

# PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

P. O. BOX A

SANATOGA, PENNSYLVANIA 19464

(215) 327-1200 EXT. 2000

M. J. McCORMICK, JR., P.E.  
PLANT MANAGER  
LIMERICK GENERATING STATION

December 29, 1989  
Docket No. 50-353  
License No. NPF-85

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

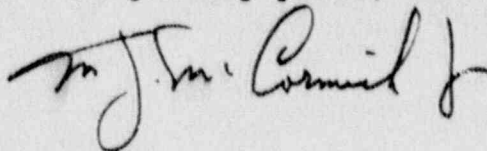
SUBJECT: Licensee Event Report  
Limerick Generating Station - Unit 2

This LER reports an unplanned actuation of the Primary Containment and Reactor Vessel Isolation Control System (an Engineered Safety Feature) due to a Plant Operations procedure deficiency.

Reference:	Docket No. 50-353
Report Number:	2-89-014
Revision Number:	00
Event Date:	December 02, 1989
Report Date:	December 29, 1989
Facility:	Limerick Generating Station P.O. Box A, Sanatoga, PA 19464

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(iv).

Very truly yours,



WAR:ch

cc: W. T. Russell, Administrator, Region I, USNRC  
T. J. Kenny, USNRC Senior Resident Inspector, LGS

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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Limerick Generating Station, Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 3 5 3										PAGE (3) 1 OF 014				
TITLE (4) Unplanned actuation of the Primary Containment and Reactor Vessel Isolation Control System due to a Plant Operations procedure deficiency.																								
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)												
1	2	0	2	8	9	8	9	0	1	4	0	0	1	2	2	9	8	9	0	5	0	0	0	0
OPERATING MODE (9) 4			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																					
POWER LEVEL (10) 0 0 0			20.402(b)				20.402(a)				<input checked="" type="checkbox"/> 20.734(c)(1)(w)				72.71(b)									
			20.402(a)(1)(b)				20.38(a)(1)				20.734(c)(1)(v)				72.71(w)									
			20.402(a)(1)(b)				20.38(a)(2)				20.734(c)(1)(v)				OTHER (Specify in Abstract below and in Text, NRC Form 205A)									
			20.402(a)(1)(b)				20.734(c)(1)(i)				20.734(c)(1)(w)(A)													
			20.402(a)(1)(b)				20.734(c)(1)(i)				20.734(c)(1)(w)(B)													
			20.402(a)(1)(v)				20.734(c)(1)(w)				20.734(c)(1)(i)													
LICENSEE CONTACT FOR THIS LER (12)																								
NAME C. R. Endriss, Regulatory Engineer, Limerick Generating Station															TELEPHONE NUMBER 2 1 5 3 2 7 - 1 2 0 0									
COMPLETE ROWS LIST FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC															
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)														
YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO														

ABSTRACT (Limit to 1,000 words, i.e., approximately 10 lines single-spaced typewritten text) (16)

On December 2, 1989, with the reactor in COLD SHUTDOWN, an unexpected actuation of the Primary Containment and Reactor Vessel Isolation Control System (PCRIVICS) occurred. The Primary Containment, Group IA (Main Steam Isolation Valves and Main Steam Line Drain Valves) isolation signal resulted from the 'Main Turbine Condenser Vacuum - Low' actuation logic. This event occurred while plant operators were implementing General Plant procedure GP-3, "Normal Plant Shutdown," and breaking the Main Condenser Vacuum. All Group IA valves were closed prior to the isolation signal, therefore, no valve movement occurred and there were no adverse consequences from this event. The Condenser Low Vacuum Isolation Bypass switches were placed in BYPASS and the PCRIVICS Group IA isolation signal was reset. The cause of the event was insufficient guidance in General Plant (GP) procedure GP-3, "Normal Plant Shutdown." To prevent recurrence, GP-3 was revised by adding a step to ensure that the Low Condenser Vacuum actuation logic to PCRIVICS is bypassed prior to breaking the Main Condenser Vacuum. The appropriate GP procedures will be reviewed and revised if other instances of insufficient guidance exist.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED ONS NO. 3180-0104

EXPIRES 8/31/88

FACILITY NAME (1) Limerick Generating Station, Unit 2	DOCKET NUMBER (2) 0500035389	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		89	014	00	02	OF	04

TEXT (If more space is required, use additional NRC Form 200A's) (17)

Unit Conditions Prior to the Event:

Operating Condition: 4 (Cold Shutdown)  
Power Level: 0%

Description of the Event:

On December 2, 1989, at 1322 hours, an unexpected actuation of the Unit 2 Primary Containment and Reactor Vessel Isolation Control System (PCRVICES) (EIIIS:JM), an Engineered Safety Feature (ESF), occurred. The Group IA (Main Steam Isolation Valves and Main Steam Line Drain Valves) isolation signal resulted from the 'Main Turbine Condenser Vacuum - Low' actuation logic.

The reactor was in COLD SHUTDOWN and plant operators were implementing General Plant (GP) procedure GP-3, "Normal Plant Shutdown." The annunciators (EIIIS:ANN) for Group I PCRVICES alarmed in the Main Control Room (MCR) seven minutes after plant operators opened the Main Condenser Vacuum Breaker Valves. The operators immediately recognized the cause of the alarms and notified shift supervision. An operator was then sent to the Auxiliary Equipment Relay Room to place the four Condenser Low Vacuum Isolation Bypass Switches in BYPASS. The Group IA isolation signal was then reset at 1344 hours, in accordance with procedure GP-8, "Primary and Secondary Containment Isolation Verification and Reset." All Group IA valves were closed prior to the event, so no valve movement occurred as a result of this isolation signal. Total time of the isolation signal was 22 minutes.

A four (4) hour notification was made to the NRC at 1455 hours on December 2, in accordance with 10CFR 50.72 (b)(2)(ii) since the event resulted in the automatic actuation of the PCRVICES which is an ESF. Accordingly, this report is being submitted in accordance with 10CFR 50.73(a)(2)(iv).

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES 8/31/86

FACILITY NAME (1) Limerick Generating Station, Unit 2	DOCKET NUMBER (2) 0500035389	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		89	014	00	03	OF 04

TEXT (If more space is required, use additional NRC Form 288A's) (17)

Consequences of the Event:

There was no release of radioactive material to the environment or adverse consequences due to the Main Steam Line isolation signal. All affected valves were already closed, therefore no valve movement occurred. The Isolation Actuation Instrumentation responded to the reduction in Condenser Vacuum and performed as designed. In addition, with the reactor in COLD SHUTDOWN, Operability of the Main Steam Line Isolation Actuation Instrumentation is not required by Technical Specifications.

Cause of the Event:

This event was caused by a procedure deficiency. Procedure GP-3, did not contain sufficient guidance to ensure that the 'Main Condenser Vacuum - Low' PCRVICS isolation is bypassed prior to breaking condenser vacuum. In GP-3, prior to step 3.3.27.i (Open Main Condenser Vacuum Breakers), is step 3.3.27.g which states, "Remove the Steam Jet Air Ejectors (SJAE) from service per S07.2.A and shut down Off-Gas System." Procedure S07.2.A "Shutdown of the Steam Jet Air Ejector and Breaking Main Condenser Vacuum," does specify to place the Condenser Low Vacuum Isolation Bypass Switches in BYPASS and, under normal plant shutdown conditions, is sufficient to prevent this event. However, on this occasion, the SJAE was previously removed from service and the Main Condenser Vacuum was being maintained by use of the Mechanical Vacuum Pump from 1915 on December 1 until the event time (1322 on December 2). Step 3.3.27.g referencing procedure S07.2.A was verified as having already been performed since the SJAEs were not in service. GP-3 did not contain the additional action from procedure S07.2.A to ensure that the 'Main Condenser Vacuum - Low' actuation logic was bypassed prior to opening the Main Condenser Vacuum Breakers in step 3.3.27.i.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/85

FACILITY NAME (1)

Limerick Generating Station, Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 5 3

LER NUMBER (3)

PAGE (3)

YEAR

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NUMBER

8 9 - 0 1 4 - 0 0 0 4 OF 0 4

TEXT (If more space is required, use additional NRC Form 306A's) (17)

Corrective Actions:

After observing the annunciator alarms for a Group I isolation signal, shift operators responded using guidance of procedure GP-8, "Primary and Secondary Containment Isolation Verification and Reset." The initiating cause and proper isolation system response was verified. The four Condenser Low Vacuum Isolation Bypass Switches were then placed in BYPASS and the PCRVICS Group IA isolation signal was reset at 1344 on December 2, 1989.

Actions Taken to Prevent Recurrence:

Procedure GP-3, was revised to include instructions to ensure the Condenser Low Vacuum Isolation Bypass Switches are placed in BYPASS prior to breaking condenser vacuum.

The appropriate GP procedures will be reviewed and revised as necessary by February 20, 1990, to ensure that other actions in the GP or System procedure are not missed or misunderstood as a result of referencing portions of System procedures.

Previous Similar Occurrences:

NONE

Tracking Codes: D2 - Inadequate procedure - did not cover situation