



PECO ENERGY

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10CFR50.73

April 14, 1994
Docket No. 50-352
License No. NPF-39

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

SUBJECT: Licensee Event Report
Limerick Generating Station - Unit 1

This LER reports an isolation of a Primary Containment Isolation Valve, an Engineered Safety Feature actuation, after an incorrectly installed instrument tube became disconnected from an excess flow check valve (EFCV) causing the EFCV to isolate due to an error during installation of a modification performed in 1989.

Reference:	Docket No. 50-352
Report Number:	1-94-006
Revision Number:	00
Event Date:	March 15, 1994
Report Date:	April 14, 1994
Facility:	Limerick Generating Station P.O. Box 2300, Sanatoga, PA 19464-2300

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

Very truly yours,

DMS:cah

cc: T. T. Martin, Administrator Regional, USNRC
N. S. Perry, USNRC Senior Resident Inspector, LGS

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Limerick Generating Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 5 2	PAGE (3) 1 OF 0 3
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TITLE (4) Isolation of a PCIV, an ESF actuation, after an incorrectly installed instrument tube became disconnected causing an excess flow check valve to isolate due to an installation error.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NUMBER(S)
0 3	1 5	9 4	9 4	0 0 6	0 0	0 4	1 4	9 4				0 5 0 0 0
DOCKET NUMBER(S) 0 5 0 0 0												

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) 1 0 1 0	20.402(b)	20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)					
	20.405(a)(1)(i)	50.38(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)					
	20.405(a)(1)(ii)	50.38(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)					
	20.405(a)(1)(iii)	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(vii)(A)						
	20.405(a)(1)(iv)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(vii)(B)						
	20.405(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME J. L. Kantner, Manager - Experience Assessment, LGS		AREA CODE 6 1 0	3 2 7 - 1 2 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO						

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On March 15, 1994, while investigating a leak near the excess flow check valve (EFCV), XV-042-1F047B, a maintenance technician agitated the leaking EFCV instrument tube causing it to suddenly disconnect from its fitting resulting in the automatic closure of the EFCV. Closure of the EFCV caused a Reactor Protection System (RPS) half SCRAM signal and a partial Primary Containment and Reactor Vessel Isolation Control System (PCRVICES) signal to be generated; however, no valve actuations occurred. The EFCV is a Primary Containment Isolation Valve and its automatic closure constitutes an Engineered Safety Feature actuation of the PCRVICES. The instrument tube was repaired, the half SCRAM signal was reset, and the EFCV was returned to service. The consequences of this event were minimal in that the EFCV performed its intended design function to isolate the instrument line. The primary cause of this event was an installation error in that the subject instrument tube was not properly connected to its fitting during a 1989 modification. A contributing factor was the agitation of the leaking instrument tube by the maintenance technician. A random sample of similar fittings will be performed and actions will be taken as necessary.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		94	006	0	02	OF	03

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Unit Conditions Prior to the Event:

The Unit 1 and Unit 2 reactors were in Operational Condition 1 (Power Operation) operating at 100% power.

Description of the Event:

On March 15, 1994, a maintenance technician was investigating an instrument tube leak near the excess flow check valve (EFCV), XV-042-1F047B. Valve XV-042-1F047B is a Primary Containment Isolation Valve (PCIV) (EIIS:FCV), and the automatic closure of this valve constitutes an Engineered Safety Feature (ESF) actuation of the Primary Containment and Reactor Vessel Isolation Control System (PCRVICES) (EIIS:JM). At 1415 hours, the maintenance technician stepped on a rigidly mounted two inch diameter conduit pipe in contact with the leaking instrument tube. The agitation or vibration caused by stepping on the conduit pipe caused the instrument tube to suddenly blow out from a fitting attached to the EFCV. The EFCV immediately isolated and the flow was terminated. The maintenance technician, in conjunction with a Health Physics technician, inspected the disconnected instrument tube and identified that its ferrule was not properly crimped to the end of the instrument tube. The tube was then reinserted into the fitting and properly tightened. Main Control Room (MCR) Operations personnel were then notified of the incident. Additionally, the Instrumentation and Controls (I&C) group was notified to further inspect the subject fitting.

Closure of the EFCV caused a Reactor Protection System (RPS) half SCRAM signal and a partial PCRVICES signal to be generated; however, no valve actuations occurred. By 1025 hours on March 16, 1994, inspection or repairs to the EFCV fitting were completed, the RPS half SCRAM and partial PCRVICES signals were reset, and the EFCV was returned to service.

A four (4) hour notification was made to the NRC at 1810 hours on March 15, 1994, in accordance with 10CFR50.72(b)(2)(ii) since the automatic closure of PCIV XV-042-1F047B constitutes an ESF actuation of the PCRVICES. This report is being submitted in accordance with the requirements of 10CFR50.73(a)(2)(iv).

Analysis of the Event:

There was no release of radioactive material to the environment or adverse consequences as a result of the EFCV isolation. An actual high flow condition occurred when the instrument tube blew

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TEXT If more space is required, use additional NRC Form 366A's (17)

out from the EFCV fitting, and the EFCV properly performed its intended safety design function to isolate the instrument line. Additionally, no valve actuations occurred as a result of the EFCV closure.

Cause of the Event:

The primary cause of this event was an installation error in that the instrument tube was incorrectly tightened in the EFCV fitting during installation of a modification performed in 1989. This 1989 modification involved the incorporation of test taps for the purpose of performing leakage rate tests on EFCVs. An inspection following this event identified that the instrument tube was not properly tightened into the fitting to ensure the ferrule was crimped around the instrument tube in accordance established practices.

A contributing factor to this event was the agitation of the failed component by the maintenance technician who stepped on the rigidly mounted two inch diameter conduit pipe in contact with the leaking instrument tube. The vibration or agitation by this action caused the instrument tube to suddenly blow out from the EFCV fitting. Stepping on a two inch diameter conduit pipe that is mounted in this fashion and is structurally sound, is acceptable per the climbing guidance which is provided to plant personnel.

Corrective Actions:

A random sample of other similar fittings installed in the plant, as a result of the previously stated modification, will be performed. This item is expected to be completed by April 29, 1994, and appropriate actions will be implemented as necessary.

Previous Similar Occurrences:

There have been no previous similar occurrences reported at the Limerick Generating Station where an improperly installed fitting caused an EFCV to isolate.