

# CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9703110211      DOC. DATE: 97/03/05      NOTARIZED: NO      DOCKET #  
 FACIL: 50-387, Susquehanna Steam Electric Station, Unit 1, Pennsylvania      05000387  
 AUTH. NAME      AUTHOR AFFILIATION  
 CODDINGTON, C.T.      Pennsylvania Power & Light Co.  
 KUCZYNSKI, G.J.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 97-005-00: on 970204, closed sys integrity was verified by testing. Tested redundant containment isolation barriers for penetrations. W/970305 ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: 05000387

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U.S. Nuclear Regulatory Commission  
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SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 50-387/97-005-00  
PLAS - 699 FILE R41-2

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

Attached is Licensee Event Report 50-387/97-005-00. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) in that the redundant containment isolation barrier (closed system) for the Residual Heat Removal (RHR) full flow test and the RHR suppression pool spray penetrations were not tested in accordance with Technical Specification requirements. This is a condition prohibited by the Technical Specifications.

  
G. J. Kuczynski  
Plant Manager - Susquehanna SES

Attachment

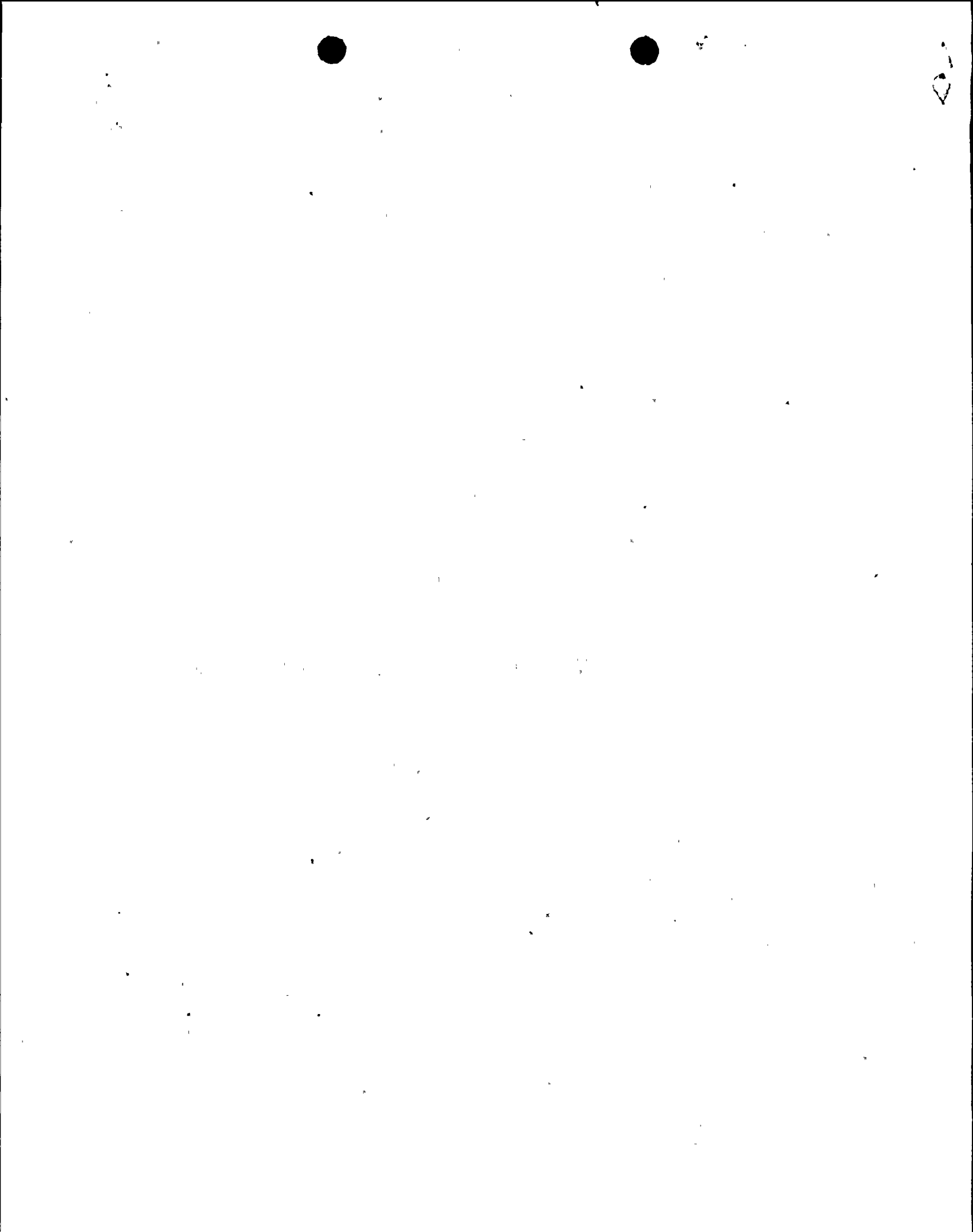
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-4104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) <b>Susquehanna Steam Electric Station - Unit 1</b>	DOCKET NUMBER(2) <b>0 5 0 0 0 3 8 7 1</b>	PAGE (3) <b>OF 0 3</b>
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TITLE (4)  
**Closed System Integrity Not Verified By Testing**

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 2	0 4	9 7	9 7	0 0 5	0 0	0 3	0 5	9 7	SSES Unit 2		0 5 0 0 0 3 8 8
									0 5 0 0 0		

OPERATING MODE (9) <b>1</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR Y : (Check one or more of the following) (11)										
POWER LEVEL (10) <b>1 0 0</b>	20.402(b)			20.405(c)			50.73(a)(2)(v)			73.71(b)	
	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)	
	20.405(a)(1)(f)			50.36(c)(2)			50.73(a)(2)(v)			OTHER (Specify in Abstract below and in Text, NRC Form 368A)	
	20.405(a)(1)(w)			<b>X</b>			50.73(a)(2)(w)(A)				
	20.405(a)(1)(v)			50.73(a)(2)(f)			50.73(1)(2)(w)(B)				
20.405(a)(1)(x)			50.73(a)(2)(f)			50.73(a)(2)(x)					

(LICENSEE CONTACT FOR THIS LER (12))									
NAME <b>Cornelius T. Coddington - Senior Project Engineer, Licensing</b>							TELEPHONE NUMBER		
							AREA CODE		
							<b>7 1 7 5 4 2 - 3 2 8 9</b>		

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

On February 4, 1997, with Unit 1 and Unit 2 in Condition 1 (Power Operation) at 100% power, the redundant containment isolation barrier (closed system) for the Residual Heat Removal (RHR) System full flow test and the RHR suppression pool spray penetrations were found not tested per Technical Specification requirements. This is a condition prohibited by Technical Specifications and is reportable per 10CFR50.73(a)(2)(i)(B). A conclusive cause could not be determined. The most likely cause was human error associated with the original design engineers not ensuring that design requirements were adequately incorporated into testing requirements. The cause investigation is continuing. The redundant containment isolation barriers for these penetrations have been tested. The surveillance procedures have been temporarily revised to include the testing of these barriers. A permanent revision to the surveillance procedures will be completed. A review of other penetrations that use closed systems as the redundant containment isolation barrier to ensure that the closed system is properly tested has been completed. Training of appropriate personnel to ensure that closed system design and testing requirements are clearly delineated will be provided. There were no safety consequences or compromises to public health and safety by not having the redundant barrier tested since isolation of the penetrations was provided by locked closed, deactivated valves which were tested in accordance with Technical Specification requirements.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)		
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Unit 1 Susquehanna Steam Electric Station	0 5 0 0 0 3 8 7	9 7	0 0 5	0 0	2	OF	3			

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

**EVENT DESCRIPTION**

On February 4, 1997, with Unit 1 and Unit 2 in Condition 1 (Power Operation) at 100% power, the redundant containment (EISS Code: NH) isolation barrier (closed system) for the Residual Heat removal (RHR) System (EISS Code: BO) full flow test and the RHR suppression pool spray penetrations were found not tested per Technical Specification Table 3.6.3-1, Note (c). Technical Specification Table 3.6.3-1, Note (c) states that for penetrations with single isolation valve and the redundant isolation barrier being a closed system, the closed system integrity is verified by Type A test. This condition was discovered during an engineering review of the Containment Boundary Closed System Requirements Study. Engineering personnel (utility, non-licensed) could not confirm that the integrity of the closed systems for these penetrations was tested by a Type A test or another equivalent test. Therefore, the integrity of the closed system is indeterminate.

**CAUSE OF EVENT**

A conclusive cause has not been determined. The most likely cause was human error early in plant construction associated with the original design engineers not ensuring that design requirements were adequately incorporated into testing requirements. The investigation into the cause of this event is continuing. The results of this investigation will be presented in a supplement to this report.

**REPORTABILITY/ANALYSIS**

This event is determined to be reportable per 10CFR50.73(a)(2)(i)(B), in that the redundant containment isolation barrier (closed system) for the Residual Heat Removal (RHR) full flow test and the RHR suppression pool spray penetrations were not tested in accordance with Technical Specification Table 3.6.3-1, Note (c). This is a condition prohibited by Technical Specifications.

The lines of concern in these penetrations are associated with the former Steam Condensing Mode of RHR and isolated by a valve and a closed system. The isolation valves have been local leak rate tested (LLRT) as part of the Technical Specification limit of 0.6L<sub>a</sub> for LLRT barriers. The isolation valves are normally locked closed and de-activated with no safety function to open. The integrity of the closed system has not been confirmed by testing. However, the units are within the allowed containment limits as specified in Technical Specifications because of the position of the isolation valves. There were no safety consequences or compromises to public health and safety by not having the redundant barrier tested since isolation of the penetrations was provided by locked closed, deactivated valves which were tested in accordance with Technical Specification requirements.



**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Unit 1  Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   7	LER NUMBER (8)						PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

In accordance with the guidelines provided in NUREG-1022, Supplement 1, Item 14.1, the required submission date for this report was determined to be March 6, 1997.

**CORRECTIVE ACTIONS**

The following corrective actions have been identified and completed:

- Testing of the closed systems for the penetrations has been completed in both units.
- The surveillance procedures have been temporarily revised to include testing of the closed systems associated with these penetrations.
- A review confirmed that all other closed system boundaries have tested to verify integrity.

The following corrective actions have been identified and are to be completed:

- Training of appropriate engineering personnel to ensure that closed system design and testing requirements are clearly delineated will be performed.
- A permanent revision to the surveillance procedures to include testing of the closed systems associated with these penetrations will be completed.

**ADDITIONAL INFORMATION**

Past Similar Events: None

Failed Component: None