

10 CFR 50.73

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of
Tennessee Valley Authority

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)

Docket No. 50-390

**WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 – LICENSEE EVENT REPORT (LER)
390/2008-005, REVISION 0 – REPORT OF INOPERABILITY OF RADIATION MONITOR DUE
TO NON-CONSERVATIVE SETPOINT**

This submittal provides LER 390/2008-005. This LER documents an event where the plant was operated in a condition prohibited by Technical Specifications due to an inoperability of the radiation monitors used to comply with TS 3.4.15. The condition is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).

There are no regulatory commitments associated with this submittal. If you have any questions concerning this matter, please contact me at (423) 365-1824.

Sincerely,

M. K. Brandon
Manager, Site Licensing and
Industry Affairs

Enclosure
cc: See Page 2

Enclosure

cc (Enclosure):

NRC Resident Inspector
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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 collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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4. TITLE
Inoperability of Radiation Monitor Due to Non-Conservative Setpoint

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	29	2008	2008	- 005 -	0	12	29	2008	N/A	N/A
									N/A	N/A

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)			
10. POWER LEVEL 100%	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME Michelle Pope, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (423) 365-8138
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

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

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

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

On October 29, 2008, a discrepancy in the setpoint of the particulate channel of the radiation monitor being credited for meeting Technical Specification (TS) 3.4.15 was identified and the appropriate Limiting Condition for Operation (LCO) was entered. On October 14, the radiation monitor had been calibrated to a setpoint that was no longer within the specified tolerance as a result of a design change. From October 14 to October 29, the Reactor Coolant System Leakage Detection System had been inoperable due to this incorrect setpoint. Consequently, WBN had been operating in a condition prohibited by Technical Specifications.

The cause of this event was determined to be a human performance error during the preparation of design change impact forms. An insufficient level of Question, Validate, and Verify (QV&V) was used, and self-checking was flawed by a wrong assumption regarding design change scope. The setpoint was corrected October 30.

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NARRATIVE

I. PLANT CONDITIONS:

The events discussed in LER 2008-005 occurred during October 2008 while the unit was at 100% power.

II. DESCRIPTION OF EVENT:

A. Event:

On October 29, 2008, the particulate channel of radiation monitor 1-RE-90-112 (EIS component identifier MON) was declared inoperable, and TS LCO 3.4.15 Condition B was entered. This radiation monitor was declared inoperable when it was identified as having a non-conservative setpoint. From October 14, 2008 to October 29, 2008, the particulate channel of this radiation monitor had been inoperable as it may not have detected a one gallon per minute (gpm) leak within one hour due to this non-conservative setpoint. During this time period, WBN operated in a condition prohibited by Technical Specifications because the radiation monitor was inoperable and the TS required actions were not taken.

On October 30, 2008, the particulate setpoint for radiation monitor 1-RE-90-112 was properly calibrated in accordance with the plant's design basis.

Background: On June 20, 2008, Design Change Notice (DCN) 52631 was issued to change the setpoint on radiation monitors 1-RE-90-106 (EIS component identifier MON) and 1-RE-90-112. 1-RE-90-106 is normally aligned to the lower containment and is used to perform TS 3.4.15 RCS Leak Detection function. If radiation monitor 1-RE-90-106 is inoperable or otherwise out of service, radiation monitor 1-RE-90-112 can be aligned to lower containment to perform this TS function. During the process of implementing DCN 52631, the impact sheets (i.e., the TVA administrative process for identifying documents/ procedures impacted by a design change) for the DCN did not identify a change to the Plant Scaling and Setpoint Document (SSD) for the 1-RE-90-112 radiation monitor when aligned to lower containment. As a consequence, this Plant SSD was not revised.

On September 3, 2008, radiation monitor 1-RE-90-112 was configured to lower containment in accordance with Work Order (WO) 08-820612-000. At that time the particulate setpoint for 1-RE-90-112 was appropriately calibrated to 1500 counts per minute (cpm) to match radiation monitor 1-RE-90-106 in accordance with Preventive Maintenance Work Order (PM) 0639W. On October 14, 2008, the particulate setpoint on radiation monitor 1-RE-90-112 was changed to 13,000 cpm based on a channel operational test in accordance with plant Surveillance Instruction 1-SI-90-19. The 13,000 cpm setpoint was in accordance with the Plant SSD; however, this value had not been updated to reflect the changes made in DCN 52631 and was a non-conservative value.

This event is addressed in TVA's Corrective Action Program as Problem Evaluation Reports (PERs) 154635, 155844, and 155879.

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

Radiation monitor 1-RE-90-106 was not in service during this series of events, which is why radiation monitor 1-RE-90-112 was aligned to lower containment. This configuration is proper to satisfy TS LCOs.

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II. DESCRIPTION OF EVENT (continued):

C. Dates and Approximate Times of Major Occurrences

<u>Date</u>	<u>Event</u>
June 20, 2008	DCN 52631 was issued to change the setpoint on radiation monitors 1-RE-90-106, and on 1-RE-90-112. Impact sheets did not identify all of the documents changes for radiation monitor 1-RE- 90-112.
October 14, 2008	Radiation Monitor 1-RE-90-112, which was configured to lower containment, had its setpoint recalibrated to 13,000 cpm according to the SI and the Plant SSD.
October 29, 2008	LCO 3.4.15 Condition B was entered when it was determined that the particulate channel of radiation monitor 1-RE-90-112 had been calibrated to a non-conservative setpoint.
October 30, 2008	Radiation monitor 1-RE-90-112 was recalibrated to the proper setpoint.

D. Other Systems or Secondary Functions Affected

No other systems were affected by the event.

E. Method of Discovery

Evaluation of PER 154635 regarding the discrepancy between the as-found setpoint and the expected value led to the discovery of the non-conservative value for radiation monitor 1-RE-90-112.

F. Operator Actions

The Operations staff (licensed personnel) entered the appropriate LCO once the condition was discovered. Appropriate actions were taken while in the LCO. The setpoint was changed to the appropriate value to allow the particulate channel to become operable.

G. Safety System Responses

There were no safety system responses as a result of this condition.

III. CAUSE OF EVENT

The cause of the event was determined to be a human performance issue stemming from an inadequate Question, Validate, and Verify (QV&V) review of the DCN. Radiation monitor 1-RE-90-112 was inadvertently left off the impact sheets during the DCN implementation process. Self checking was identified as a flawed defense. The cause was human error, and no process deficiencies were identified.

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IV. ANALYSIS OF THE EVENT

This event was a noncompliance with the WBN TS of very minor safety significance. When the particulate channel was unavailable, the containment pocket sump level monitor was still operable for leakage detection. For periods of time when the particulate channel's ability to detect one gpm within one hour was compromised, the radiation monitor did provide the ability to detect changes in RCS leakage, although low RCS activity could have delayed response time. Action B of TS 3.4.15 allows continued operation for up to 30 days provided containment atmosphere grab samples are taken every 24 hours, or when an RCS mass balance is performed every 24 hours. The RCS mass balance was performed every 72 hours in accordance with Surveillance Requirement 3.4.13.1 from October 14-29, 2008. Other leakage detection methods such as humidity monitoring and containment air temperature indication, as well as the containment pocket sump level monitor were available to support RCS leak detection.

V. ASSESSMENT OF SAFETY CONSEQUENCES

The event was determined to be of low safety significance because no significant leakage events occurred during the time of noncompliance. The Final Safety Analysis Report (FSAR) states that an RCS mass balance will be performed if the radiation monitor aligned to lower containment alarms concurrent with an increase rate of rise on the containment pocket sump monitor, or on a direct alarm from the containment pocket sump level monitor. RCS leakage detection was not challenged by the wrong setpoint on radiation monitor 1-RE-90-112. At all times, several diverse means for detecting abnormal leakage existed as discussed above.

VI. CORRECTIVE ACTIONS- The corrective actions for this condition are being managed within TVA's Corrective Action Program (PERs 154635, 155844, and 155879) and therefore are not considered to be regulatory commitments. An overview of the corrective action plan is provided below:

A. Immediate Corrective Actions

1. TS 3.4.15 Condition B was entered and the required actions were taken.
2. The particulate channel setpoint for 1-RE-90-112 was recalibrated to the appropriate value.

B. Other Corrective Actions Taken

1. The Plant SSD was updated to specify the correct particulate setpoint for radiation monitor 1-RE-90-112.

VII. ADDITIONAL INFORMATION

A. Failed Components

None.

B. Previous LERs on Similar Events

There are no previous LERs from WBN that are similar to this event.

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VII. ADDITIONAL INFORMATION (continued)

C. Additional Information:

During the course of resolving the particulate channel setpoint issue, the basis for the operability of the gaseous channel of the radiation monitors used for compliance with TS 3.4.15 was challenged by the NRC. Due to sensitivity limitations of the gaseous channel, its ability to detect an RCS leak of one gpm within one hour based on actual WBN source terms could not be assured. TVA had previously recognized this limitation and had revised the WBN Updated Final Safety Analysis Report (UFSAR) per the 10 CFR 50.59 process. This change identified that the gaseous channel may not detect an RCS leak of one gpm within one hour when RCS activity is lower than source terms specified in WBN FSAR Table 11.1-7. This change was submitted to NRC in UFSAR Amendment 2 on April 6, 2001. The revised UFSAR section was referenced in the TS Bases. It was TVA's position that the realistic source terms used to meet Regulatory Guide (RG) 1.45 requirements could be based on ANSI 18.1 source terms (specified in FSAR Table 11.1-7) vice the actual source term, which can vary significantly with fuel cladding performance. NRC notified TVA on October 29, 2008 that it disagreed with the acceptability of TVA's position and the change made to the UFSAR. While this concern was being resolved, TVA agreed to not declare the monitor operable, and to continue taking the TS required actions. To facilitate resolution of this concern, TVA chose to pursue a license amendment, in accordance with current NRC guidance provided in RG 1.45 Revision 1, to eliminate the TS requirement for the gaseous channel. This License Amendment Request was approved by NRC on November 25, 2008 and was issued as WBN License Amendment 71. The monitor was then declared operable and TS 3.4.15 was exited.

With respect to the differing professional opinion regarding the UFSAR change to the licensing basis for the gaseous channel of these radiation monitors, TVA has initiated PER 160075 to evaluate this aspect and is working toward resolving this issue. The TS compliance aspects of this differing opinion were resolved by License Amendment 71 as discussed above.

D. Safety System Functional Failure

This event did not involve a safety system functional failure as defined in NEI 99-02, Revision 5.

E. Loss of Normal Heat Removal Consideration

There was no loss of normal heat removal due to this condition.

VIII. COMMITMENTS

None.