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10 CFR 50.73

Serial: BSEP 15-0029

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Brunswick Steam Electric Plant, Unit No. 1
Renewed Facility Operating License No. DPR-71
Docket No. 50-325
Licensee Event Report 1-2015-001

In accordance with the Code of Federal Regulations, Title 10, Part 50.73, Duke Energy Progress, Inc., submits the enclosed Licensee Event Report (LER). This report fulfills the requirement for a written report within sixty (60) days of a reportable occurrence.

This document contains no regulatory commitments.

Please refer any questions regarding this submittal to Mr. Lee Grzeck, Manager – Regulatory Affairs, at (910) 457-2487.

Sincerely,

John A. Krassuski FOR

William R. Gideon

MAT/mat

Enclosure: Licensee Event Report

TE22
NHR

cc (with enclosure):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Victor M. McCree, Regional Administrator
245 Peachtree Center Ave, NE, Suite 1200
Atlanta, GA 30303-1257

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**LICENSEE EVENT REPORT (LER)**(See Page 2 for required number of
digits/characters for each block)

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

Brunswick Steam Electric Plant (BSEP), Unit 1

2. DOCKET NUMBER

05000325

3. PAGE

1 OF 3

4. TITLE

High Pressure Coolant Injection (HPCI) System Inoperable due to Auxiliary Oil Pump Failure

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
02	12	2015	2015	001	00	04	10	2015		05000
									FACILITY NAME	DOCKET NUMBER
										05000

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)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
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)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<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)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Lee Grzeck, Manager – Regulatory Affairs

TELEPHONE NUMBER (Include Area Code)

(910) 457-2487

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	CL	G080	Y					

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)

At 1336 Eastern Standard Time (EST) on February 12, 2015, the Unit 1 High Pressure Coolant Injection (HPCI) System was declared inoperable due to a failure of the HPCI Auxiliary Oil Pump. During performance of a HPCI weekly inspection, the Auxiliary Oil Pump was started and subsequently experienced a loss of discharge oil pressure. The HPCI Auxiliary Oil Pump provides hydraulic pressure required to open the HPCI Turbine Stop Valve and the HPCI Turbine Control Valve during initial HPCI startup. Failure of the HPCI Auxiliary Oil Pump prevents the HPCI system from performing its design safety function.

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

The cause of the HPCI inoperability was a faulty magnetic motor contactor coil (i.e., M-coil) within the HPCI turbine auxiliary oil pump motor contactor 1-1XDA-B11-M. The failure of the coil was determined to be a random equipment failure. The coil was replaced and the HPCI system was returned to operable status on February 20, 2015.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Brunswick Steam Electric Plant (BSEP), Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 3
		2015	- 001	- 00	

NARRATIVE

Energy Industry Identification System (EIS) codes are identified in the text as [XX].

Background

Initial Conditions

At the time of this event, Unit 1 was in Mode 1, at approximately 100 percent of rated thermal power (RTP). The Reactor Core Isolation Cooling (RCIC) system [BN], Automatic Depressurization System (ADS), Low Pressure Coolant Injection (LPCI) system [BO], and Core Spray (CS) system [BM] were operable at the time of the event.

Reportability Criteria

This condition is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), as an event or condition that could have prevented the fulfillment of the safety function of a system that is needed to mitigate the consequences of an accident. The NRC was initially notified of this event on February 12, 2015 (i.e., Event Number 50816).

Event Description

At 1336 Eastern Standard Time (EST) on February 12, 2015, the Unit 1 High Pressure Coolant Injection (HPCI) System [BJ] was declared inoperable due to a failure of the HPCI Auxiliary Oil Pump. The pump tripped after running for approximately 18 minutes and then restarted approximately 18 minutes later. The HPCI Auxiliary Oil Pump provides hydraulic pressure required to open the HPCI Turbine Stop Valve and the HPCI Turbine Control Valve during initial HPCI startup. Failure of the HPCI Auxiliary Oil Pump prevents the HPCI system from performing its design safety function.

The HPCI system was returned to operable status on February 20, 2015.

Event Cause

The direct cause of the pump's intermittent failure was a poor electrical connection within the magnetic motor contactor coil (i.e., M-coil, General Electric Model 22D154G3A); part of the HPCI turbine auxiliary oil pump motor contactor 1-1XDA-B11-M.

Subsequent laboratory testing confirmed that the old M-coil intermittently failed after approximately 18 minutes of operation at an ambient temperature of 71 degrees F. Initial static electrical testing of the failed M-coil found no fault, but the coil did periodically present an open circuit (i.e., 180 MOhms) when exposed to temperature stresses, due to an apparent weak electrical connection at the terminal.

The failure of the coil is considered a random equipment failure. The motor contactor coil is qualified for 60 years. Additionally, the HPCI Auxiliary Oil Pump is started weekly per 1(2)OP-19, *High Pressure Coolant Injection System Operating Procedure*; quarterly per OPT-09.2, *HPCI System Operability Test*; and once per 24 months per OPT-09.3, *HPCI System - 165 psig Flow Test*. This testing has demonstrated a history of high reliability.

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		2015	- 001	- 00	

NARRATIVE

Safety Assessment

The safety significance of this event was minimal. The RCIC system, ADS, LPCI system, and CS system were operable at the time of the event. The HPCI system was restored to operable status within the 14 day Technical Specification Completion Time.

Corrective Actions

Any changes to the corrective actions and schedules noted below will be made in accordance with the site's corrective action program.

The following corrective actions have been completed.

- The coil was replaced and the HPCI system was returned to operable status on February 20, 2015.

Previous Similar Events

A review of LERs for the past five years identified the following previous similar occurrence.

- LER 1-2012-004, dated June 29, 2012, reported HPCI system inoperability due to the erratic HPCI governor operation caused by a failed Ramp Generator Signal Converter (RGSC) operational amplifier. The root cause of the RGSC failure is the lack of a replacement preventive maintenance (PM) task for the RGSC. The corrective action to prevent recurrence for this event is to establish the appropriate PM for periodic replacement of the RGSC on both units' HPCI systems. Since the causes of the events were different, the actions from LER 1-2012-004 could not have reasonably been expected to prevent the condition reported in LER 1-2015-001.

Commitments

No regulatory commitments are contained in this report.