Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360

August 7, 2017

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

SUBJECT: Licensee Event Report 2017-010-00, Air Accumulation Creates Small Void in Core Spray Discharge Piping

Pilgrim Nuclear Power Station
Docket No. 50-293
Renewed License No. DPR-35

LETTER NUMBER: 2.17.054

Dear Sir or Madam:

The enclosed Licensee Event Report 2017-010-00, Air Accumulation Creates Small Void in Core Spray Discharge Piping, is submitted in accordance with Title 10 Code of Federal Regulations 50.73.

If you have any questions or require additional information, please contact me at (508) 830-8323.

There are no regulatory commitments contained in this letter.

Sincerely,

Everett P. Perkins, Jr.
Manager, Regulatory Assurance

EPP/sc

Attachment: Licensee Event Report 2017-010-00, Air Accumulation Creates Small Void in Core Spray Discharge Piping (3 Pages)

IE22
NRR

cc: Mr. Daniel H. Dorman
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

Mr. John Lamb, Senior Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop O-8C2A
Washington, DC 20555

USNRC Senior Resident Inspector
Pilgrim Nuclear Power Station

Attachment

Letter Number 2.17.054

Licensee Event Report 2017-010-00

Air Accumulation Creates Small Void in Core Spray Discharge Piping

(3 Pages)

NRC FORM 366 (04-2017) U.S. NUCLEAR REGULATORY COMMISSION

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

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
Pilgrim Nuclear Power Station	05000-293	1 OF 3

4. TITLE Air Accumulation Creates Small Void in Core Spray Discharge Piping

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
									N/A	N/A
06	07	2017	2017	- 010	00	08	03	2017	FACILITY NAME	DOCKET NUMBER
									N/A	N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
N	☐ 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)*
Mr. Everett P. Perkins, Jr. - Regulatory Assurance Manager	508-830-8323

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
D	BM	N/A	N/A	Y					

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO				

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On June 6, 2017, at 1357 [EDT] with the reactor at 100% core thermal power and steady state conditions, plant personnel were performing Ultrasonic testing (UT) examination on Core Spray A high point piping in the A Residual Heat Removal Quad to ensure this piping was water solid, when they identified that the top of this horizontal pipe had an air void internally. A high point vent line with valves is located in the area of the UT exam. It was found that the top 2 inches of the 10 inch core spray pump discharge line had accumulated an air void within the known inverted loop in Core Spray Loop-A discharge line. The system had been drained for maintenance during the Refueling Outage.

Pilgrim Nuclear Power Station is reporting this event pursuant to 10 CFR 50.73(a)(2)(i)(B), as a condition prohibited by Technical Specifications. Although upon discovery the proper Limiting Condition for Operation Action Statement was entered and the void was filled immediately to correct the issue, it is believed that this condition existed before the time of discovery for a period of time longer than that allowed by Technical Specifications.

This event posed no threat to public health and safety.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Pilgrim Nuclear Power Station	05000-293	2017	- 010	- 00

BACKGROUND

Air/gas in discharge piping can be an indicator of potential back-leakage from high-pressure sources such as accumulators or the Reactor Coolant System, and the gas may have moved into the pumps and the pump suction piping. Such gas may have flowed through multiple closed in-series valves. For this reason, it is important to reassess air/gas accumulation conditions following system operations and valve manipulations. (Reference NRC Generic Letter 2008-01).

EVENT DESCRIPTION

While performing Ultrasonic testing (UT) examination on Core Spray A high point piping in the A Residual Heat Removal Quad to ensure this piping was water solid, it was identified that the horizontal pipe had an air void internally. This piping goes through the concrete wall at this location and into the Torus room. A high point vent line with valves is located in the area of the UT exam. It was found that the top 2 inches of the 10 inch core spray pump discharge line had accumulated an air void within the known inverted loop in Core Spray Loop-A discharge line.

CAUSE OF THE EVENT

The air volume was likely introduced into the system as a consequence of inadequate guidance in procedure 2.2.20, Core Spray, which does not provide task specific directions for fill and vent of the Core Spray system to restore from a draindown.

The information for filling and venting the system was contained in one Section of the procedure and in two Attachments, but it was not compiled in one place that was readily accessible to the Operator performing the procedure. The lack of guidance provided an error trap when system restoration was being performed.

CORRECTIVE ACTIONS

The immediate corrective action was to vent the air from the 10 inch Core Spray Pump discharge line that had accumulated an air void within the known inverted loop in Core Spray Loop-A Discharge Line.

The follow-up UT exam was performed and determined that the Core Spray Loop-A discharge piping was water solid with no evidence of air present. Core Spray Loop-A is OPERABLE.

Procedure 2.2.20, Core Spray, will be revised to provide specific guidance to fill and vent the Core Spray system following maintenance requiring a system draindown, or any activity requiring a system breach.

SAFETY CONSEQUENCES

There were no consequences to the safety of the general public; nuclear safety, industrial safety, or radiological safety due to this event. For the purpose of evaluating the potential consequences of the as-found void volume, the measured void volume was compared to the Maximum Allowable Void Criteria that was established for this purpose. These criteria are used only for functionality determinations if voids are detected. The void volume did not exceed the maximum allowable void criteria. Therefore, the Core Spray system would have been capable of performing all of it specified safety functions.

No actions to reduce the frequency or consequence are necessary.

REPORTABILITY

Pilgrim Nuclear Power Station (PNPS) is reporting this event pursuant to 10 CFR 50.73(a)(2)(i)(B), as a condition prohibited by Technical Specifications (TS). Although upon discovery the proper Limiting Condition for Operation Action Statement was entered and the void was filled immediately to correct the issue, it is believed that this condition existed before the time of discovery for a period of time longer than that allowed by TS.

PREVIOUS EVENTS

A review of PNPS LERs since NRC Generic Letter 2008-01 was issued did not identify any other LERs that have been written regarding line voids of air or gas accumulation in discharge piping.

REFERENCES

CR- PNP-2017-06029