365-8195

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)

YES

(If yes, complete EXPECTED SUBMISSION DATE).

X

NO

EXPECTED SUBMISSION DATE (15)

MONTH

DAY

YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 27, 1996, four instances of failure to perform surveillance requirement (SR)-3.6.13.2 were discovered by an investigative team member while reviewing post inspection performance records associated with the divider barrier personnel hatch number 2. To satisfy SR-3.6.13.2, the personnel escape doors and equipment hatches between the containment's upper and lower compartments are determined operable by visually inspecting the seals and sealing surfaces to verify there were no detrimental misalignments, cracks or defects in the sealing surfaces, prior to final closure after each opening. Surveillance Instruction 1-SI-88-24-1 ensures the penetrations were closed to satisfy SR-3.6.13.3; 1-SI-304-1 verifies the correct alignment of the penetration seals to satisfy SR-3.6.13.2. 1-SI-304-1 was required to be performed in conjunction with 1-SI-88-24 prior to final closure of doors and hatches to ensure the integrity of the divider barrier seal. In four instances, the step to indicate applicability of 1-SI-304-1 within 1-SI-88-24 was incorrectly interpreted and marked "not applicable." Immediate corrective action consisted of visually inspecting the personnel hatch number 2 seal integrity and alignment. No signs of seal degradation or misalignment were found. Other corrective measures included training or counseling licensed personnel, strengthening procedures, placing both surveillances in 1-SI-88-24, thereby, transferring ownership to one organization, and clarifying the intent of the term "final closure" in the instruction.

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

**I. PLANT CONDITIONS:**

Westinghouse - Pressurized Water Reactor

Watts Bar Nuclear Plant Unit 1 was in Mode 4 with the reactor coolant system (RCS)(EIIIS; AB), temperature at 248 degrees Fahrenheit, and a boron concentration of approximately 1257 ppm.

**II. DESCRIPTION OF EVENT**

**A. Event**

On February 27, 1996, at approximately 1000 hours EST, four instances of failure to perform WBN Technical Specification surveillance requirement (SR)-3.6.13.2 were discovered by an incident investigative team member while reviewing post inspection performance records associated with the divider barrier personnel hatch number 2 (EIIIS; DR). To satisfy SR-3.6.13.2, the personnel access doors and equipment hatches between the containment's upper and lower compartments were determined operable by visually inspecting the seals and sealing surfaces of these penetrations and verifying there were no detrimental misalignments, cracks or defects in the sealing surfaces, prior to final closure after each opening.

Surveillance Instruction 1-SI-88-24-1, "Containment Barrier Personnel Access Hatches and Equipment Hatches" performed by Operations, ensures the penetrations are closed to satisfy SR-3.6.13.3; 1-SI-304-1, "Divider Barrier Personnel Access and Equipment Hatch Inspection" performed by Maintenance, verifies the correct alignment of penetration seals to satisfy SR-3.6.13.2. 1-SI-304-1 was required to be performed in conjunction with 1-SI-88-24 prior to final closure of doors and hatches to ensure the integrity of the divider barrier seal. In the four instances, the step to indicate the applicability of 1-SI-304-1 within 1-SI-88-24 was incorrectly interpreted and marked "not applicable."

Additional Information

WBN Unit 1 has an ice condenser system (EIIIS; BC) designed to limit the containment pressure below the design pressure during a loss of coolant accident (LOCA). The divider barrier separates the containment into lower and upper compartments. Steam generated during an accident raises the pressure in the lower compartment and forces steam into the ice condenser (EIIIS; COND). The divider barrier provides a reasonably tight seal against leakage of steam into the upper compartment, which would reduce the steam flow into the ice condenser.

**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.

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

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

The surveillance was missed December 16, 1995, at 1730 hours EST while Unit 1 was in Mode 4.

The surveillance was missed January 2, 1996, at 1420 hours EST while Unit 1 was in Mode 3.

The surveillance was missed January 6, 1996, at 1245 hours EST while Unit 1 was in Mode 3.

The surveillance was missed January 10, 1996, at 2345 hours EST while Unit 1 was in Mode 3.

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

In that subsequent inspection found the seal to be operable, there were no failures that rendered a train or a safety system inoperable.

**E. Method of Discovery**

During a routine review, Operations personnel identified a potential problem involving the applicability of surveillances of the divider barrier personnel hatch number 2 (EIIS; DR). At that time, there were no known instances of failure to perform the surveillance; however, Problem Evaluation Report (PER) WBPER960044 was initiated to investigate the issue and was later superseded by Incident Investigation (II)-W-96-005. Subsequently, an investigative team member found four instances of failure to perform SR-3.6.13.2 while reviewing documentation associated with previous performances of 1-SI-88-24.

**F. Operator Actions**

Inspection of the divider barrier personnel hatch number 2 (EIIS; DR) seal was initiated and completed within two hours from initial identification of the potential problem. The inspection was performed in accordance with 1-SI-304-1. Review of the inspection results concluded that the integrity of the divider barrier had not been compromised.

**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**

SR-3.6.13.2 requires the divider barrier personnel hatch number 2 (EIIS; DR) surveillance after "final closure" after each use while in applicable modes 1, 2, 3, and 4. The term "final closure" was misinterpreted by some licensed personnel to mean when changing from Mode 5 to Mode 4 or at the final closure of containment.

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**B. Root Cause**

The step in 1-SI-88-24, Section 4.1 (2), which requires inspection of the divider barrier personnel hatch number 2 seal (EIS; SEAL) integrity via 1-SI-304-1, was incorrectly marked "not applicable" on at least four occasions.

**Contributing Factors**

The step in 1-SI-88-24 discussed in the root cause (above) referred to 1-SI-304-1 without providing specific guidelines for applicability.

Plant Administrative Instruction (PAI)-2.03, "Containment Access," Attachment A, "Containment/Annulus Entry Authorization," did not address entry or exit requirements for 1-SI-88-24 or 1-SI-304-1.

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

Inspection of the divider barrier personnel hatch number 2 seal (EIS; SEAL) integrity was initiated and completed in accordance with 1-SI-304-1 within two hours after discovery of the potential problem. The inspection results revealed that the integrity of the divider barrier had not been compromised since the plant's initial entry into Mode 4. Although some inspections were not performed, hatch number 2 (EIS; DR) was determined to be fully capable of operating to perform its intended safety function while Unit 1 was in all applicable modes.

There were no safety implications to the public related to the event. No other systems or secondary functions were affected by this event.

**V. CORRECTIVE ACTIONS**

**A. Immediate Corrective Actions**

Visual inspection of the divider barrier personnel hatch number 2 seal (EIS; SEAL) integrity and alignment was performed. No signs of seal degradation or detrimental misalignment were found.

The WBN Technical Specifications were reviewed for the purpose of identifying similar SRs. One other SR was found to be of similar nature; SR-3.6.13.3 requires inspection of the divider barrier personnel hatch number 2 (EIS; DR) to ensure proper closure each time it is opened. This surveillance is performed by Operations personnel by 1-SI-88-24 and controlled by PAI-2.03. This incident investigation team determined that SR-3.6.13.3 was being performed when applicable; however, it is recognized that one failure to completely engage the latch after closure of hatch number 2 is being addressed by II-W-96-007 and Licensee Event Report (LER) 96007.

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**B. Corrective Actions to Prevent Recurrence**

1. 1-SI-88-24 has been revised to allow Operations personnel to perform the seal inspection for hatch number 2 and to allow multiple closures and seal verifications prior to exiting containment. A step has been included in the post performance actions to verify the completion of closure and seal inspection requirements. The acceptance criteria has been revised to include these requirements.
2. PAI-2.03, Attachment A, has been revised as follows: (1) prior to entry, a step has been added to document all doors and hatches intended to be opened, (2) prior to closure, a step has been added to verify that 1-SI-88-24 has been completed if hatch number 2 between upper and lower containment has been opened, and (3) prior to closure, a step has been added to verify that 1-SI-304-1 and 1-SI-88-24 have been completed if any other doors or hatches between upper and lower containment have been opened.
3. To ensure that Operations personnel interprets the requirements of 1-SI-304-1, a night order has been issued on the divider barrier seal surveillance requirements.

**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.

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**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**

Licensee Event Report (LER) 95-001 - On November 16, 1995, Operations personnel identified that SR-3.9.3.1 had not been performed within the required interval. 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. Also, LER 95-001 reported that on November 16, 1995, Operations personnel 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.

**VII. COMMITMENTS**

All corrective actions are complete.