



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

June 20, 2016

10 CFR 50.73

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

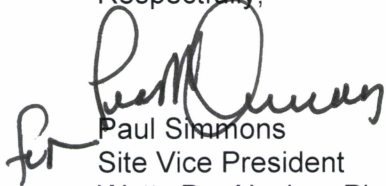
Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NPF-90
NRC Docket No. 50-390

Subject: Licensee Event Report 390/2016-007-00, Technical Specification Action Not Met for Rod Position Indication

This submittal provides Licensee Event Report (LER) 390/2016-007-00. This LER provides details concerning a failure to enter Technical Specification 3.1.8. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

Please direct any questions concerning this matter to Gordon Arent, WBN Licensing Director, at (423) 365-2004.

Respectfully,


Paul Simmons
Site Vice President
Watts Bar Nuclear Plant

Enclosure
cc: See Page 2

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cc (Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Watts Bar Nuclear Plant



LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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.

1. FACILITY NAME Watts Bar Nuclear Plant, Unit 1		2. DOCKET NUMBER 05000390	3. PAGE 1 OF 5
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4. TITLE
Technical Specification Action Not Met for Rod Position Indication

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
11	05	2015	2016	007	00	06	20	2016	N/A	N/A
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

9. OPERATING MODE		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)					
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)					
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)					
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)					
100	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)					
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)					
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)					
	<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)(D)	<input type="checkbox"/> 73.77(a)(2)(i)					
	<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)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)					
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A						

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT Dean Baker, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 423-452-4589
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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	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO				

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

On April 21, 2016, Watts Bar Nuclear Plant (WBN) Unit 1 concluded that a condition prohibited by Technical Specification (TS) Limiting Condition for Operation (LCO) 3.1.8, Rod Position Indication, had occurred during the dropped rod event on November 05, 2015. The Surveillance Requirement for TS 3.1.8 states that each Analog Rod Position Indication, (ARPI), agrees within 12 steps of the group demand position for the full indicated range of rod travel. Since the ARPI was indicating correctly for the dropped rod and was verified by diverse indications, it was considered operable. However, the Bases for TS 3.1.8 states that for the position indication to be operable, the Rod Position Indication System indicates within 12 steps of the step counter demand position as required by TS 3.1.5, Rod Group Alignment Limits. In the case of a dropped control rod, the Rod Position for the affected rod would not be within 12 steps of the demand counter. Since WBN Unit 1 at the time of the dropped rod was in a mode of applicability, the above conditions would have been met warranting entry into TS 3.1.8 Condition A. Because the actions of TS 3.1.8 were not taken within the required times, WBN Unit 1 was in a condition prohibited by TS.

TVA is reporting this issue pursuant to 10 CFR 50.73(a)(2)(i)(B).



**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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		YEAR	SEQUENTIAL NUMBER	REV NO.
Watts Bar Nuclear Plant	05000390	2016	- 007	- 00

NARRATIVE

I. PLANT OPERATING CONDITIONS BEFORE THE EVENT

Watts Bar Nuclear Plant (WBN) Unit 1 was in Mode 1 at 100 percent rated thermal power (RTP).

II. DESCRIPTION OF EVENT

A. Event

On November 05, 2015, WBN Unit 1 had a dropped rod event and entered Technical Specification (TS) 3.1.5, Rod Group Alignment Limits - Condition B, and TS 3.2.4, Quadrant Power Tilt Ratio (QPTR) - Condition A. The control room staff took the actions according to TS and reduced power to less than 75%. However, upon review after the event, it was determined that TS 3.1.8, Rod Position Indication for the Control Rod Drive System [EIS:AA], should also have been entered. The Surveillance Requirement (SR) for TS 3.1.8 states that each Analog Rod Position Indication (ARPI) agrees within 12 steps of the group demand position for the full indicated range of rod travel. Since the ARPI was indicating correctly for the dropped rod and was verified by diverse indications, it was considered operable. However, the Bases for TS 3.1.8 states that for the position indication to be operable, the Rod Position Indication System indicates within 12 steps of the step counter demand position as required by TS 3.1.5. In the case of a dropped control rod, the Rod Position for the affected rod would not be within 12 steps of the demand counter. Since WBN Unit 1 at the time of the dropped rod was in a mode of applicability, the above conditions would have been met warranting entry into TS 3.1.8 Condition A.

Because the action specified by TS 3.1.8 was not completed within the required times, this condition is reportable as an operation or condition prohibited by TS per 10 CFR 50.73(a)(2)(i)(B).

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

No inoperable structures, components, or systems contributed to this event.

C. Dates and Approximate Times of Occurrences

Date	Time	Event
3/20/2015	N/A	Licensing position documents that entry into TS LCO 3.1.8 would not be appropriate for a dropped control rod.
11/05/2015	21:43	Unit 1 dropped rod event - TS LCO 3.1.5, 3.2.4 & 3.3.1 entered
04/21/2016	N/A	WBN Unit 1 concluded that a condition prohibited by TS LCO 3.1.8, Rod Position Indication, had occurred

D. Manufacturer and Model Number of Components that Failed

Shutdown Bank A Rod D2 was the dropped control rod; however, this was not the cause of personnel failing to comply with the requirements of TS 3.1.8.

E. Other Systems or Secondary Functions Affected

There were no systems or secondary functions affected by this event.

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(11-2015)

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APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018



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F. Method of discovery of each Component or System Failure or Procedural Error

While there was a dropped rod event, the WBN licensing position that a dropped rod (inoperable rod) in accordance with TS 3.1.5 did not require entry into TS 3.1.8 has been determined to be incorrect.

G. Failure Mode and Effect of Each Failed Component

Shutdown Bank A Rod D2 dropped into the reactor core. While there was a dropped rod event, it was not the cause of personnel failing to comply with the requirements of TS 3.1.8.

H. Operator Actions

In response to the dropped rod, operators took actions to reduced reactor thermal power to comply with TS 3.1.5 and 3.2.4.

I. Automatically and Manually Initiated Safety System Responses

There were no automatic or manual safety system responses associated with this event.

III. CAUSE OF THE EVENT

A. The cause of each component or system failure or personnel error, if known.

The dropped rod occurred as a result of an electrical ground caused by moisture intrusion from a reactor coolant system leak. The leak was found during a subsequent maintenance outage on a Control Rod Drive Mechanism (CRDM) threaded vent plug which had decreased torque. A seal welded vent plug was installed to prevent further leakage.

While there was a dropped rod event, this issue was the result of an incorrect licensing position (CR 979285) addressing how to comply with TS 3.1.8, specifically, whether TS LCO 3.1.8 for Rod Position Indication (RPI) should be entered after a dropped rod as a result of not being able to successfully perform the associated 18-month TS SR 3.1.8.1.

B. The cause(s) and circumstances for each human performance related root cause.

The cause of this event was an incorrect licensing position of how to comply with TS 3.1.8.

IV. ANALYSIS OF THE EVENT

On November 05, 2015, WBN Unit 1 had a dropped rod event and entered TS 3.1.5, Rod Group Alignment Limits, Condition B; however, TS 3.1.8, Rod Position Indication, was not entered as required. The Surveillance Requirement for TS 3.1.8 states that each ARPI agrees within 12 steps of the group demand position for the full indicated range of rod travel. Since the ARPI was indicating correctly for the dropped rod and was verified by diverse indications, operations staff considered the APRI operable. However, the TS Bases for TS 3.1.8 states that for the position indication to be operable, the Rod Position Indication System indicates within 12 steps of the step counter demand position as required by TS 3.1.5. In the case of a dropped control rod, the rod position for the affected rod would not be within 12 steps of the demand

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NARRATIVE

counter. Since Unit 1 at the time of the dropped rod was in a mode of applicability, the above conditions would not have been met warranting entry into TS 3.1.8 Condition A.

WBN licensing position that a dropped rod (inoperable rod) in accordance with TS 3.1.5 did not require entry into TS 3.1.8 has been determined to be incorrect. Through various discussions with personnel, both internal and external to TVA, WBN confirmed that Condition A of TS 3.1.8 should have been entered. The TS LCO was not met based on the inability to meet TS SR in TS 3.1.8 and the LCO 3.1.8 bases description stating, in part, that ARPI meet TS LCO 3.1.5 makes this TS applicable for this condition.

A Late entry was made in the Narrative Log for the time period TS 3.1.8 was not met.

V. ASSESSMENT OF SAFETY CONSEQUENCES

- A. Availability of systems or components that could have performed the same function as the components and systems that failed during the event.

There were no safety system failures associated during this event.

- B. For events that occurred when the reactor was shut down, availability of systems or components needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident

Not applicable.

- C. For failure that rendered a train of a safety system inoperable, an estimate of the elapsed time from the discovery of the failure until the train was returned to service

Not applicable.

VI. CORRECTIVE ACTIONS

This event was entered into the Tennessee Valley Authority (TVA) Corrective Action Program and is being tracked under CR 1163150.

- A. Immediate Corrective Actions

A late entry was made in the Narrative Log for the time period TS 3.1.8 was not met.

- B. Corrective Actions to Prevent Recurrence

WBN provided a communication to Operations on May 11, 2016 stating that in the event of a dropped control rod TS LCO 3.1.5 and 3.1.8 are to be entered.

The industry has developed a revision to the Standard Technical Specifications, NUREG-1431 to decouple entry into TS 3.1.8 when TS 3.1.5 is required. WBN plans to adopt Technical Specifications Task Force (TSTF) Traveler TSTF 547 to address the TS revision.

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VII. ADDITIONAL INFORMATION

A. Previous similar events at the same plant

LER 2016-002, Technical Specification Action Not Met for Inoperable Containment Isolation Valve, describes a similar event of personnel failing to comply with the requirements of Technical Specifications. In this LER, WBN Unit 1 entered TS 3.6.3, Containment Isolation Valves, for a containment isolation valve being inoperable. The requirement to isolate the penetration associated with this containment isolation valve was not completed within TS time requirements. The cause of this event was operations staff misunderstanding the applicability of the Note associated with TS 3.6.3, which allows administrative controls under certain conditions. In response to this event, a shift order defining the correct response when entering TS 3.6.3 Condition A was provided to the operating staff, and is to be a topic of future operations training. The response to this issue was specific to TS 3.6.3 and would not have prevented this event.

No other control rod drop events in the last ten years were identified at WBN Unit 1.

B. Additional Information

None.

C. Safety System Functional Failure Consideration

This condition did not result in a safety system functional failure.

D. Scrams with Complications Consideration

There was no scram associated with this report.

VIII. COMMITMENTS

None.