

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3180-0104 EXPIRES - 6/3/85

FACILITY NAME (1) Limerick Generating Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 5 2	PAGE (3) 1 OF 0 4
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TITLE (4)
Reactor Water Cleanup System Isolations Due To High Regenerative Heat Exchanger Room Temperature

EVENT DATE (6)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		
0 7	2 3	8 6	8 6	0 4 0	0 0	0 8	2 5	8 6			
									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)

<input checked="" type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.408(a)	<input checked="" type="checkbox"/> 80.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.408(a)(1)(ii)	<input type="checkbox"/> 80.36(a)(1)	<input type="checkbox"/> 80.73(a)(2)(v)	<input type="checkbox"/> 73.71(a)
<input type="checkbox"/> 20.408(a)(1)(iii)	<input type="checkbox"/> 80.36(a)(2)	<input type="checkbox"/> 80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.408(a)(1)(iv)	<input type="checkbox"/> 80.73(a)(2)(i)	<input type="checkbox"/> 80.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.408(a)(1)(v)	<input type="checkbox"/> 80.73(a)(2)(ii)	<input type="checkbox"/> 80.73(a)(2)(vii)(B)	
<input type="checkbox"/> 20.408(a)(1)(vi)	<input type="checkbox"/> 80.73(a)(2)(iii)	<input type="checkbox"/> 80.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME John C. Nagle, Senior Engineer, Licensing Section	TELEPHONE NUMBER AREA CODE 2 1 5 8 4 1 - 5 1 8 4
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDRC	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPDRC
X	C E	P C N	L 2 6 5	N					

SUPPLEMENTAL REPORT EXPECTED (14)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)
		MONTH DAY YEAR 1 0 0 1 8 6

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

Abstract: 86-040

On July 23, 1986 at 0025 hours, the Reactor Water Cleanup (RWCU) system experienced two isolations as a result of regenerative heat exchanger room temperature exceeding the 122 degrees Fahrenheit isolation setpoint. The first high room temperature resulted from the Reactor Enclosure ventilation system being removed from service in order to perform maintenance work on the Reactor Enclosure supply cooling coils, and as a result not providing adequate ventilation for the regenerative heat exchanger room. Following the return to service of the Reactor Enclosure ventilation system, a second automatic isolation on high room temperature occurred within two minutes. The second isolation resulted from failure of pressure safety relief valve, PSV-44-109 (Lonergan Model D72G), which had opened at a pressure below setpoint and released steam into the room. The valve was removed and a blank flange was temporarily installed. The two series inlet valves for the 'A' non-regenerative heat exchanger were blocked open to assure that a safety relief valve downstream of PSV-44-109 provided adequate pressure relief for the system. The RWCU system was returned to service and will be operated with the blank flange installed until PSV-44-109 can be repaired and re-installed during the next RWCU system outage of sufficient duration. A supplemental report will be submitted when the cause for the pressure safety relief valve failure is determined.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISED NUMBER																	
		0	6	0	0	0	3	5	2	8	6	-	0	4	0	-	0	0	0	2	OF

TEXT (If more space is required, use additional NRC Form 2644 (1))

Unit Conditions Prior to the Event:

Operating Mode 1 (Power Operation)
Reactor Power 99.8%

Description of the Event:

On July 23, 1986, the Reactor Water Cleanup (RWCU) system isolated twice as a result of regenerative heat exchanger room temperature exceeding the 122 degrees Fahrenheit isolation setpoint.

Prior to the events (at 2339 hours on July 22), the Reactor Enclosure ventilation system was taken out of service in order to perform maintenance work on the Reactor Enclosure supply cooling coils. The Standby Gas Treatment System and the Reactor Enclosure Recirculation System were placed in service to maintain negative pressure in the Reactor Enclosure.

On July 23 at 0025 hours, the RWCU system isolated due to high regenerative heat exchanger room temperature. At 0205 hours the Reactor Enclosure ventilation system was restored to service in accordance with General Procedure GP-8, "Primary and Secondary Containment Isolation Verification and Reset." The RWCU system was restored at 0207 hours and a second automatic isolation on high regenerative heat exchanger room temperature occurred within two minutes. The RWCU pressure safety relief valve, PSV-44-109, had opened at a pressure below setpoint and steam was released into the room until the valve reseated when system pressure dropped to 600 psig. The RWCU system was returned to service with the safety relief valve removed and a blank flange installed at 0640 hours on July 24, 1986.

The EIIS code for the defective component is PCV and the code for the affected system is CE.

Consequences of the Event:

The adverse consequences resulting from this event were minimal because reactor water level and chemistry were not affected by the RWCU system isolation. No personnel received any excessive exposure as a result of this event and no radioactive material escaped beyond the boundaries of the Reactor Enclosure.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		86	040	00	03 OF 04

TEXT (if more space is required, use additional NRC Form 2044 (1))

In the event that the inboard RWCU system isolation failed to occur, the redundant outboard isolation would have isolated the system. The RWCU system also isolates from the Reactor Pressure Vessel on high ventilation differential room temperature and high differential system flow.

Cause of the Event:

Cause Code: PROCEDURAL DEFICIENCY (D2), COMPONENT FAILURE (B17)

The first RWCU system isolation resulted from the Reactor Enclosure ventilation system being out of service and unable to provide adequate ventilation for the regenerative heat exchanger room. This event was a result of a deficient operating procedure which did not adequately direct RWCU system operation when the Reactor Enclosure ventilation system was not in service. The second RWCU system isolation resulted from the failure of pressure safety relief valve PSV-44-109 (Loneragan Model D72G). The steam released in the regenerative heat exchanger room raised the room temperature above the 122 degree Fahrenheit isolation setpoint. PSV-44-109 opened when system pressure was normal and failed to seat until system pressure dropped to 600 psig. The normal system pressure is 1200 psig and the setpoint for the safety valve is 1425 psig. The cause for the pressure safety relief valve failure has not been determined.

Corrective Actions:

PSV-44-109 was removed from its flanged attachment and tagged for maintenance. After a Philadelphia Electric Company Mechanical Engineering analysis concluded that safety relief valve, PSV-44-106A, on the 'A' non-regenerative heat exchanger could provide adequate pressure relief for the RWCU system, a blank flange was temporarily installed. In addition the two series inlet valves for the 'A' non-regenerative heat exchanger were blocked open to assure pressure relief protection for the RWCU system. The RWCU system was successfully returned to service in this configuration at 0640 hours on July 24, 1986. The system will be operated in this configuration until PSV-44-109 can be repaired and re-installed during the next RWCU system outage of sufficient duration.

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		04	0	0	0	0	4

TEXT (If more space is required, use additional NRC Form 266a (1))

Actions Taken to Prevent Recurrence:

System procedures S76.8.B, "Manual Initiation of Reactor Enclosure or Refueling Floor Secondary Containment Isolation" and S76.2.B, "Shutdown of Reactor Enclosure HVAC" have been revised with the addition of a precaution which states that when the Reactor Enclosure ventilation system is not in service the RWCU system will isolate when the regenerative heat exchanger room temperature exceeds the high setpoint (122 F). In addition, Annunciator Response Card ARC-MCR-004 have been revised to assure RWCU room temperatures are monitored when the Reactor Enclosure HVAC is shutdown. Any further corrective actions depend upon the results of the inspection of pressure safety relief valve PSV-44-109.

Previous Similar Occurrences:

None.

PHILADELPHIA ELECTRIC COMPANY

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August 25, 1986

Docket No. 50-352

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Washington, DC 20555

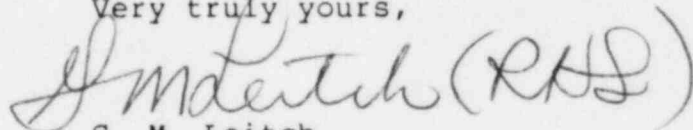
SUBJECT: Licensee Event Report
Limerick Generating Station - Unit 1

This LER concerns automatic isolations of the Reactor Water Cleanup system (an Engineered Safety Feature) resulting from high temperature in the regenerative heat exchanger room.

Reference: Docket No. 50-352
Report Number: 86-040
Revision Number: 00
Event Date: July 23, 1986
Report Date: August 25, 1986
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,



G. M. Leitch
Superintendent
Nuclear Generation Division

cc: Dr. Thomas E. Murley, Administrator, Region I, USNRC
E. M. Kelly, Senior Resident Site Inspector
See Service List

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