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Limerick Generating Station
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10CFR50.73

September 10, 2001

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

Subject: LER 1-01-001 EDG fuel oil water removal failed surveillance

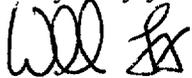
Limerick Generating Station, Unit 1
Facility Operating License No. NPF-39
NRC Docket No. 50-352

This Licensee Event Report (LER) addresses the failure to identify and remove accumulated water in the fuel oil storage tanks for Emergency Diesel Generators D11 and D12 in violation of Limerick Technical Specification 4.8.1.1.2.b.2. This event occurred due to a detection method that was not fully effective in discerning water in the EDG fuel oil storage tank. A new detection medium is now being used to identify the presence of water in the storage tanks.

Report Number: 1-01-001
Revision: 00
Event Date: July 11, 2001
Discovered Date: July 11, 2001
Report Date: September 10, 2001
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)(i)(B).

Very truly yours,



William Levis
Vice President

cc: H. J. Miller, Administrator Region I, USNRC
A. L. Burritt, USNRC Senior Resident Inspector, LGS

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

FACILITY NAME (1) Limerick Generating Station, Unit 1	DOCKET NUMBER (2) 05000 352	PAGE (3) 1 OF 4
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TITLE (4)
Emergency Diesel Generator (EDG) Fuel Oil Water Removal Missed Surveillance Test

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
7	11	01	01	001	00	9	10	01		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)									
	20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)			
POWER LEVEL (10) 100	20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)			
	20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)			
	20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)			
	20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A			
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)					
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)					
	20.2203(a)(2)(v)		x 50.73(a)(2)(i)(B)		50.73(a)(2)(vii)					
	20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)					
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)						

LICENSEE CONTACT FOR THIS LER (12)

NAME Marino C. Kaminski, Manager – Experience Assessment	TELEPHONE NUMBER (Include Area Code) (610) 718-3400
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During D12 Emergency Diesel Generator (EDG) testing, the underground fuel oil storage tanks for D11 and D12 EDGs were identified to contain water. Open fuel oil storage tank access pit drain valves allowed storm drain water to enter the access pits and cover the fuel oil storage tank breather vent valves. Leakage through the breather vent valves allowed water in the fuel oil storage tanks. Routine surveillance testing failed to detect the water. The failure to identify and remove accumulated water in the underground fuel oil storage tanks for Emergency Diesel Generators D11 and D12 is a violation of Technical Specification 4.8.1.1.2.b.2. A new detection medium is now being used to identify the presence of water in the storage tanks.

LICENSEE EVENT REPORT (LER)

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

Unit Conditions Prior to the Event

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

Description of the Event

On July 11, 2001 at 18:00 hours, a 24-hour endurance run surveillance test was being conducted on D12 EDG (EIIS:DG). During a fuel oil delivery approximately 1-1/2 feet of water was observed on the floor of the D12 EDG fuel oil storage tank access pit. Subsequent testing of the D12 EDG storage tank (EIIS:TK) identified that water existed but was verified to be below the fuel oil transfer pump suction. Approximately 300 gallons of water were removed from the tank. Complete removal of the water was confirmed by chemical analysis. Sampling and subsequent analysis verified that no water was transferred to the D12 EDG fuel oil day tank.

Inspection of the other EDG fuel oil storage tank access pits identified approximately 2 feet of water in the D11 EDG fuel oil storage tank access pit. Subsequent testing of the D11 EDG storage tank identified that water existed but was verified to be below the fuel oil transfer pump suction. Approximately 1,680 gallons of water were removed from the tank. Complete removal of the water was confirmed by chemical analysis. Sampling and subsequent analysis verified that no water was transferred to the D11 EDG fuel oil day tank.

The D13 EDG fuel oil storage tank access pit had approximately half a foot of water in the access pit. Testing verified that no water entered the D13 fuel oil storage tank. D14, D21, D22, D23, and D24 EDG fuel oil storage tank access pits had accumulations of ground water on the pit floors that did not exceed 2 inches.

Inspection of the EDG fuel oil storage tank access pits identified that the gate valve portion of D11, D12 and D13 EDG access pit drain valves was open. This allowed storm drain water to backfill the pits by leaking past the check valves in the drain line.

TS SR 4.8.1.1.2.b.2 requires that water in the EDG fuel oil storage tank be removed every 31 days. Water is believed to have existed in the D11 and D12 EDG fuel oil storage tanks during the surveillance tests that were conducted on July 2, 2001 (D11) and June 5, 2001 (D12). Since the surveillance test did not identify the water accumulation, water was not removed as required. This resulted in a condition prohibited by plant Technical Specifications. Since the surveillance test exceeded the 31 days and failed during subsequent performance, this is a reportable condition.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

An ENS notification was made per 10CFR50.72(b)(3)(v) on July 12, 2001 at 05:29 hours. It was later determined that the quantity of water in the D11 and D12 EDG Fuel Oil Storage Tanks was below the fuel oil transfer pump suction and no water would have been transferred to the day tanks. Therefore, this condition would not have prevented the fulfillment of the safety function. This notification was retracted on September 6, 2001 at 14:07 hours.

This event involved a condition prohibited by Technical Specifications. Therefore, this LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

Analysis of the Event

There were no actual safety consequences associated with this event. The potential safety consequences of this event were also minimal.

The water levels in D11 and D12 EDG fuel oil storage tanks were below the level of the fuel oil transfer pump suctions. Therefore, no water was transferred to the EDG day tank nor would any have been transferred during an accident. All EDGs remained available throughout this event, therefore no risk exposure or impact on core damage frequency (CDF) occurred.

During the investigation, the standard water detection compound was determined to be not fully effective at identifying major water accumulation in the EDG fuel oil storage tank sump. The compound changes from brown to red when it contacts water. When the detector is partially submerged in water, the boundary between the affected region and the unaffected region is marginally discernable. When the entire detection region is submerged in water as occurred in this case, the color change is not easily discernable since no contrasting line exists. This resulted in a failure to detect water in the EDG fuel oil storage tank during previous tests for water.

Cause of the Event

This event occurred due to a detection method that was not fully effective in discerning water in the EDG fuel oil storage tank.

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

Corrective Action Completed

A colored paste with greater color contrast is now being used to better identify the presence of water in the fuel oil storage tank.

An administrative clearance has been applied to all EDG fuel oil storage tank access pit drain valves to maintain the valves in the closed position as an interim corrective action.

Component identification numbers have been created and component identification labels have been installed for the EDG fuel oil storage tank access pit drain valves

Corrective Action Planned

Procedures will be implemented for control of the EDG fuel oil storage tank access pit drain valves.

Previous Similar Occurrences

There were no previous occurrences of failure to detect water in the fuel oil storage tank.