Tanya M. Hamilton
Vice President
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562-9300

919.362.2502

10 CFR 50.73

February 9, 2017
Serial: HNP-17-013

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

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400/Renewed License No. NPF-63

Subject: Licensee Event Report 2016-007-01

Ladies and Gentlemen:

Duke Energy Progress, LLC, submits the enclosed Licensee Event Report 2016-007-01 in accordance with 10 CFR 50.73 for Shearon Harris Nuclear Power Plant, Unit 1. This report is a supplement to LER 2016-007-00, submitted December 20, 2016, and details the actuation of a containment spray system valve that occurred on October 26, 2016, while the site was in a planned refueling outage.

This document contains no regulatory commitments. Please refer any questions regarding this submittal to Jeff Robertson, Manager – Regulatory Affairs, at (919) 362-3137.

Sincerely,

Tanya M. Hamilton

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Enclosure: Licensee Event Report 2016-007-01

cc: Mr. R. Patterson, NRC Sr. Resident Inspector, HNP
Ms. M. Barillas, NRC Project Manager, HNP
NRC Regional Administrator, Region II

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Docket No. 50-400/Renewed License No. NPF-63

Subject: Licensee Event Report 2016-007-01

Ladies and Gentlemen:

Duke Energy Progress, LLC, submits the enclosed Licensee Event Report 2016-007-01 in accordance with 10 CFR 50.73 for Shearon Harris Nuclear Power Plant, Unit 1. This report is a supplement to LER 2016-007-00, submitted December 20, 2016, and details the actuation of a containment spray system valve that occurred on October 26, 2016, while the site was in a planned refueling outage.

This document contains no regulatory commitments. Please refer any questions regarding this submittal to Jeff Robertson, Manager – Regulatory Affairs, at (919) 362-3137.

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Tanya M. Hamilton

Enclosure: Licensee Event Report 2016-007-01

cc: Mr. R. Patterson, NRC Sr. Resident Inspector, HNP
Ms. M. Barillas, NRC Project Manager, HNP
NRC Regional Administrator, Region II

NRC FORM 366 (06-2016) 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 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)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Shearon Harris Nuclear Power Plant – Unit 1	05000 -400	1 OF 3

4. TITLE

Containment Spray System Valve Actuation

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
									None	05000 N/A
10	26	2016	2016	- 007	- 01	02	09	2017	FACILITY NAME: None	DOCKET NUMBER: 05000 N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
6	☐ 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)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
000	☐ 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)*
Jeffrey Robertson – Manager, Regulatory Affairs	(919) 362-3137

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 October 26, 2016, the Shearon Harris Nuclear Power Plant was in a planned refueling outage. Operations was in the process of restoring the containment spray system following maintenance. During this restoration process, operations started the 'B' containment spray pump with Refueling Water Storage Tank (RWST) level below 23.4 percent. As a result, the logic to initiate containment spray switchover to the containment sump was satisfied, opening the containment sump suction valve, which established a flowpath that allowed water to be transferred from the RWST to the containment sump. Operations secured the 'B' containment spray pump and re-closed the containment sump suction valve to restore the plant to the desired configuration. During the event, the containment spray system was aligned for recirculation of the spray pump discharge back to the RWST, so no water flowed through the spray header.

The primary cause of the event was a procedural deficiency. The procedure did not establish a physical barrier to prevent the containment sump valves from opening in Modes 5, 6 and defueled. The corrective actions include revising the procedure to remove power to the containment sump valves to prevent them from opening in Modes 5, 6 and defueled.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Shearon Harris Nuclear Power Plant – Unit 1	05000- 400	2016	- 007	- 01

NARRATIVE

NARRATIVE

Note: Energy Industry Identification System (EIIS) codes are identified in the text within brackets [ ].

A. Background

Event Date: October 26, 2016 Mode: 6 Reactor Power: 0 percent
Event Time: 1142 EDT

No systems, structures, or components were inoperable at the start of this event that contributed to the event. No change in plant mode or in reactor power occurred as a result of this event. The plant was in mode 6, refueling, with the reactor vessel head removed, reactor cavity water level greater than 23 feet, core reload complete, and the residual heat removal system in operation.

This event is reportable per 10 CFR 50.73(a)(2)(iv)(A) as "an event or condition that results in valid actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of [10 CFR 50.73]…" due to actuation of a valve in the containment spray (CT) system [BE].

The purpose of the CT system is to spray borated sodium hydroxide solution into Containment [NH] to cool the atmosphere and to remove the fission products that may be released into the containment atmosphere following a loss of coolant accident (LOCA) or main steam line break (MSLB). It has two principal modes of operation: 1) the initial injection mode, during which time the system sprays borated water taken from the refueling water storage tank (RWST) [TK], and 2) the recirculation mode, which is initiated when low-low level is reached in the RWST. During recirculation mode, the pump suction is transferred from the RWST to the containment sump by opening the containment sump suction valves and closing the valves at the outlet of the RWST. This switchover is accomplished automatically.

B. Event Description

On October 26, 2016, at 1142 EDT, the Shearon Harris Nuclear Power Plant (Harris) was in a planned refueling outage. Operations was in the process of restoring the CT system following maintenance, with the reactor cavity filled with water and the RWST level less than 23.4 percent. During the CT system restoration, Operations started the 'B' CT pump [P], which was aligned to the RWST. With RWST level less than 23.4 percent, the logic was satisfied to initiate CT switchover to the containment sump. This caused the containment sump suction valve, 1CT-102 [ISV], to open, establishing a flow-path which allowed water to be transferred from the RWST to the containment sump.

Immediate action was taken by Operations to restore the desired plant configuration. This was achieved by securing the CT pump and re-closing 1CT-102. During the event, the CT system was aligned for recirculation of 'B' CT pump discharge back to the RWST, so no water flowed through the spray header.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Shearon Harris Nuclear Power Plant – Unit 1	05000- 400	2016	- 007	- 01

NARRATIVE

C. Causal Factors

The primary cause of this event was a procedural deficiency. The procedure did not establish a physical barrier to prevent the containment sump valves from opening in Modes 5, 6 and defueled.

D. Corrective Actions

Completed Actions:
Immediate corrective action to provide just-in-time training for Operations as a refresher on the operation of the spray system switchover actuation logic.

Planned Actions:
Revise the procedure to remove power to the containment sump valves to prevent them from opening in Modes 5, 6 and defueled.

E. Safety Analysis

The safety significance of this event was minimal, as the condition had no impact on decay heat removal. The event did not affect water inventory in the reactor cavity, and there was no impact on core cooling, which was being performed by the residual heat removal system [BP] at the time of the event. This event did not impact the health and safety of the public.

F. Additional Information

There have been no related events at Harris within the past three years.