

CATEGORY

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NRR:9610250101 DOC.DATE: 96/10/18 NOTARIZED: NO DOCKET #
 FACIL:50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva 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 96-011-00:on 960918,secondary containment bypass leakage occurred.Caused by scale buildup on valve plug & seat.
 LLRT was performed & leak rate test results fell within "as left" acceptance criteria.W/961018 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:

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Pennsylvania Power & Light Company

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October 18, 1996

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/96-011-00
PLAS - 684 FILE R41-2

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

Attached is Licensee Event Report 50-387/96-011-00. This event was determined to be reportable per 10CFR50.73(a)(2)(ii) in that the High Pressure Coolant Injection (HPCI) System Steam Supply penetration leakage exceeded the design basis secondary containment bypass leakage limit during regularly scheduled Local Leak Rate Testing.

G. J. Kuczynski
Plant Manager - Susquehanna SES

Attachment

cc: Mr. H. J. Miller
Regional Administrator
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Kenneth M. Jenison
Sr. Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 35
Berwick, PA 18603-0035

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PDR ADDCK 05000387
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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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Susquehanna Steam Electric Station - Unit 1

DOCKET NUMBER(2) PAGE (3)
0 5 0 0 0 3 8 7 1 OF 0 3

TITLE (4)
Secondary Containment Bypass Leakage

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	9	1	8	9	6	9	6	0	1	1	0	0	1	0	1	8	9	6	0	5	0	0	0		

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 1: (Check one or more of the following) (11)											
POWER LEVEL (10)	0	0	0	20.402(b)	20.405(c)	50.73(a)(2)(v)	73.71(b)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)					
				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)(v)							
				20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(v)(A)							
				20.405(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(v)(B)							
				20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(v)(C)							

(LICENSEE CONTACT FOR THIS LER) (12)

NAME: Cornelius T. Coddington - Senior Project Engineer
TELEPHONE NUMBER: 7 1 7 5 4 2 - 3 2 8 9

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
X	B J	I S V	A 3 9 1	Y					
X	B J	I S V	M 1 2 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) X NO
EXPECTED SUBMISSION DATE (15)

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

At 0900 hours on September 18, 1996, with Unit 1 in its ninth refueling and inspection outage (Condition 5, Refueling, 0% power), an evaluation of data from the scheduled High Pressure Coolant Injection (HPCI) System Steam Supply penetration Local Leak Rate Testing (LLRT) determined that the "as-found" leakage through the inboard and outboard containment isolation valves was in excess of the design basis analysis limit for total Secondary Containment Bypass Leakage (SCBL) of 4.2 standard liters per minute (slm) (9.0 standard cubic feet per hour (SCFH)). The "as-found" minimum pathway leakage rate for the penetration was 32 slm (67.8 SCFH). The total "as-found" minimum pathway leakage for SCBL from all pathways was 37.5 slm (79.52 SCFH). The evaluation determined that the HPCI Steam Supply penetration LLRT excess leakage was reportable pursuant to 10CFR50.72(b)(2)(i) and 10CFR50.73(a)(2)(ii).

The HPCI Steam Supply penetration containment isolation valves (HV155F002, HV155F003 and HV155F100) required rework to meet the "as left" acceptance criteria. The cause of the failure of HV155F002 and HV155F003 was determined to be a low spot on each of the disks. The cause of failure of isolation valve HV155F100 was determined to be scale buildup on the valve plug and seat. Also, there was slight pitting on the valve plug for HV155F100. The causes were attributed to normal wear. The HPCI Steam Supply penetration has been eliminated as a SCBL pathway via a modification. The total "as left" maximum pathway leakage for SCBL was 1.654 slm (3.5 SCFH). Additional corrective actions include review of the penetration heating to determine any recommendations to preempt future problems, and the review of the design basis for valve HV155F003 to ensure that this valve meets all requirements.

If the containment isolation valves for all SCBL pathways had been challenged to perform their safety function during unit operation, it is assumed that leakage of 79.52 SCFH would have bypassed secondary containment. If the dose (67.8 SCFH from the HPCI Steam Supply penetration) consequences were analyzed (including the contribution from the MSIV minimum pathway leakage of 203.6 SCFH) for a Loss of Coolant Accident (LOCA) using design realistic assumptions as described in FSAR Section 15.6.5, these dose consequences would be significantly less than those in the current licensing basis analysis. As such, there were no consequences or compromises to public health and safety as a result of this event.

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

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

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

DESCRIPTION OF EVENT

At 0900 hours on September 18, 1996, with Unit 1 in its ninth refueling and inspection outage (Condition 5 Refueling, 0% power), an evaluation of data from the scheduled High Pressure Coolant Injection (HPCI; EISS Code: BJ) System Steam Supply penetration Local Leak Rate Testing (LLRT) determined that the "as-found" leakage through the inboard and outboard containment isolation valves (EISS Code: BD) was in excess of the design basis analysis limit for total Secondary Containment Bypass Leakage (SCBL) of 4.2 standard liters per minute (slm) (9.0 standard cubic feet per hour (SCFH)). The "as-found" minimum pathway leakage for the penetration was 32 slm (67.8 SCFH). The evaluation determined that the HPCI Steam Supply penetration LLRT excess leakage was reportable pursuant to 10CFR50.72(b)(2)(i) and 10CFR50.73(a)(2)(ii).

CAUSE OF EVENT

The "as-found" leakage was attributed to the combined performance of the HPCI Steam Supply penetration containment isolation valves (HV155F002, HV155F003 and HV155F100). The cause of the failure of valves HV155F002 and HV155F003 was determined to be a low spot on each of the disks. The cause of failure of valve HV155F100 was determined to be scale buildup on the valve plug and seat. Also there was slight pitting on the valve plug for HV155F100. The causes were attributed to normal wear.

REPORTABILITY / ANALYSIS

This event was determined to be reportable per 10CFR50.72(b)(2)(i) as a condition found while the reactor was shutdown; and per 10CFR50.73(a)(2)(ii) in that the HPCI Steam Supply containment penetration Local Leak Rate Test leakage through both the inboard and outboard isolation valves was in excess of the design basis analysis limit for total Secondary Containment Bypass Leakage (SCBL).

The leakage was found during scheduled Local Leak Rate Testing with the unit in Condition 5, Refueling. The testing was done with air, and there were no actual releases. If the containment isolation valves for all SCBL pathways had been challenged to perform their safety function during unit operation, it is assumed that leakage of 79.52 SCFH (67.8 SCFH from HPCI Steam Supply penetration) would have bypassed secondary containment. If the dose consequences were analyzed (including the contribution from the MSIV minimum pathway leakage of 203.6 SCFH) for a Loss of Coolant Accident (LOCA) using design realistic assumptions as described in the FSAR Section 15.6.5, these dose consequences would be significantly less than those in the current licensing basis analysis. As such, there were no consequences or compromises to public health and safety as a result of this event.

**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)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER						
Unit 1 Susquehanna Steam Electric Station	0 5 0 0 0 3 8 7	9 6	— 0 1 1	— 0 0			3	OF	3	

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 October 18, 1996.

CORRECTIVE ACTIONS

The HPCI Steam Supply penetration isolation valves were reworked. The LLRT was reperformed and the leak rate test results fell within the "as left" acceptance criteria. The HPCI Steam Supply penetration has been eliminated as a SCBL pathway through a modification implemented during the ninth refueling and inspection outage. The total "as left" maximum pathway leakage for SCBL was 1.654 slm (3.5 SCFH). In addition, a review of the penetration leak history, the valve design, and the use of these valves during plant operation will be done to determine any recommendations to preempt future problems. A review of the design basis for valve HV155F003 with regard to 10CFR50 Appendix J leakage requirements and Generic Letter 89-10 program requirements will be performed to ensure that the valve meets all requirements.

ADDITIONAL INFORMATION

Past similar events: None for the HPCI Steam Supply Penetration

LER 96-002-00, Docket No. 50-387, for Secondary Containment Bypass Leakage being greater than the design basis limit.

Failed Components: HV155F002, HV155F003 and HV155F100

Manufacturers: For HV155F002 and HV155F003 - Anchor Darling - 10 inch, flex wedge gate, 600 lb class

For HV155F100 - Masoneilan - 1 inch, globe