

**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 012								
TITLE (4) RHR Shutdown Cooling Isolation Actuation.																												
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	3	2	1	8	4	8	4	-	0	2	0	-	0	0	0	4	1	8	8	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)																									
4			20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)													
POWER LEVEL (10)			20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)													
0   0   0			20.405(a)(1)(ii)				50.38(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)													
			20.405(a)(1)(iii)				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																		
L.A. Kuczynski - Nuclear Plant Specialist, Level III										AREA CODE				7   1   7   5   4   2   -   3   7   5   9														
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																												
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS																		
X	B	O	P	D	I	S	B	0	8	0	Y																	
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)				MONTH	DAY	YEAR										
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)

Spurious actuation of Residual Heat Removal System differential pressure switches caused closure of the Shutdown Cooling Suction Inboard and Outboard Isolation Valves. These valves are primary containment isolation valves, thus, their closure is an Engineered Safety Feature actuation. Investigation found the switches to be operating properly. No further actions are planned.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Susquehanna Steam Electric Station Unit 1	DOCKET NUMBER (2)  0 5 0 0 0 3 8 7 8 4 -	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
			0 2 0 -	0 0	0 2	OF	0 2

TEXT (If more space is required, use additional NRC Form 365A's) (17)

On March 21, 1984, with the Unit in Cold Shutdown, the 'A' loop of Residual Heat Removal (RHR) was in operation in the shutdown cooling mode (system flow: approximately 12,500gpm) in accordance with Technical Specification 3.4.9.2. Work was to be performed on the in-service loop of the system supplying cooling water to the 'A' RHR heat exchanger, so actions commenced to switch to shutdown cooling through the 'B' loop of RHR. At 0240, after the 'B' RHR pump was started, the Shutdown Cooling Suction Inboard and Outboard Isolation valves (common to both RHR loops) closed due to a high flow signal. This caused both running RHR pumps to trip.

The 'B' RHR loop was checked filled and vented and placed in service. Shutdown cooling was restored by 0310. The Shutdown Cooling Suction Inboard and Outboard Isolation valves close automatically on the following signals:

- reactor pressure vessel low water level
- high drywell pressure
- RHR equipment area high dT
- RHR area cooler high temperature
- RHR system high flow

The first four isolation signals listed above are annunciated in the Control Room. Since none of the annunciators actuated, only the differential pressure switches which cause valve closure on RHR system high flow were examined. Calibration checks of the switches showed satisfactory operation.

This event was determined reportable under 10CFR50.73(a) (2) (iv) because the isolation valves which closed are part of the primary containment isolation system, which is an Engineered Safety Feature. There were no adverse safety implications to this event. Actual system flow at the time of isolation (RHR pumps 'A' and 'B' in service) was approximately 17,000 gpm, well within the Technical Specification Table 3.3.2-2 limit of 25,000 gpm. Reactor coolant temperature remained satisfactory throughout the event as documented by hourly readings taken via the Shiftly Log. Shutdown cooling was quickly re-established due to the accurate response of Operations personnel to the event. Since subsequent calibration checks of the elbow tap differential pressure switches (Barton 288A) showed no anomalous conditions, it appears that the isolation was caused by a spurious switch actuation when the 'B' RHR pump was started. Current plans are to observe shutdown cooling operation in the future to detect possible anomalies.



Pennsylvania Power & Light Company

April 18, 1984

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

SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 84-020-00  
ER 100450 FILE 841-23  
PLA - 2183

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

Attached is Licensee Event Report 84-020-00. This event was determined reportable per 10CFR50.73(a)(2)(iv) in that, with the Unit in Cold Shutdown, a spurious high flow signal in the Residual Heat Removal System caused two primary containment isolation valves to close.

H.W. Keiser  
Superintendent of Plant-Susquehanna

LAK/pjg

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