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10 CFR 50.73

March 25 , 1994

Docket No. 50-352
License No. NPF-39

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington D.C., 20555

SUBJECT: Limerick Generating Station, Unit 1
Licensee Event Report

This LER reports a condition prohibited by the Plant's Technical Specifications (TS) in that the outboard subsystem of the Main Steam Isolation Valve Leakage Control System was inoperable and the appropriate TS Actions were not taken within the specified time period. This condition was due to a seismic interaction interference affecting a Main Steam system component required for outboard Main Steam Isolation Valve Leakage Control subsystem operability.

Reference:	Docket Number 50-352
Report Number:	1-94-005
Revision Number:	00
Event Date:	October 26, 1984
Discovery Date:	February 25, 1994
Report Date:	March 25 , 1994
Facility:	Limerick Generating Station P.O. Box 2300, Sanatoga, Pa. 19464-2300

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

Very truly yours,

KFB:cah

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

IE22

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

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TITLE (4) Main Steam Isolation Valve - Leakage Control System inoperability due to a seismic interaction interference affecting a valve

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 5 0 0 0
1 0	2 6	8 4	9 4	0 0 5	0 0	0 3	2 5	9 4		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
5		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 0 0	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
J. L. Kantner - Manager, Experience Assessment, LGS	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 NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

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 fifteen single-space typewritten lines) (16)

On February 25, 1994 a PECO Energy employed engineer discovered that Main Steam valve HV-001-108, required for the outboard subsystem of the Main Steam Isolation Valve Leakage Control system (MSIV LCS) operability, did not have the proper seismic interference clearance. This condition could have caused an electrical fault and therefore would have prevented the valve from performing its function during and following a seismic event. The clearance discrepancy was identified during a seismic walkdown for a proposed MSIV LCS modification. The valve and outboard subsystem of the MSIV LCS were declared inoperable. On March 5, 1994, the seismic interference condition was corrected. This condition affecting the operability of the outboard subsystem of the MSIV LCS has existed since October 26, 1984, the date of issuance of the Unit 1 Low Power Operating License. The cause of this event was concluded to be a failure by construction personnel to properly install the identified equipment. The consequences of this condition were minimal in that no electrical fault condition actually occurred. The walkdown which discovered this condition was performed for both Unit 1 and Unit 2 and no other interference non-conformances were identified. No further actions are planned.

UNIT CONDITION PRIOR TO THE EVENT

Unit 1 was in Operational Condition 5 (Refueling) at the time of the discovery of this condition.

There were no other components or systems that were inoperable that contributed to this condition.

DESCRIPTION OF THE EVENT

On February 25, 1994 a PECO Energy employed engineer initiated a Non-Conformance Report (NCR 94-00086) after determining that the Unit 1 Main Steam Reactor Feed Pump Turbine and Recombiner Heater (EIIS:SB) motor operated valve (MOV, EIIS:V) HV-001-108 did not have adequate seismic interference clearance which could have caused an electrical fault and therefore may have prevented the valve from performing its function during and following a seismic event. The clearance discrepancy was identified by the engineer while he was performing a seismic verification walkdown for a proposed modification to the Main Steam Isolation Valve Leakage Control System (MSIV LCS, EIIS:BD). A conduit (EIIS:CND) which contained the power and control cables (EIIS:CBL) for the MOV was located next to a non-seismically supported cable tray allowing only 0.25 inches of clearance. The cable tray had the potential during a seismic event to impact the conduit thereby preventing the valve from performing its safety related function. The minimum clearance specified in the Installation Specification 8031-G-23, "Specification for the Separation Program for the Limerick Generating Station, Units 1 and 2," was 2.0 inches.

Main Control Room personnel were notified of the condition on February 25, 1994, and since the reactor was in a Refueling Outage the valve was not required to be operable. However, the HV-001-108 valve has a safety related function to shut in order to support the operation of the outboard subsystem of the MSIV LCS. Therefore, operations personnel conservatively declared the outboard Main Steam Isolation Valve Leakage Control (MSIV LC) subsystem inoperable according to TS Section 3.6.1.4 since the valve did not meet all of the design requirements to support the operability of the MSIV LCS.

The function of the outboard MSIV LC subsystem is to draw-down any fission products resulting from outboard MSIV leakage between the outboard MSIVs and the Main Turbine Stop Valves following a design bases accident. During accident conditions the outboard MSIV LC subsystem is designed to maintain a vacuum in the piping between the outboard MSIVs and the Main Turbine Stop Valves. By having the HV-001-108 valve open in conjunction with a postulated seismic event and

a failure of the down-stream non-seismic piping, a source of air flow would be introduced and would adversely affect the ability of the MSIV LC subsystem to maintain the required minimum vacuum specified.

This condition has existed since October 26, 1984, the date of issuance of the Unit 1 Low Power Operating License, and was not identified until February 25, 1994. The Action required by TS Section 3.6.1.4 was not taken within the specified time period constituting a condition prohibited by TS.

ANALYSIS OF THE EVENT

The consequences of this condition were minimal in that no seismic event or electrical fault condition actually occurred which would have prevented operations personnel from closing valve HV-001-108 from the control room and would have resulted in the failure of the outboard subsystem of the MSIV LCS to perform its function.

In the event that the electrical fault would have occurred following a design base accident the inboard MSIV LC subsystem was operable and capable of removing fission products resulting from inboard MSIV leakage.

CAUSE OF THE EVENT

The cause of this event was concluded to be an original installation error during the initial construction of Unit 1. The cause of this condition which occurred prior to October 26, 1984 couldn't be fully determined; Construction personnel failed to either properly install the HV-001-108 MOV power and control cable conduit or the adjacent non-safety related cable tray. The cause of this event was not a design deficiency. The seismic Main Steam to Reactor Feed Pump Turbine and Recombiner Category I piping, the valve, and the cable conduit components are located in seismic Category II areas and were designed to be installed with the proper seismic interaction clearances as described in Installation Specification 8031-G-23. This equipment is specifically identified on drawing M-109, sheet 10 and 11.

CORRECTIVE ACTIONS

The MOV power cable, con rol cables and conduit were re-routed on March 5, 1994, thereby correcting the seismic interaction interference condition.

As stated above, the clearance discrepancy was identified during a seismic verification walkdown of Unit 1. This walkdown reviewed the entire main steam line and applicable main steam drain lines for

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

seismic interaction problems and seismic Category II over I concerns. The review included a review of all safety related main steam line valves used to establish the drawdown boundary for the MSIV-LCS. This same walkdown was performed on Unit 2 during the second refueling outage in 1993 and no similar problems were identified. The walkdown performed on Unit 1 and Unit 2 reviewed all valves similar to HV-001-108, and was performed by the same individuals following the same inspection criteria. We have concluded that, since no other seismic interferences were identified during these walkdowns, the number of components that were inspected was of a sufficient sampling size, and no other similar seismic interference conditions have been identified affecting other areas of the plant, this condition is not a generic concern. Therefore, there is no need for any further corrective actions.

PREVIOUS SIMILAR OCCURRENCES

None