



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

July 15, 2020
WBL-20-029

10 CFR 50.73

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

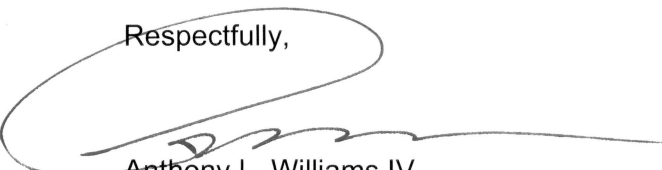
Watts Bar Nuclear Plant, Unit 2
Facility Operating License No. NPF-96
NRC Docket No. 50-391

Subject: **Licensee Event Report 391/2020-001-00, Control Room Emergency Ventilation System Inoperable due to Main Control Room Door Being Left Open**

This submittal provides Licensee Event Report (LER) 391/2020-001-00. This LER provides details concerning the inoperability of the Control Room ventilation system from a Main Control Room door being left open. This condition is being reported as an event or condition that could have prevented fulfillment of a safety function in accordance with 10 CFR 50.73(a)(2)(v)(D).

There are no regulatory commitments contained in this letter. Please direct any questions concerning this matter to Tony Brown, WBN Licensing Manager, at (423) 365-7720.

Respectfully,



Anthony L. Williams IV
Site Vice President
Watts Bar Nuclear Plant

Enclosure
cc: See Page 2

U.S. Nuclear Regulatory Commission
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July 20, 2020

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 Information Services Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollect.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: omb_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name

Watts Bar Nuclear Plant, Unit 2

2. Docket Number

05000391

3. Page

1 OF 5

4. Title

Control Room Emergency Ventilation System Inoperable due to Main Control Room Door Being Left Open

5. Event Date

Month	Day	Year
05	19	2020

6. LER Number

Year	Sequential Number	Rev No.
2020	001	00

7. Report Date

Month	Day	Year
07	15	2020

8. Other Facilities Involved

Facility Name	Docket Number
NA	05000

9. Operating Mode

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)

3

<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

<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)
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<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 checked="" 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 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

Charles Barker, Licensing Engineer

Telephone Number (Include Area Code)

(423) 365-1771

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES

14. Supplemental Report Expected

☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No

15. Expected Submission Date

Month	Day	Year
N/A	N/A	N/A

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

At 1329 Eastern Daylight Time (EDT) on May 19, 2020, a Main Control Room (MCR) alarm was received for low control room positive pressure. In response to the alarm, a Control Room Envelope (CRE) door was found ajar and immediately closed. Technical Specification Limiting Condition for Operation (LCO) 3.7.10, Control Room Emergency Ventilation System (CREVS), was declared not met for both trains and Condition B entered. At 1331 EDT on May 19, 2020, the alarm cleared, CREVS was declared operable and LCO 3.7.10, Condition B was exited. Unit 1 was defueled (no mode), and no movement of irradiated fuel assemblies was in progress.

This event was caused by a human performance error when individuals traversing the control building complex failed to confirm the MCR envelope boundary door was properly latched. The open control room door was identified and promptly closed. The individuals involved were coached on the requirement to challenge the door when traversing the control building complex.

This condition is being reported as an event or condition that could have prevented fulfillment of a safety function needed to mitigate the consequences of an accident in accordance with 10 CFR 50.73(a)(2)(v)(D).

**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 Information Services Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME

Watts Bar Nuclear Plant, Unit 2

2. DOCKET NUMBER

05000391

3. LER NUMBER**YEAR**

2020

**SEQUENTIAL
NUMBER**

- 001

**REV
NO.**

- 00

NARRATIVE**I. Plant Operating Conditions Before the Event**

Watts Bar Nuclear Plant (WBN) Unit 2 was in Mode 3 at 0 percent rated thermal power (RTP) and Unit 1 was defueled with no fuel movements in progress

II. Description of Event**A. Event Summary**

At 1329 Eastern Daylight Time (EDT) on May 19, 2020, a Main Control Room (MCR) alarm was received for low control room positive pressure. In response to the alarm, a Control Room Envelope (CRE) door {EIIIS:DR} was found ajar and immediately closed. Technical Specification Limiting Condition for Operation (LCO) 3.7.10, Control Room Emergency Ventilation System (CREVS) {EIIIS:VI}, was declared not met for both trains and Condition B entered. At 1331 EDT on May 19, 2020, the alarm cleared, CREVS was declared operable and LCO 3.7.10, Condition B was exited.

This event is being reported to the Nuclear Regulatory Commission (NRC) under 10 CFR 50.73(a)(2)(v)(D) as an event or condition that could have prevented fulfillment of a safety function needed to mitigate the consequences of an accident.

B. Status of structures, components, or systems that were inoperable at the start of the event and that contributed to the event

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

C. Dates and approximate times of occurrences

<u>Date</u>	<u>Time (EDT)</u>	<u>Event</u>
5/19/20	1329	MCR alarm was received for low control room positive pressure. Technical Specification (TS) 3.7.10 was declared not met for both trains and Condition B entered.
5/19/20	1331	Following closure of CRE door Unit 2 exited TS LCO 3.7.10 Condition B due to restoration of the CRE boundary (closure of door C036).

D. Manufacturer and model number of each component that failed during the event

No equipment failures occurred during the event.



LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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Watts Bar Nuclear Plant, Unit 2	05000391	YEAR 2020	SEQUENTIAL NUMBER - 001	REV NO. - 00

NARRATIVE

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

Plant alarms indicated a loss of MCR positive pressure. The response procedure for low MCR pressure requires that the MCR doors be checked for proper closure, at which time door C036 was found open

G. Failure mode, mechanism, and effect of each failed component

No equipment failures occurred during the event.

H. Operator actions

Upon receipt of the alarms, operations personnel promptly closed the MCR boundary door.

I. Automatically and manually initiated safety system responses

The MCR low pressure alarm properly actuated when the MCR door was left open.

III. Cause of the Event

A. Cause of each component or system failure or personnel error

No equipment failures occurred during the event.

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

The event was the result of individuals operating the boundary door failing to properly close the door and confirm its closure (lack of self check).

IV. Analysis of the Event

The CRE is required to be operable in Modes 1 through 6 and during movement of irradiated fuel assemblies. Operability requires integrity of the CRE such that it will have a low unfiltered in-leakage during accident conditions to maintain the dose to operators within the requirements of Criterion 19 of 10 CFR 50, Appendix A. The TS's allow the CRE boundary to be opened intermittently under administrative control, normally to allow routine personnel ingress and egress from the control room envelope. Administrative controls in the case of boundary doors are that an individual is in control of the door when it is opened.

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CONTINUATION SHEET**

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NARRATIVE

On May 19, 2020, individuals traversing the control building complex left the MCR boundary door C036 ajar. This resulted in operations personnel entering TS LCO 3.7.10, CREVS, for one or more CREVS trains due to inoperable CRE boundary. Low positive pressure (less than 0.125 inches of water gauge WG) in the control room for 90 seconds results in a control room alarm. Upon receipt of the alarm, operations personnel promptly closed the CRE door. For this event, the CRE boundary was restored approximately two minutes after the MCR alarm was received. An engineering evaluation of a similar event is bounding for this event, and concludes that General Design Criteria (GDC) 19 dose limits to operators would not be exceeded when considering closure of the MCR door for accidents analyzed in the Updated Final Safety Analysis Report.

V. Assessment of Safety Consequences

A review of this event indicates, when considering the actual system capability and the response of equipment and personnel, a loss of safety function capable of impacting public health and safety did not occur with respect to the Control Room. This equipment is not analyzed in the site specific probabilistic risk assessment (PRA), but the impact of this door on an accident would be very small.

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

The balance of the CRE equipment designed to protect the pressure boundary remained operable.

- 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

For this event, the MCR envelope door was closed within two minutes of receipt of the MCR alarm.

VI. Corrective Actions

This event was entered into the Tennessee Valley Authority's (TVA) Corrective Action Program and is being tracked under Condition Report (CR) 1609457.

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NARRATIVE**A. Immediate Corrective Actions**

The open control room door was identified and promptly closed. Door peer checkers were placed at the MCR door to ensure proper door closure until completion of MCR lighting upgrade work and then an additional two weeks.

B. Corrective Actions to Prevent Recurrence or to reduce probability of similar events occurring in the future

The individuals involved were coached on the requirement to challenge the door when traversing the control building complex. Briefings were conducted for task managed supplemental craft personnel on both shifts for this event. There is an action to brief all personnel that are in-processed on the sensitivity of all pressure boundary doors and the expectations regarding ensuring they are properly closed and latched upon entering and exiting.

VII. Previous Similar Events at the Same Site

LER 390/2019-001-00, reported an instance where the control room boundary door had been left open due to personnel error and promptly closed by operations in response to a low control room positive pressure alarm. The cause of this event is similar.

LER 390/2019-004-00, reported two instances where a control room boundary door had been left open due to personnel error and promptly closed by operations in response to a low control room positive pressure alarm. The cause of this event is similar.

There have been other events in with the MRC doors such as LERs 390/2018-003-00, 390/2018-004-00, 390/2017-007-001 and 390/2017-014-00 with similar causes.

VIII. Additional Information

There is no additional information.

IX. Commitments

There are no new commitments.