

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

Richard T. Purcell
Site Vice President, Watts Bar Nuclear Plant

OCT 02 1998

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

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1 - FACILITY OPERATING
LICENSE NPF-90 - LICENSEE EVENT REPORT (LER) 50-390/1998004 - ICE
BED BORON SAMPLING NOT IN ACCORDANCE WITH SURVEILLANCE REQUIREMENT

The enclosed report provides details regarding the lack of
representative sampling methods for the surveillance requirement
(SR) for ice bed boron concentration in accordance with Technical
Specification SR 3.6.11.5. Submittal of this report is in
accordance with 10 CFR 50.73(a)(2)(i)(B).

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

Sincerely,



R. T. Purcell

Enclosure
cc: See page 2

9810090387 981002
PDR ADOCK 05000390
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U.S. Nuclear Regulatory Commission
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cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1) Watts Bar Nuclear Plant - Unit 1	DOCKET NUMBER (2) 05000390	PAGE (3) 1 OF 5
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TITLE (4)
Lack of Representative Ice Bed Samples

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
09	03	1998	1998	004	00	10	02	1998		05000
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	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					

LICENSEE CONTACT FOR THIS LER (12)

NAME Rickey A. Stockton, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (423)-365-1818
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

On September 3, 1998, it was identified that three previous performances of Surveillance Instruction, 1-SI-61-1, "Determination of Boron and pH on Ice Condenser Ice," sampled ice only from ice condenser bays 1 through 9 of the 24 bays. It was determined that this sampling technique may not meet the Technical Specification (TS) Surveillance Requirement (SR) 3.6.11.5 which requires a representative sample be taken to determine ice bed boron concentration. This lack of a representative sample is being reported in accordance with 10 CFR 50.73 (a)(2)(i)(B).

The cause of this condition was determined to be a lack of procedure guidance as to what constitutes a representative sample. Corrective action included additional sampling and confirming that ice bed boron concentration was greater than the required SR value of 1800 ppm. In addition, Surveillance Instruction, 1-SI-61-1, and TS bases will be revised to clarify the sampling technique to ensure a representative sample is taken which meets the requirements of SR 3.6.11.5.

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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 in Mode 1 operating at approximately 100 percent reactor power when this condition was identified.

II. DESCRIPTION OF EVENT

A. Event

On September 3, 1998, it was identified that three previous performances of Surveillance Instruction, 1-SI-61-1, "Determination of Boron and pH on Ice Condenser Ice," sampled ice only from ice condenser (Energy Industry Identification System (EIS) Code BC/COND) bays 1 through 9 of the 24 bays. It was determined that the location of the ice samples may not meet the Technical Specification Surveillance Requirement (SR) 3.6.11.5 which requires that a "representative" sample be taken to determine ice bed boron concentration.

Upon the determination that further testing was needed, samples from one basket (EIS Code BSKT) in each even-numbered ice bay were taken and analyzed. It was found that a sample from basket G-2 in bay 22 contained less than the required TS acceptable value of greater than or equal to 1800 ppm boron with the remaining samples meeting or exceeding this value. At this point, 5 additional samples from bay 22 were taken of which one (again from basket G-2) was found to contain less than the required concentration of boron with the other four from other bay 22 baskets being acceptable. Based on these results, the operators conservatively entered Limiting Condition for Operation (LCO) 3.6.11 consistent with the time of first sample failure. On September 4, 1998, additional samples from 55 baskets from across the ice condenser were taken and analyzed to determine boron concentration. The resultant average for the samples was determined to be 1921.6 ppm boron which meets the TS value of greater than or equal to 1800 ppm boron. At this point, the operators declared the ice bed operable and exited LCO 3.6.11.

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

There were no inoperable structures, components, or systems that contributed to this event.

C. Dates of Discovery and Reportable Findings

This condition was determined not to meet the TS SR on September 3, 1998, when a review of the three previous surveillance performances' documentation discovered that ice from bays 1 through 9 only were sampled in each performance. Different baskets in each bay were sampled during each SI performance.

D. Other Systems or Secondary functions Affected.

No other systems or secondary functions were affected.

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E. Method of Discovery

A review of three surveillance performances' documentation identified that the performances only sampled ice bays 1 through 9.

F. Operator Actions

Upon determination that further sampling and testing for boron concentration would be required, the operators conservatively entered Limiting Condition for Operation (LCO) 3.6.11 consistent with the time of first sample failure.

G. Automatic and Manual Safety System Responses

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

III. CAUSE OF EVENT

The cause of this event was that neither the surveillance nor the TS bases contained guidance as to what constituted a representative sample.

IV. ANALYSIS OF EVENT - ASSESSMENT OF SAFETY CONSEQUENCES

There was no safety significance to this event. The ice bed consists of over 2,403,800 lbs of ice stored in baskets within the ice condenser. Its primary purpose is to provide a large heat sink in the event of a release of energy from a Design Basis Accident (DBA) in containment. The ice would absorb energy and limit containment peak pressure and temperature during the accident transient. Limiting the pressure and temperature reduces the potential for release of fission product radioactivity from containment to the environment in the event of a DBA. Boron concentration also provides assurance that the containment sump pH is acceptable after the ice melts following a DBA.

Surveillance Requirement 3.6.11.5 verifies the chemical composition of the store ice to ensure that the stored ice has a boron concentration of at least 1800 ppm. Samples analyzed on September 4, 1998, confirmed that the ice bed concentration of boron was within the TS value of greater than or equal to 1800 ppm. Therefore, there is no safety significance due to this condition.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

As previously discussed, on September 4, 1998, 55 ice samples were taken and analyzed to determine boron concentration. The resultant average for the samples was determined to be 1921.6 ppm boron which meets the TS value of greater than or equal to 1800 ppm boron.

In addition, Surveillance Instruction, 1-SI-61-1, was placed on administrative hold.

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B. Corrective Actions to Prevent Recurrence

Surveillance Instruction, 1-SI-61-1, will be revised to clarify the sampling technique to ensure a representative sample is taken which meets the requirements of SR 3.6.11.5.

The Technical Specification bases will also be revised to further describe what constitutes a representative sample. (TVA does not consider this information to constitute a regulatory commitment. TVA's Corrective Action Program will track completion of the required actions.)

VI. ADDITIONAL INFORMATION

A. Failed Components

1. Safety Train Inoperability

There was no safety train inoperability as a result of this condition.

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.

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B. Previous Similar Events

WBN has not identified nor previously reported other deficiencies similar to this event.

VII. COMMITMENTS

The revision to Surveillance Instruction 1-SI-61-1 will be completed by November 20, 1998.