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

May 20, 2019
WBL-19-032

10 CFR 50.73

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

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: **Licensee Event Report 390/2019-001-00, Control Room Emergency Ventilation System Inoperable due to Main Control Room Door Being Left Open**

This submittal provides Licensee Event Report (LER) 390/2019-001-00. This LER provides details concerning an incident where the main control room boundary door was left open and unattended for a few minutes. 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).

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

Respectfully,

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

Enclosure
cc: See Page 2

cc (Enclosure):

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

NRC FORM 366 (04-2018) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001,or by 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.

LICENSEE EVENT REPORT (LER)

1. Facility Name	2. Docket Number	3. Page
Watts Bar Nuclear Plant, Unit 1	05000390	1 OF 5

4. Title

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

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
									Watts Bar Nuclear Plant, Unit 2	05000391
04	23	2019	2019	- 001	- 00	05	20	2019	Facility Name: NA	Docket Number: 05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. Power Level	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☒ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A	

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include Area Code)
Dean Baker, Licensing Engineer	(423) 452-4589

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	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No		N/A	N/A	N/A

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

At 0232 Eastern Daylight Time (EDT) on April 23, 2019, a Main Control Room (MCR) alarm was received for low control room positive pressure. At 0233 EDT, 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 0233 EDT on April 23, 2019, the alarm cleared, CREVS was declared operable and LCO 3.7.10, Condition B was exited.

This event was caused by a human performance error when an individual 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 individual involved was coached on the requirement to challenge the door when traversing the control building complex. Work orders to install engineering features on MCR doors to ensure they are closed after opening were completed after this event occurred.

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).

NARRATIVE

I. Plant Operating Conditions Before the Event

Watts Bar Nuclear Plant (WBN) Unit 1 was at 100 percent rated thermal power (RTP) and Unit 2 was defueled with no fuel movements in progress.

II. Description of Event

A. Event Summary

At 0232 Eastern Daylight Time (EDT) on April 23, 2019, a Main Control Room (MCR) alarm was received for low control room positive pressure. At 0233 EDT, a Control Room Envelope (CRE) door {EIIS:DR} was found ajar and immediately closed. Technical Specification Limiting Condition for Operation (LCO) 3.7.10, Control Room Emergency Ventilation System (CREVS) {EIIS:VI}, was declared not met for both trains and Condition B entered. At 0233 EDT on April 23, 2019, 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

Date	Time (EDT)	Event
4/23/19	0232	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
4/23/19	0233	CRE door was found ajar and immediately closed. TS 3.7.10 Condition B exited with cleared alarm

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

No equipment failures occurred during the 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

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 an individual operating the boundary door failing to properly close the door and confirm its closure (lack of attention to task).

IV. Analysis of the Event

The CRE is required to be operable in Modes 1 through 6. 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.

On April 23, 2019, an individual 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 inoperable due to an 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 one minute 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 one minute of receipt of the MCR alarm.

VI. Corrective Actions

These events were entered into the Tennessee Valley Authority (TVA) Corrective Action Program and are being tracked under Condition Report (CR) 1510237.

A. Immediate Corrective Actions

The open control room door was identified and promptly closed. The individual involved was coached on the requirement to challenge the door when traversing the control building complex.

NARRATIVE

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

Work orders to install engineering features on the MCR doors to ensure they are closed after opening were completed after this event occurred.

VII. Previous Similar Events at the Same Site

LER 390/2017-007-001 reported multiple instances over a three year period 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 causes of these events are similar.

LER 390/2018-003-00, 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.

VIII. Additional Information

There is no additional information.

IX. Commitments

There are no new commitments.