



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

John A. Scalice  
Site Vice President, Watts Bar Nuclear Plant

MAR 26 1997

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

Gentlemen:

In the Matter of the )  
Tennessee Valley Authority ) Docket No. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 FACILITY OPERATING LICENSE  
NPF-90 - LICENSEE EVENT REPORT (LER) 50-390/97005 - NONCOMPLIANCE  
WITH TECHNICAL SPECIFICATION (TS) SURVEILLANCE REQUIREMENT (SR)  
3.3.3.3.26

The purpose of this letter is to provide the subject report. The enclosed report provides details concerning the noncompliance with TS SR 3.3.3.3.26 which requires a channel calibration of the Auxiliary Building, Passive Sump Level.

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

Sincerely,

  
J. A. Scalice

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IE021

Enclosure  
cc: See page 2

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PDR ADDCK 05000390  
S PDR



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cc (Enclosure):

INPO Records Center  
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700 Galleria Parkway  
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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: 60.0 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 20565-0001, 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 6
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**TITLE (4)**  
NONCOMPLIANCE WITH TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT 3.3.3.3-26

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
2	26	97	97	005	00	3	24	97		05000
										05000

<b>OPERATING MODE (9)</b> 1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>									
<b>POWER LEVEL (10)</b> 100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 73.71						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> OTHER -						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> Specify in Abstract below						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> or in NRC Form 366A						

<b>LICENSEE CONTACT FOR THIS LER (12)</b>	
<b>NAME</b> Rickey Stockton, Licensing Engineer	<b>TELEPHONE NUMBER (include Area Code)</b> (423)-365-1818

<b>COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)</b>									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input type="checkbox"/> NO							

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

On February 26, 1997, with Unit 1 operating in Mode 1 at 100 percent rated thermal power (RTP), it was determined that the calibration method for Auxiliary Building passive sump level transmitter 0-LT-77-134 contained an error in the input pressure that resulted in the transmitter output indicating 12.5 inches lower than actual level. It was subsequently determined that this calibration method existed in surveillance instructions for both Auxiliary Building sump level channels. The two functions of these channels are to provide indication to monitor for a breach of the spent fuel pit and to monitor for a breach in the Auxiliary Building of a system containing primary coolant.

With this condition, both channels were deemed not in compliance with Surveillance Requirement (SR) 3.3.3.3.26, and therefore the operators entered Limiting Condition of Operation (LCO) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," until both channels were returned to service.

Corrective actions required calibration of level transmitter loops 0-LPL-77-134 and 0-LPL-77-135 in accordance with revised Surveillance Instructions (SIs) 0-SI-77-1 and -2 which provided corrected calibration data. The extent of condition has been determined to be limited to these two transmitter channels.

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

**I. PLANT CONDITIONS**

Watts Bar Nuclear Plant Unit 1 was operating in Mode 1 at 100 percent RTP.

**II. DESCRIPTION OF EVENT**

**A. Event**

On February 26, 1997, with Unit 1 operating in Mode 1 at 100 percent RTP, it was determined through post performance review of SI, 0-SI-77-1, "18 Month Channel Calibration Auxiliary Building passive sump loop 0-LPL-77-134," that the calibration method for Auxiliary Building sump level transmitter 0-LT-77-134 (Energy Industry Identification System (EIS) code LIT) contained an error in the input pressure that resulted in the transmitter output indicating 12.5 inches lower than actual level. It was subsequently determined that this calibration method existed in surveillance instructions for both Auxiliary Building sump level channels. The two functions of these channels are to provide indication to monitor for a major breach of the spent fuel pit (EIS code DA) and to monitor for a breach in the Auxiliary Building of a system containing primary coolant (i.e., an RHR (EIS BP) or CVCS (EIS code CB) line break).

With this condition, both channels were deemed not in compliance with Surveillance Requirement (SR) 3.3.3.3.26, and therefore considered inoperable. The operators entered Limiting Condition of Operation (LCO) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," until both channels were returned to service.

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

The Auxiliary Building passive sump level indications were inoperable due to inaccurate surveillance.

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

DATE	TIME	EVENT
2/26/97		Post performance review of SI 0-SI-77-1 identified calibration method issue.
2/26/97	1000	Shift Manager enters LCO 3.3.3 for both trains being declared inoperable.

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2/26/97      2138      After successful completion of revised SI 0-SI-77-1 on A Train Auxiliary Building sump, 7-day action of LCO 3.3.3 was exited and the 30 day action of LCO 3.3.3 for Train B was entered. Work Request C138822 (Work Order 97-00532-00) was initiated to provide the required SR verifications.

2/27/97      1323      After successful completion of revised SI 0-SI-77-2 for B Train Auxiliary Building sump LCO 3.3.3 was exited.

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

No other systems or secondary functions were affected.

**E. Method of Discovery**

It was determined through post performance review by an instrument technician of SI, 0-SI-77-1, "18 Month Channel Calibration Auxiliary Building Passive Sump Loop 0-LPL-77-134," that the calibration method for Auxiliary Building sump level transmitter 0-LT-77-134 contained an error in the input pressure that resulted in the transmitter output indicating 12.5 inches lower than actual level.

**F. Operator Actions**

The Operations staff declared both trains of Auxiliary Building sump level inoperable and took action under LCO 3.3.3.

**G. Automatic and Manual Safety System Response**

There were no automatic or manual safety system responses due to this condition.

**III. CAUSE OF EVENT**

The cause of this event was determined to be personnel error. The procedure writer and the reviewer did not realize that the application of this type mounting of transmitter sensor bellows does not require head pressure compensation. This procedure inadequacy has existed since initial procedure development. Auxiliary Building sump transmitters 0-LT-77-134 and -135 were initially calibrated prior to fuel load using these procedures.

These sump transmitters are installed in a non-typical application due to the mounting of the sensor bellows (EIS code BLL) on the wall. The function of these transmitters is to detect an increase in the level of Auxiliary Building sump. The bellows are mounted 12.5 inches above the sump floor level. With no level in the sump under normal operating conditions, these conditions would not

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reveal that the transmitters were indicating incorrectly. In normal elevated sensor bellows applications, compensation to correct for head pressure effects are required. During the preparation of O-SI-77-1 and O-SI-77-2, the procedure writer failed to realized that this application did not require compensation thereby incorrectly inducing a 12.5 inch calibration shift. The technical reviewer also failed to realize that head pressure compensation was not required.

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

##### A. Evaluation of Plant Systems/Components

Auxiliary Building passive sump level Indication, a non-Type A Category 1 variable, monitors the sump level in the auxiliary building. The two functions of this indication are to monitor for a major breach of the spent fuel pit and to monitor for a breach in the Auxiliary Building of a system containing primary coolant (i.e., an RHR or CVCS line break). The Auxiliary Building passive sump level monitor consists of two channels on separate power supplies. The calibrated range of the two monitors are 12.5 inch to 72.5 inch. With the given condition, the transmitters would provide an indication of 12.5 inches lower than the actual level.

##### B. Evaluation of Personnel Performance

The procedure writer and technical reviewer failed to realize that head pressure compensation was not required in this application. Once discovered by the instrument technician during a post performance review, personnel responded to correct the procedures and perform the recalibration to return the two sump level trains to service.

##### C. Safety Significance

The safety significance associated with this condition is limited. This indication provides no control function for accident mitigation, only sump level indication to the operators. The operators do perform manual actions based on the knowledge that the passive sump is filling with water. However, the operators are provided with other means of leak detection such as a flood detection system throughout the auxiliary building.

#### V. CORRECTIVE ACTIONS

##### A. Immediate Corrective Actions

The operations staff declared both trains of Auxiliary Building sump level indication inoperable and entered LCO 3.3.3. Transmitters O-LT-77-134 and -135 were recalibrated on February 26 and 27, 1997, respectively, with the corrected input values.

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A review was performed to find similar applications of elevated bellows in a level measurement system. The review of 151 transmitters found that Containment Level transmitters 1-LT-63-180, -181, -182, and -183 are used in a similar manner. Upon review of the SIs associated with these transmitters, the calibration method used by these instructions was found to be correct.

**B. Corrective Actions to Prevent Recurrence**

SIs 0-SI-77-1 and -2 were revised on February 26, 1997, to provide the correct calibration method. Since the procedure writer and reviewer involved with this condition were procedure preparation contractors employed at WBN prior to licensing, they are no longer at WBN. A training memorandum has been provided to maintenance instrument engineers to familiarize them with this condition.

**VI. ADDITIONAL INFORMATION**

**A. Failed Components**

**1. Safety Train Inoperability**

Although no component failure as a result of this condition, the two sump level transmitter trains were considered inoperable.

**2. Component/System Failure Information**

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

There was no component failure as a result of this condition.

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

There was no component failure as a result of this condition.

**c. Root Cause of Failure:**

There was no component failure as a result of this condition.

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

There was no component failure as a result of this condition.

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

There was no component failure as a result of this condition.

**B. Previous Similar Events**

A review of previous WBN LERs did not identify any other LERs where a failure to incorporate a proper calibration method was identified.

**VII. COMMITMENTS**

The actions described above to address this condition have been completed. There are no outstanding actions associated with this LER.