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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8902080507 DOC. DATE: 89/02/06 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387
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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-003-00: on 890107, primary containment isolation valve isolated twice due to pressure/flow perturbations.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 1 cy Transcripts.

05000387/

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	NRR/DREP/RPB 10	2 2	NRR/DRIS/SIB 9A	1 1	
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	PAGE (3) 1 OF 0 3
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TITLE (4) Primary Containment Isolation Valve Isolates Twice Due to Pressure/Flow Perturbations

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 1	0 7	8 9	8 9	0 0 3	0 0	0 2	0 6	8 9			0 5 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 1 0 1 0	20.402(b)	20.405(c)	<input checked="" type="checkbox"/>	60.73(a)(2)(iv)	73.71(b)				
	20.405(a)(1)(i)	50.36(c)(1)		60.73(a)(2)(v)	73.71(c)					
	20.405(a)(1)(ii)	50.36(c)(2)		60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)					
	20.405(a)(1)(iii)	50.73(a)(2)(i)		60.73(a)(2)(viii)(A)						
	20.405(a)(1)(iv)	50.73(a)(2)(ii)		60.73(a)(2)(viii)(B)						
	20.405(a)(1)(v)	50.73(a)(2)(iii)		60.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)

NAME Michael L. Crist - Compliance Evaluator	TELEPHONE NUMBER 7 1 7 5 4 2 - 3 2 8 9
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NFRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On January 7, 1989, with Unit 1 shutdown, in Condition 4, Operations personnel attempted to swap the A and C Residual Heat Removal (RHR) pumps for shutdown cooling (SDC). This was being done in support of outage work on the A RHR room cooler. With the A RHR pump running, the C pump was started at 0744 hours. Following start of the C pump, the A pump was shutdown. At approximately the same time the outboard isolation valve, HV-151-F008, automatically closed. Closure of the F008 valve caused the C RHR pump to trip. Operators took action, per the operating procedure, to restore SDC; however, when they re-aligned the system, a bang was heard and the F008 valve re-isolated. At 0913 hours the C RHR pump was successfully placed in service for SDC following filling and venting the system for the second time.

The isolations of the F008 valve are believed to have been caused by spurious actuations of RHR SDC isolation instrumentation. The first isolation appears to have been the result of a pressure perturbation induced into the system when the A RHR pump discharge check valve shut. In an effort to better determine the exact cause of the isolation additional monitoring instrumentation will be installed. The second isolation appears to be the result of a procedural inadequacy which allowed a portion of piping to become void of water even though the operators filled and vented the system per procedure. The fill and vent procedure will be revised to prevent recurrence.

8902080507
 PDR ADUCK
 890206
 PDC 05000387

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Susquehanna Steam Electric Station - Unit 1	0500038789	-	003	-	00	02	OF 03

TEXT (If more space is required, use additional NRC Form 368A's) (17)

I. EVENT DESCRIPTION

On January 7, 1989, with Unit 1 in condition 4, cold shutdown, Operations personnel were in the process of swapping the A and C Residual Heat Removal (RHR) (EIIS Code: BO) pumps for Shutdown Cooling (SDC). This was being done in support of outage work on the A RHR room cooler.

Control room operators (licensed, utility), following procedure OP-149-002, RHR Operation in Shutdown Cooling Mode, reduced SDC flow to approximately 5000 gpm. At 0744 hours, the operators started the C RHR pump. After stabilizing SDC flow at approximately 6000 gpm, operators shutdown the A RHR pump. When the pump was shutdown, the outboard isolation valve for SDC, HV-151-F008 automatically closed. Closure of the F008 valve isolated the suction path of the C RHR pump, causing the pump to trip. Operations personnel declared Limiting Condition of Operation (LCO) 3.4.9.2 at 0745 hours. After closing the inboard isolation valve HV-151-F009 and opening the outboard isolation valve, F008, the operators filled and vented the RHR SDC piping per OP-149-002. The operators then opened the F009 valve. When this was done a bang was heard and the F008 valve re-isolated. The time of the isolation was approximately 0822 hours.

After the SDC piping was re-filled and re-vented the C RHR pump was placed in service in the SDC mode, approximately 0913 hours. Operations personnel cleared the LCO at 0930 hours. The reactor coolant temperature rose approximately 40 degrees F, from 120 degrees F to 160 degrees F. The Reactor Water Cleanup (EIIS Code: CE) system was used as an alternate means to remove decay heat while RHR SDC was unavailable. Reactor vessel level was maintained between 90 and 100 inches during the event.

II. CAUSE OF THE EVENT

The isolations of the HV-151-F008 valve are believed to have been caused by spurious actuations of RHR SDC isolation instrumentation. The first isolation appears to have been the result of a pressure perturbation induced into the system when the A RHR pump discharge check valve shut. The second isolation appears to be the result of the manner in which the SDC piping was filled and vented. The procedure being used allows the potential for a section of piping, downstream of the F009 valve, to be void of water. As such, when the F009 valve was opened, the inrush of water, to fill the void, caused a flow transient isolating the F008 valve.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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			0 0 3	0 0	0 3	OF 0 3

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

III. REPORTABILITY

The event was determined to be reportable per 10CFR50.73(a)(2)(iv) in that Unit 1 experienced two unanticipated Engineered Safety Feature actuations when the RHR F008 valve, an outboard primary containment isolation valve, closed on two separate occasions.

IV. CORRECTIVE ACTIONS

Due to the lack of installed instrumentation and the spurious nature of the isolations, plant personnel are currently unable to definitively determine the cause. The previous LERs illustrate that the isolations occur when the RHR pumps are placed in service for SDC or swapped while operating in SDC. Additional monitoring instrumentation will be installed to monitor the parameters thought to be responsible for the isolations. Should isolations occur in the future this added instrumentation will be utilized to determine the cause, at which time corrective actions will be initiated.

To correct the cause of the second isolation, the fill and vent procedure will be revised to provide additional assurance that the system piping is completely filled.

V. PREVIOUS SIMILAR EVENTS

The following License Event Reports have been written identifying similar isolations of the RHR SDC isolation valves.

<u>Unit 1</u>	<u>Unit 2</u>
LER 84-020	LER 85-016
LER 87-028	LER 86-015
LER 88-011	LER 88-003



Pennsylvania Power & Light Company

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February 6, 1989

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 89-003-00
FILE R41-2
PLAS - 351

Docket No. 50-387
License No. NPF-14

Attached is Licensee Event Report 89-003-00. This event was determined reportable per 10CFR50.73(a)(2)(iv), in that a primary containment isolation valve (an Engineered Safeguard Feature) closed twice while operators attempted to swap Residual Heat Removal pumps.

R. G. Buram
Superintendent of Plant - Susquehanna

MLC/cmc

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