Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

February 21, 2017

10 CFR 50.73

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

Browns Ferry Nuclear Plant, Unit 2
Renewed Facility Operating License No. DPR-52
NRC Docket No. 50-260

Subject: **Licensee Event Report 50-260/2016-001-01**

Reference: Letter from TVA to NRC, "Licensee Event Report 50-260/2016-001-00," dated August 16, 2016

On August 16, 2016, the Tennessee Valley Authority (TVA) submitted Revision 0 to Licensee Event Report (LER) 50-260/2016-001 (Reference). This LER was based on a preliminary relay failure investigation, which has since been finalized, evaluated, and discussed. This LER has been revised to ensure clear and accurate event reporting.

The enclosed Licensee Event Report revision provides details of the High Pressure Coolant Injection Safety System Functional Failures due to a Blown Fuse and Failed Relay. The Tennessee Valley Authority is submitting this report in accordance with Title 10 of the Code of Federal Regulations 50.73(a)(2)(v)(D), as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact J. L. Paul, Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,

S. M. Bono
Site Vice President

Enclosure: Licensee Event Report 50-260/2016-001-01 – High Pressure Coolant Injection Safety System Functional Failure due to a Blown Fuse and Failed Relay

cc (w/ Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

ENCLOSURE

Browns Ferry Nuclear Plant
Unit 2

Licensee Event Report 50-260/2016-001-01

High Pressure Coolant Injection Safety System Functional Failure due to a Blown Fuse and a Failed Relay

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See Enclosed

NRC FORM 366 (11-2015) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Browns Ferry Nuclear Plant, Unit 2	05000260	1 OF 10

4. TITLE

High Pressure Coolant Injection Safety System Functional Failure due to a Blown Fuse and a Failed Relay

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
06	17	2016	2016	- 001 -	01	02	21	2017	N/A	N/A
									FACILITY NAME: N/A	DOCKET NUMBER: N/A

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)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
100	☐ 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)*
Ryan Coons, Licensing Engineer	256-729-2070

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
X	BJ	RLY	A348	Y	X	BJ	FU	S156	Y

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 15 single-spaced typewritten lines)*

On June 17, 2016, while performing a High Pressure Coolant Injection (HPCI) Time Delay Relay Calibration surveillance, an abnormal indication of no voltage to the Time Delay Relay coil was received. The electricians backed out of the procedure and informed Operations. Later that day, upon performing procedure step 7.3[17], fuse BFN-2-FU2-073-0039B cleared and a HPCI Logic Power Failure alarm was received. The loss of logic power rendered Unit 2 HPCI system inoperable. The most likely cause of the blown fuse was an equipment ground induced by the TM200 timer used in the calibration procedure for timing pick-up of the time delay relays. While the HPCI Time Delay Relay calibration was being performed, there was already a known ground on Battery Board 2. The corrective action is to revise the calibration procedures to reconfigure the setup of the test equipment to reduce the probability and consequences of a ground induced by the test equipment.

During troubleshooting of the blown fuse, relay 2-RLY-073-23A-K43 was replaced. It was later identified during bench testing that this relay was faulty as the result of normal breakdown of the coil insulation over time. This breakdown was attributed to end-of-life failure. The immediate corrective action to address the relay failure was replacement of the relay. To address the end of life failure of this relay, a preventative maintenance (PM) task was created to replace this relay every 16 years.

NRC FORM 366A (11-2015) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018

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.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Browns Ferry Nuclear Plant, Unit 2	05000260	2016	- 001	- 01

NARRATIVE

I. Plant Operating Conditions Before the Event

At the time of discovery, Browns Ferry Nuclear Plant (BFN), Unit 2, was in Mode 1 at 100 percent power.

II. Description of Events

A. Event:

On June 17, 2016, while performing High Pressure Coolant Injection (HPCI) [BJ] Time Delay Relay Calibration surveillance 2-SR-3.3.6.1.6(3), Electrical Maintenance personnel received an abnormal indication of no voltage to the coil [CL] of 2-RLY-073-23A-K43 at step 7.3[17] of the procedure. The electricians backed out of the procedure, informed Operations, and initiated Condition Report (CR) 1183105. Later that day, a different crew performed the remaining sections of 2-SR-3.3.6.1.6(3) successfully, then returned to section 7.3. Upon performing the procedure step 7.3[17], fuse [FU] BFN-2-FU2-073-0039B cleared and 2-XA-55-3F window 3, HPCI Logic Power Failure, alarmed in the Control Room. The fuse was replaced and the procedure was continued. This loss of logic power rendered Unit 2 HPCI inoperable.

Basic troubleshooting was performed on the circuit to determine what, if any, component had failed, and no component failure was identified; however, relay [RLY] 2-RLY-073-23A-K43 was replaced, along with its base, 3500 ohm dropping resistor, and zener diode. On June 20, 2016 at 0455 Central Daylight Time (CDT), 2-SR-3.3.6.1.6(3) was completed satisfactorily, and Unit 2 HPCI was declared operable.

The old relay and the TM200 timer were bench tested on June 29, 2016, and the relay did not function properly. The 3500 ohm dropping resistor and zener diode tested acceptably, and the relay coil resistance was normal, but the relay did not pull in the contacts. The TM200 timer operated properly during the testing.

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

There were no structures, systems, or components (SSCs) whose inoperability contributed to this event.

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NARRATIVE

C. Dates and approximate times of occurrences:

Dates and Approximate Times	Description of Event
June 17, 2016 at 0855 CDT	Maintenance Electrical Group (MEG) was briefed and commenced HPCI Time Delay Relay Calibration 2-SR-3.3.6.1.6(3). HPCI was declared inoperable by the Unit Supervisor (US) with Senior Reactor Operator (SRO) concurrence. TS LCO 3.5.1, Condition C was entered. HPCI remained available for service. Reactor Core Isolation Cooling (RCIC) was verified Operable by administrative means.
June 17, 2016 at 1436 CDT	2-SR-3.3.6.1.6(3) was stopped due to receiving an improper response at step 7.3[17], when it was discovered that there was no voltage on 2-RLY-073-23A-K43, from what appeared to be a procedural issue. The Unit 2 Control Room was notified, the test equipment was removed, and all components were returned to normal alignment. US declared HPCI operable with SRO concurrence and exited TS LCO 3.5.1 Condition C. MEG initiated CR 1183105.
June 17, 2016 at 1705 CDT	MEG recommenced performance of 2-SR-3.3.6.1.6(3) at section 7.4. Unit Supervisor (US) declared HPCI inoperable.
June 17, 2016 at ~2100 CDT	MEG completed 2-SR-3.3.6.1.6(3), sections 7.4 through 7.7. MEG returned to section 7.3 to re-attempt the section for calibrating relay 2-RLY-073-23A-K43.
June 17, 2016 at 2135 CDT	Control Room received 2-XA-55-3F, HPCI Logic Power Failure alarm. MEG reported that fuse 2-FU2-073-0039B cleared. Operations personnel declared HPCI unavailable. CR 1183196 initiated.
June 17, 2016 at 2239 CDT	Replaced fuse 2-FU2-073-0039B and HPCI Logic Power Failure alarm reset. Operations personnel declared HPCI available but remained inoperable for troubleshooting.
June 18, 2016 at 0458 CDT	Operations personnel made an 8-hour notification to the NRC (Event Number #52109) to report the unplanned inoperability of the Unit 2 HPCI system, in accordance with 10 CFR 50.72(b)(3)(v)(D).

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Dates and Approximate Times	Description of Event
June 19, 2016 at 2150 CDT	Clearance placed on Unit 2 HPCI for replacement of relay 2-RLY-073-23A-K43. Operations personnel declared HPCI unavailable.
June 20, 2016 at 0358 CDT	Following relay replacement, Operations personnel removed clearance on Unit 2 HPCI, warmed and pressurized HPCI steam line.
June 20, 2016 at 0455 CDT	MEG completed 2-SR-3.3.6.1.6(3) satisfactorily.
June 20, 2016 at 0530 CDT	Operations personnel declared Unit 2 HPCI operable.

D. Manufacturer and model number (or other identification) of each component that failed during the event:

The blown fuse (2-FU2-073-0039B) was manufactured by Shawmut Company under manufacturer part number ATM10. The failed relay (2-RLY-073-23A-K43) is an Agastat ETR type time delay relay. It was manufactured by Amerace Corporation under manufacturer part number ETR14D3BN003.

E. Other systems or secondary functions affected:

No other systems or secondary functions were affected by this event.

F. Method of discovery of each component or system failure or procedural error:

During performance of the HPCI Time Delay Relay Calibration surveillance 2-SR-3.3.6.1.6(3), Electrical Maintenance personnel received an abnormal indication of no voltage to the coil of 2-RLY-073-23A-K43 at step 7.3[17] of the procedure. Upon performing the procedure step 7.3[17], fuse BFN-2-FU2-073-0039B cleared and 2-XA-55-3F window 3, HPCI Logic Power Failure, alarmed in the Control Room.

The failed fuse was discovered during the performance of the Unit 2 HPCI Time Delay Relay Calibration 2-SR-3.3.6.1.6(3). HPCI Logic Bus B lost power when fuse 2-FU2-073-0039B cleared. During troubleshooting, relay 2-RLY-073-23A-K43 was replaced along with its base, 3500 ohm dropping resistor, and zener diode. The removed relay was bench tested and did not function properly.

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G. The failure mode, mechanism, and effect of each failed component, if known:

The most likely cause for the blown fuse on HPCI Logic Bus B was an equipment ground induced by the TM200 timer used in the calibration procedure for timing pick-up of the time delay relays. While the HPCI Time Delay Relay calibration was being performed, there was already a known ground on Battery Board 2.

During troubleshooting, relay 2-RLY-073-23A-K43 was replaced along with its base, 3500 ohm dropping resistor, and zener diode. The removed relay was bench tested and did not function properly. Initial bench testing of the faulty relay was performed on June 29, 2016, and additional testing was performed on July 8, 2016, in order to determine the failure mode and mechanism. The bench testing found that the current drawn by the electronic timer was approximately 5 mA. The coil resistance was calculated to be 800 ohms. The specification for coil resistance on this relay is 3000 ohms. The relay failure resulted from coil failure.

Relay 2-RLY-073-23A-K43, which is normally de-energized, is installed in a mild environment in the Unit 2 Auxiliary Instrument Room and is subjected to a very low duty cycle. The relay is energized for testing only 5 times per 24 month cycle; twice during the Logic Functional Test Procedure, and three times during the Time Delay Relay Calibration. Coil failure is accelerated by stressors such as temperature and humidity, prolonged continuous energization, prolonged overvoltage, and/or high cycling rate. Relay 2-RLY-073-23A-K43 is not routinely subjected to these significant stressors; however, the effects of normal environmental stressors such as temperature and humidity over time are cumulative and permanent. The relay is approximately 27 years old. The degradation of the insulation results in temperature rise in the coil, which further breaks down the dielectric strength of the insulation and results in local short circuits within the coil. The drop in coil resistance from 3000 ohms to 800 ohms indicates short circuits had developed in the coil. Because of this fault, the electromagnetic strength developed by the relay coil was below the minimum needed to overcome the spring force holding the relay contacts in their shelf state.

The 2-RLY-073-23A-K43 relay provides a 3 second time delay before closing the contacts that give an open signal to HPCI pump discharge valve 2-FCV-073-0034 and a close signal to HPCI Condensate Storage Tank (CST) test return valve 2-FCV-073-0035. The HPCI pump discharge valve 2-FCV-073-0034 is normally open, but if it were closed, the relay failure would have prevented flow during HPCI actuation. The HPCI CST test return valve 2-FCV-073-0035 is normally closed. The relay failure would prevent closure of this valve from the open position. At the time of discovery, 2-FCV-073-0034 was open and 2-FCV-073-0036 was closed such that the relay failure did not result in HPCI system inoperability.

The review of the condition and the bench testing concluded that the relay failure was attributed to end-of-life failure caused by normal breakdown of the coil insulation over time.

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H. Operator actions:

There were no operator actions associated with this event.

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 most likely cause for the blown fuse on HPCI Logic Bus B was an equipment ground induced by the TM200 timer, while testing was being performed with a known ground on Battery Board 2. During troubleshooting of the blown fuse, it was discovered that the relay was faulty as well. It was determined that the relay failure was end-of-life failure caused by normal breakdown of coil insulation over time.

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

None.

IV. Analysis of the event:

The Tennessee Valley Authority (TVA) is submitting this report in accordance with Title 10 of the Code of Federal Regulations 50.73(a)(2)(v)(D), as an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. The condition was discovered on June 17, 2016, while performing HPCI Time Delay Relay Calibration surveillance 2-SR-3.3.6.1.6(3) when electrical maintenance personnel observed fuse BFN-2-FU2-073-0039B clear and 2-XA-55-3F window 3, HPCI Logic Power Failure, alarmed in the Control Room. This loss of logic power rendered Unit 2 HPCI system inoperable. Also during troubleshooting, it was discovered that relay 2-RLY-073-23A-K43 was faulty, which could result in HPCI system inoperability in certain test configurations. Since HPCI is a single-train safety system, the unplanned inoperability caused by the fuse failure is a reportable event, in accordance with NUREG-1022. The relay failure is also considered a safety system functional failure; however, the failure will not be counted on the performance indicator. In accordance with NEI 99-02, a failure leading to an evaluation in which additional failures are found is only counted as one failure; new problems found during the evaluation are not counted even if the causes or failures are different.

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V. Assessment of Safety Consequences

This event resulted in inoperability and unavailability of the single train of the BFN, Unit 2, HPCI system resulting in the inability of the HPCI system to perform its safety function. In the event of an emergency, the Reactor Core Isolation Cooling (RCIC) system remained operable, and all other Emergency Core Cooling Systems (ECCS) and Automatic Depressurization System (ADS) were available during this event to facilitate core cooling.

Based on the discussion above, during the time period that the HPCI system was inoperable, sufficient systems were available to provide the required safety functions to protect the health and safety of the public.

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

The Technical Specification Required Action and Completion Time when the HPCI system is inoperable is to verify RCIC is operable by administrative means immediately and restore HPCI operability within 14 days. The Technical Specification Required Action and Completion Time for this situation is to enter Mode 3 in 12 hours. RCIC was verified to be operable by administrative means by Operations personnel on June 17, 2016, at 0856 CDT. During this event, all other ECCS, including the ADS, were available to mitigate abnormal and accident conditions.

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

This event did not occur when the reactor was shutdown.

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

HPCI was determined to be inoperable from a blown fuse at 1705 CDT on June 17, 2016. HPCI was declared operable on June 20, 2016, at 0530 CDT following post-maintenance testing. Approximately 2.5 days elapsed between the time of discovery and restoring operability.

The failure of relay 2-RLY-073-23A-K43 also caused HPCI inoperability, starting at the time of discovery at 1436 CDT on June 17, 2016, until the relay was declared operable following post-maintenance testing on June 20, 2016, at 0530 CDT. Approximately 2.5 days elapsed between the time of discovery and restoring operability. However, the normal valve configuration maintained the operability of the valve's safety functions throughout this event. The last five relay energization cases were reviewed, and these tests and calibrations were completed normally

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NARRATIVE

within the Technical Specification required LCO times such that there were no violations of Technical Specifications.

VI. Corrective Actions:

Corrective Actions are being managed by TVA's corrective action program under Condition Report (CR) 1183196.

A. Immediate Corrective Actions

- Electricians stopped work after observing unexpected response during surveillance
- Replaced fuse 2-FU2-073-0039B
- Replaced relay 2-RLY-073-23A-K43

B. Corrective Actions to Prevent Recurrence

The most likely cause of the blown fuse was an equipment ground induced by the TM200 timer used in the calibration procedure for timing pick-up of the time delay relays during testing on a known ground on Battery Board 2. The corrective action to address this cause is to remove the TM200 timer from the operating circuit during testing. Instead of the having the timer installed in line with operating circuitry via a Single Pole Single Throw switch, a new test box module was built for this test. This module instantaneously operates the timer and operating circuitry using a Double Pole Single Throw (DPST) switch to start the test/calibration. This will prevent a non-operating equipment fault from being introduced into the operating circuit as part of the test. In addition, the DPST switch module includes 1 Amp fast acting fuses to provide additional protection to permanent plant equipment while it is connected to the test equipment. The calibration procedure 1/2/3-SR-3.3.6.1.6(3) has been revised to require the use of this test box when performing the surveillance test.

After relay 2-RLY-073-23A-K43 was replaced, bench testing found that the old relay was faulty. Bench testing revealed that the relay experienced end-of-life failure, as the relay was approximately 27 years old. The starting point for the relay inoperability was determined to be the time of discovery, since there is no firm evidence that the relay failed prior to the time of discovery. To address the end of life failure of this relay, a separate corrective action was previously established, which created a preventative maintenance (PM) task to replace this relay every 16 years. In this case, however, the relay failed prior to the first-time performance of that PM, which was not scheduled to be performed until Spring 2017.

NRC FORM 366A (11-2015) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018

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.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Browns Ferry Nuclear Plant, Unit 2	05000260	2016	- 001	- 01

NARRATIVE

VII. Additional Information:

A. Previous Similar Events:

An Internal Operating Experience (OE) search was performed for the past 5 years using key terms "HPCI," "RHR," "CS," and "Agastat ETR relay(s)". The following examples were identified as similar events resulting from blown fuses that were likely caused by the test equipment setup during time delay relay calibration performance:

- CR 1180190: Fuse 2-FU2-074-10A/K36B cleared during performance of 2-SR-3.3.5.1.5(LPCI II), RHR System Division II LPCI Mode Logic Time Delay Relay Calibration, 6/9/2016. No problems identified by basic troubleshooting. MEG re-commenced the procedure on 6/20/2016, and the surveillance was completed satisfactorily at that time. No causal analysis was performed. The CR details noted that the same fuse was blown during the previous performance of this procedure (see below for CR 898072).
- CR 898072: Blown fuse during performance of 2-SR-3.3.5.1.5(LPCI II), RHR System Division II LPCI Mode Logic Time Delay Relay Calibration, 6/13/2014. Fuse was replaced, the surveillance was completed successfully, and CR was closed to actions taken. No additional analysis was performed.

B. Additional Information:

There is no additional information.

C. Safety System Functional Failure Consideration:

The blown fuse due to an inadequate calibration procedure resulted in the inability of the BFN, Unit 2, HPCI system to perform its safety function for mitigating the consequences of an accident. This event is considered to be a Safety System Functional Failure, in accordance with NUREG-1022.

While the normal valve configuration would have permitted HPCI to perform its required safety functions throughout the duration of this event, if left undiscovered, the failed relay could have rendered HPCI inoperable in certain test configurations. Since a condition existed that could have prevented the fulfillment of a safety function, the failed relay event constitutes a Safety System Functional Failure, in accordance with NUREG-1022. However, as discussed in the Analysis of the event, the failure will not be counted on the performance indicator. In accordance with NEI 99-02, a failure leading to an evaluation in which additional failures are found is only counted as one failure; new problems found during the evaluation are not counted even if the causes or failures are different. The intent is to not count additional events when problems are discovered while resolving the original problem.

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D. Scram with Complications Consideration:

This event did not result in a reactor scram.

VIII. COMMITMENTS

There are no new commitments.