



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

February 22, 2017

10 CFR 50.73

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

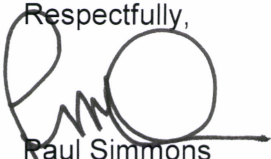
Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NPF-90
NRC Docket No. 50-390

Subject: **Licensee Event Report 390/2017-002-00, Incorrectly Hung Clearance
Leads to a Condition Prohibited by the Technical Specifications**

This submittal provides Licensee Event Report (LER) 390/2017-002-00. This LER provides details concerning an error made while hanging a clearance which led to a condition prohibited by the Technical Specifications. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

There are no regulatory commitments contained in this letter. 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

for P.S.

Enclosure
cc: See Page 2

U.S. Nuclear Regulatory Commission
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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 e-mail to Infocollections.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

4. TITLE

Incorrectly Hung Clearance Leads to a Condition Prohibited by the Technical Specifications

| 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 |
| 12 | 24 | 2016 | 2017 | - 002 | - 00 | 02 | 22 | 2017 | None | |
| | | | | | | | | | FACILITY NAME | DOCKET NUMBER |
| | | | | | | | | | FACILITY NAME | DOCKET NUMBER |
| 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) |
| 10. POWER LEVEL 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

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

| CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| | | | | | | | | | |

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

15. EXPECTED SUBMISSION DATE

| MONTH | DAY | YEAR |
|-------|-----|------|
| | | |

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

On December 24, 2016, Watts Bar Nuclear Plant (WBN) personnel identified that a clearance associated with a containment purge valve, 1-FCV-30-17, had been incorrectly hung. The clearance was intended to pull fuses to close and de-energize this valve in support of local leak rate testing. The incorrect fuses were removed, and the valve remained energized for about 24 hours while local leak rate testing was performed on the associated containment penetration. The clearance error was discovered when operations personnel attempted to replace the fuses for valve 1-FCV-30-17. The cause of the error was determined to be a human performance error. This has been determined to be a condition prohibited by Technical Specification 3.6.3, Limiting Condition for Operation, Condition A, because the penetration was inoperable for longer than the four hour required action time.

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

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 | 2. DOCKET NUMBER | 3. LER NUMBER | | |
|---------------------------------|------------------|---------------|-------------------|---------|
| | | YEAR | SEQUENTIAL NUMBER | REV NO. |
| Watts Bar Nuclear Plant, Unit 1 | 05000390 | 2017 | - 002 | - 00 |

NARRATIVE**I. PLANT OPERATING CONDITIONS BEFORE THE EVENT**

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

II. DESCRIPTION OF EVENT**A. Event Summary**

On December 24, 2016, Watts Bar Nuclear Plant (WBN) personnel identified that a clearance associated with a containment purge valve, 1-FCV-30-17 {EIS:FCV}, had been incorrectly hung. The clearance was intended to pull fuses associated with valve 1-FCV-30-17, resulting in the valve being closed and de-energized. The incorrect fuses were removed, and valve 1-FCV-30-17 remained energized while local leak rate testing (LLRT) was performed on the associated containment purge system {EIS:BB} penetration. This has been determined to be a condition prohibited by Technical Specification 3.6.3, Limiting Condition for Operation (LCO), Condition A, because the penetration was inoperable for longer than the four hour required action time.

This event is being reported to the Nuclear Regulatory Commission (NRC) under 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications (TS).

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

No inoperable systems beyond the identified valve contributed to this report.

C. Dates and Approximate Times of Occurrences

| Date | Time (EST) | Event |
|----------|------------|--|
| 12/23/16 | 1400 | Operations commences 1-SI-30-701, Containment Isolation Valve Local Leak Rate Test Purge Air |
| 12/24/16 | 1345 | Operations exits compliance with TS LCO 3.6.3 Condition A associated with 1-SI-30-701. |
| 12/24/16 | 1701 | Condition Report 1245529 written related to discovery of clearance error. |

D. Manufacturer and Model Number of Components that Failed During the Event

There were no failed components associated with this event.

E. Other Systems or Secondary Functions Affected

No other systems or secondary functions were affected .

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

The clearance error was discovered during the clearance restoration process.

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NARRATIVE**G. Failure Mode and Effect of Each Failed Component**

Not applicable.

H. Operator Actions

When the clearance error was discovered, a condition report was generated and an investigation was performed.

I. Automatically and Manually Initiated Safety System Responses

There were no safety system responses associated with this issue.

III. CAUSE OF THE EVENT**A. The cause of each component or system failure or personnel error, if known.**

The cause of the clearance error was a personnel error in positively identifying the correct fuses to be removed.

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

The cause of the clearance error was a personnel error in positively identifying the correct fuses to be removed. The clearance placement first and second checkers performed a concurrent verification on the wrong component due to an inadequate component verification. The issues that occurred were due to difficulties presented in the location of the labels in the battery board and the verification tools used to adequately read and see the labels.

IV. ANALYSIS OF THE EVENT

WBN personnel were in the process of performing LLRT on containment purge valves in accordance with plant procedure 1-SI-30-701, Containment Isolation Valve Local Leak Rate Test Purge Air. Penetration 10B consists of an air operated, fail-closed valve inside containment (1-FCV-30-17) and a similar air operated fail-closed valve outside containment (1-FCV-30-16). A test valve between the two CIVs is provided outside containment. To reduce the dose associated with performing this testing on-line, each test connection on each purge penetration is run to a common test manifold. Each test valve is leak tested for the purge penetrations. Then all of the test valves associated with the containment purge penetrations are opened, and each penetration is individually leak tested. With the test valves open, the purge penetrations become inoperable and must be isolated by a closed deactivated valve. With the fuses not pulled for valve 1-FCV-30-17, this purge valve was closed, but not deactivated. This configuration is not in accordance with plant procedures. The test valve associated with penetration 10B was likely open for greater than four hours but less than 24 hours.

It is noted that the tested penetration met acceptance criteria, in that 1-FCV-30-17 was capable of performing its containment isolation function during the surveillance. When testing was completed, the TS 3.6.3 actions were satisfied based on acceptable leakage and final operability was maintained. The

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NARRATIVE

operability review also determined that the pulling of the incorrect fuses did not cause additional inoperability.

V. ASSESSMENT OF SAFETY CONSEQUENCES

The subject valve, 1-FCV-30-17, was closed with danger tags on the hand switch but not deactivated. While this is inconsistent with the TS, there is no identified single failure that could have resulted in the valve opening or creating a containment bypass. Therefore, while this is a condition prohibited by TS, the safety implications are low.

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

The subject valve was closed with danger tags hung on the operating switch. There is no single active failure that could have caused the valve to open or create a containment bypass.

- 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 condition report (CR) 1245529.

- A. Immediate Corrective Actions

When the condition was identified, a CR was initiated and an investigation performed.

- B. Corrective Actions to Prevent Recurrence or to Reduce Probability of Similar Events Occurring in the Future

Additional training related to the performance of concurrent verification will be performed with all operating crews.

VII. PREVIOUS SIMILAR EVENTS AT THE SAME SITE

LER 390/2016-009-00 describes a condition prohibited by TS 3.6.3 where the requirements to isolate a containment penetration within 4 hours was not met. The event described in this LER is different in that the correct actions to comply with the TS were understood, but a human performance error resulted in the correct actions not being performed.



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NARRATIVE

LER 390/2016-002-00 describes a condition where by misinterpreting the requirements of TS 3.6.3, the containment penetration was not isolated within four hours. The event described in this LER is different in that the correct actions to comply with the TS were understood, but a human performance error resulted in the correct actions not being performed.

VIII. ADDITIONAL INFORMATION

None.

IX. COMMITMENTS

None.