



LG-15-105

10CFR50.73

August 20, 2015

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

Limerick Generating Station, Unit 2
Renewed Facility Operating License No. NPF-85
NRC Docket No. 50-353

Subject: LER 2015-004-00, Valid Manual Actuation of the Primary Containment Isolation System

This Licensee Event Report (LER) addresses a valid manual actuation of the primary containment isolation system in response to a low delta pressure condition in reactor enclosure secondary containment. The manual actuation affected primary containment isolation valves in more than one system.

This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv)(A).

There are no regulatory commitments contained in this letter.

If you have any questions, please contact Robert B. Dickinson at (610) 718-3400.

Respectfully,

Original signed by

Richard W. Libra
Vice President – Limerick Generating Station
Exelon Generation Company, LLC

cc: Administrator Region I, USNRC
USNRC Senior Resident Inspector, LGS

**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

Limerick Generating Station, Unit 2

2. DOCKET NUMBER

05000353

3. PAGE

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4. TITLE

Valid Manual Actuation of the Primary Containment Isolation System

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	21	2015	2015	004	00	08	20	2015	FACILITY NAME	DOCKET NUMBER
										05000
										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 100	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" 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 type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Robert B. Dickinson, Manager - Regulatory Assurance	610-718-3400

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	VA	FT	B384	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)

A valid manual actuation of the primary containment isolation system was initiated in response to a low delta pressure condition in the Unit 2 reactor enclosure secondary containment. The manual actuation affected primary containment isolation valves in more than one system. The cause of the event was a trip of the reactor enclosure ventilation system that resulted in a low reactor enclosure secondary containment delta pressure condition. The cause of the ventilation system trip was a reactor enclosure equipment compartment exhaust (REECE) system flow transmitter output drift to a value less than the low flow trip setpoint. The failed flow transmitter was replaced. The reactor enclosure ventilation system was restored to service and continues to operate normally with a temporary configuration change (TCC) installed. Troubleshooting is planned to support removal of the TCC that was installed to defeat the REECE system low flow trip. The preventive maintenance (PM) activity will be reviewed and revised as necessary.

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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.

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NARRATIVE**Unit Conditions Prior to the Event**

Unit 2 was in Operational Condition (OPCON) 1 (Power Operation) at approximately 100% power. There were no structures, systems or components out of service that contributed to this event.

Description of the Event

On Sunday, June 21, 2015, Limerick Unit 2 was operating at approximately 100% power. At 1603 hours, the Unit 2 reactor enclosure ventilation system (EIS:VA) tripped which resulted in a low delta pressure condition in the Unit 2 reactor enclosure secondary containment (EIS:NH). At 1635 hours, a valid manual initiation of the secondary containment isolation system was performed as directed by procedure. The actuation resulted in closure of primary containment isolation valves (PCIVs) (EIS:ISV) in the instrument gas system. Containment atmospheric control (CAC) PCIVs that were in their normally closed position also received a closure demand. A TCC was implemented to defeat the low flow trip and restore the ventilation system to service.

An investigation identified the cause of the ventilation system trip was drift of the REECE system flow transmitter output to a value less than the trip setpoint. The isolation signal was reset, the affected PCIVs were restored to the pre-event positions, and the ventilation system was restored to service.

An 8-hour NRC ENS notification was required by 10CFR50.72(b)(3)(iv)(A) for a valid manual actuation of the primary containment isolation system. The ENS notification (#51168) was completed on June 21, 2015 at 2025 hours. This event affected primary containment isolation valves in more than one system. Therefore, this LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv)(A).

Analysis of the Event

There was no actual safety consequence associated with this event. The potential safety consequences of this event were minimal. The primary containment isolation system operated as designed and closed PCIVs in the instrument gas system. The low delta pressure condition in the reactor enclosure did not result in degradation of secondary containment integrity other than a brief period of operation with a low delta pressure condition. Normal reactor enclosure secondary containment delta pressure was restored when the standby gas treatment system (SGTS) and reactor enclosure recirculation system (RERS) automatically started as a result of the manual initiation of the reactor enclosure secondary containment isolation.

Per UFSAR 9.4.2.1.3, safety-related equipment in the reactor enclosure is designed to perform safety functions under the environmental conditions resulting from a loss of the

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NARRATIVE

normal ventilation system. Per TS 3.6.5.1.1, Reactor Enclosure Secondary Containment Integrity surveillance requires pressure within the reactor enclosure secondary containment to be maintained greater than or equal to 0.25 inches of vacuum water gauge.

Cause of the Event

The cause of the event was a trip of the reactor enclosure ventilation system that resulted in a low reactor enclosure secondary containment delta pressure condition. The cause of the ventilation system trip was a REECE system flow transmitter output drift to a value less than the low flow trip setpoint.

Corrective Action Completed

The failed flow transmitter was replaced.

The reactor enclosure ventilation system was restored to service and continues to operate normally with the TCC installed.

Corrective Action Planned

Troubleshooting is planned to support removal of the TCC that was installed to defeat the REECE system low flow trip.

The preventive maintenance (PM) activity for the REECE system flow transmitter will be reviewed and revised as necessary.

Previous Similar Occurrences

On May 21, 2013, Limerick Unit 1 submitted LER 2012-003-01 which reported a valid manual actuation of the primary containment isolation system. The event was due to a reactor enclosure ventilation system trip that resulted in manual actuation of the primary containment isolation system.

Component data:

Cause: B (Design, Manufacturing, Construction/Installation)
System: VA (Reactor Building Environ Control System)
Component: FT (Transmitter, Flow)
Manufacturer: B384 (Brandt Ind)
Model: PI-DPT2000