



PECO ENERGY

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10CFR50.73

May 23, 1994

Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

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

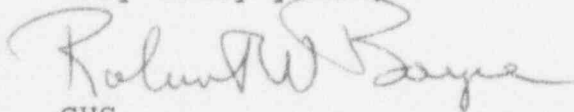
SUBJECT: Licensee Event Report  
Limerick Generating Station - Units 1 and 2

This LER reports automatic actuation of Engineered Safety Features consisting of a common Refuel Floor Secondary Containment isolation and initiation of the Standby Gas Treatment System. The actuations were caused by a low negative differential pressure between the Refuel Floor and the outside environment due to high winds resulting from a passing storm front.

Reference:	Docket Nos. 50-352 50-353
Report Number:	1-94-007
Revision Number:	00
Event Date:	April 27, 1994
Report Date:	May 23, 1994
Facility:	Limerick Generating Station P.O. Box 2300, Sanatoga, PA 19464-2300

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

Very truly yours,

  
GHS

cc: T. T. Martin, Administrator Region I, 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 1	PAGE (3) OF 0 4
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TITLE (4) Refuel Floor Secondary Containment Isolation on Low Differential Pressure due to a Severe Storm.

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 4	2 7	9 4	9 4	0 0 7	0 0	0 5	2 3	9 4	Limerick, Unit 2		0 5   0   0   0   3   5   3

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 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)

NAME J. L. Kantner, Manager - Experience Assessment, LGS	TELEPHONE NUMBER AREA CODE: 6 1   0 3   2   7   1 -   1   2   0   0
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COMPLETE ONE LINE 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)	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 April 27, 1994, at 1554 hours, the Limerick Generating Station (LGS) Refuel Floor (RF) Secondary Containment isolated and both trains of the Standby Gas Treatment System (SGTS) initiated due to a low negative differential pressure condition between the RF and the outside atmosphere. Both of these systems are common to LGS Units 1 and 2, and represent Engineered Safety Feature (ESF) actuations. The low negative differential pressure condition was the result of high winds associated with a passing storm front. The RF Secondary Containment and the SGTS responded as designed to maintain Secondary Containment integrity. Operators restored normal RF ventilation at 1704 hours on April 27, 1994, and reset all isolation signals when the high wind conditions cleared. As a result of a similar event in 1989, a note was added to Special Event (SE) procedure SE-9, "High Winds" to further heighten the operators' awareness that high wind conditions can cause Secondary Containment isolations. In addition, LGS shift operations personnel will be forewarned of severe weather activity in the area which may involve high winds by PECO Energy Company's Load Dispatcher. Based on these actions, future similar events will not be reported.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

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

Unit Conditions Prior to the Event

Units 1 and 2 were both in Operational Condition (OPCON) 1 (Power Operation) operating at 100% power at the time of this event.

Refuel Floor Secondary Containment integrity was being maintained due to the movement of irradiated Shoreham fuel on the common Refuel Floor at the time of this event.

Description of the Event

On April 27, 1994, at 1554 hours, the Limerick Generating Station (LGS) Refuel Floor Secondary Containment (EIIS:JM) isolated and both trains of the Standby Gas Treatment System (SGTS) (EIIS:BH) initiated due to a low negative differential pressure condition between the Refuel Floor and the outside atmosphere. Both of these systems are common to LGS Units 1 and 2, and represent Engineered Safety Feature (ESF) actuations. The low negative differential pressure condition was the result of high winds associated with a passing storm front. In addition, Groups VIA and VIB (Primary Containment Supply and Exhaust, Primary Containment Exhaust to Reactor Enclosure Equipment Compartment Exhaust, and nitrogen block valves) of the Primary Containment and Reactor Vessel Isolation Control System (PCRVICES) (EIIS:JM), also an ESF, received an isolation signal due to the low differential pressure condition; however, no valve motion occurred since these valves are normally closed during Power Operation.

Main Control Room (MCR) operators verified proper Refuel Floor Secondary Containment isolation and SGTS operation using system operating procedure S76.9.A, "Verification of Reactor Enclosure or Refuel Floor Secondary Containment Isolation." MCR operators also halted Shoreham fuel movement activities until normal Refuel Floor ventilation was restored.

Operators restored normal Refuel Floor ventilation at 1704 hours on April 27, 1994, and reset all isolation signals when the high wind conditions cleared. The duration of the isolation was one hour and ten minutes.

A four hour notification was made to the NRC at 1729 hours, on April 27, 1994, in accordance with the requirements of 10 CFR 50.72(b)(2)(ii), since this event resulted in automatic ESF actuations. This LER is being submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(iv).

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TEXT (If more space is required, use additional NRC Form 296A's) (17)

Analysis of the Event

The actual and potential consequences of this event were minimal. There was no release of radioactive materials to the environment as a result of this event. The Refuel Floor Secondary Containment, the PCRVICS Group VIA and VIB valves, and the SGTS responded as designed to the low negative differential pressure signal caused by the high winds. Rapid system response quickly re-established Refuel Floor Secondary Containment integrity in that the SGTS restored and maintained the required negative differential pressure in the Refuel Floor Secondary Containment to minimize releases to the environment in the event that a fuel handling accident had occurred. Suspension of Shoreham fuel movement activities also reduced the probability of a fuel handling accident occurring during the event.

Cause of the Event

The cause of this event was a rapidly moving storm front that passed through the area at the time of the event. The storm front caused wind gusts up to 60 mph. The wind was in the direction of the Refuel Floor ventilation system supply fan intake structures. The gusts of wind through the intake structures provided additional air flow into the Refuel Floor to the extent that the Refuel Floor ventilation system exhaust fans could not keep up with the additional air flow. This affected the ability of the ventilation system to maintain the Refuel Floor at a sufficiently negative pressure.

Corrective Actions

Upon receipt of the low negative differential pressure signal, the Refuel Floor Secondary Containment isolated, and the SGTS initiated as designed to restore Refuel Floor Secondary Containment integrity. After the storm had passed, MCR operators restored normal ventilation to the Refuel Floor at 1704 hours on April 27, 1994.

A storm front of this intensity does not often occur at the same time that Refuel Floor Secondary Containment integrity is required to be maintained. LER 1-89-057 similarly reported a Refuel Floor Secondary Containment isolation which occurred in November 1989 due to a passing storm front. As a result of this 1989 event, a note was added to Special Event (SE) procedure SE-9, "High Winds" to further heighten the operators' awareness that high wind conditions can cause Secondary Containment isolations. In addition, SE procedures are reinforced during licensed operator requalification training.

LGS shift operations personnel will be forewarned of severe weather activity in the area which may involve high winds by PECO Energy Company's Load Dispatcher (LD).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

Based on the corrective actions described above for this event and the 1989 event, even though a Secondary Containment isolation may not definitely occur as a result of high winds, it is recognized as having the potential to occur and is documented in the appropriate procedure, and the plant operating staff recognizes the potential for the event to occur. As long as no unexpected ESF or other actuation different than what is recognized and stated in the procedure SE-9 occurs, any future similar Secondary Containment isolation due to high winds will be considered as preplanned, and therefore, will not be reported.

Previous Similar Occurrences

LERs 1-84-041, 1-84-045, and 1-85-005 reported Refuel Floor Secondary Containment isolations. These isolations occurred because, depending on wind direction, the high winds created a false low differential pressure signal due to significantly different indications from two independent outside legs of the differential pressure instrumentation. This system was modified to join the two outside sensing legs into a common leg. This corrective action would not have prevented this event since the high winds effectively pressurized Refuel Floor Secondary Containment.

LER 1-89-057 was previously discussed under the "Corrective Actions" section of this LER.