CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9610230080 DOC.DATE: 96/10/15 NOTARIZED: NO DOCKET #
FACIL:50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylva 05000387
AUTH.NAME AUTHOR AFFILIATION
WEHRY,R.R. Pennsylvania Power & Light Co.
KUCZYNSKI,G.J. Pennsylvania Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 96-010-00:on 960915,determined main steam line penetration leakage rate exceeded TS limit.Caused by normal wear of "D" inboard MSIV.Restroked "C" inboard MSIV & reworked "D" inboard & outboard MSIV.W/961015 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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CATEGORY 1 DOCUMENT

Pennsylvania Power & Light Company
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October 15, 1996

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/96-010-00
PLAS - 683 FILE R41-2

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

Attached is Licensee Event Report 96-010-00. This event was determined to be reportable per 10CFR50.73(a)(2)(ii) in that the Main Steam Line penetration leakage exceeded the Technical Specification limit during regularly scheduled Local Leak Rate Testing.

G. J. Kuczynski
Plant Manager - Susquehanna SES

Attachment

cc: Mr. H. J. Miller
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U. S. Nuclear Regulatory Commission
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PDR ADOCK 05000387
S PDR

IE22

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92
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), U7.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)	DOCKET NUMBER(2)	PAGE (3)
Susquehanna Steam Electric Station - 1	0 5 0 0 0 3 8 7	1 OF 0 3

TITLE (4)
Main Steam Line Penetration Leakage Rate Exceeded Technical Specification Limit

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

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ϒ: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		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)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	X 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
Richard R. Wehry - Nuclear Licensing Engineer	AREA CODE 7 1 7 5 4 2 - 3 6 6 4

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
X	S B	I S V	A 5 8 5	Y					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

At 0715 hours on September 15, 1996, with Unit 1 in its ninth refueling and inspection outage, an evaluation of data from the scheduled Main Steam Line (MSL) penetration Local Leak Rate Testing (LLRT) determined that the "as found" leakage through both the inboard and outboard Main Steam Isolation Valves (MSIVs) was in excess of the limit of Technical Specification 3.6.1.2.c for the total MSL containment penetration leakage of 21.7 standard liters per minute (slm) (46.0 standard cubic feet per hour (SCFH)). The total "as found" minimum pathway leakage rate was 96.1 slm (203.6 SCFH). The evaluation determined that the MSIV LLRT excess leakage was reportable pursuant to 10CFR50.72(b)(2)(i) and 10CFR50.73(a)(2)(ii).

The "C" inboard MSIV was stroked as a rework per the program. The MSIV LLRT was reperformed and the leak rate test results fell within the "as left" acceptance criteria. The "D" inboard and outboard MSIVs required valve rework to meet the "as left" acceptance criteria. The cause of the failure of the "D" inboard MSIV was determined to be indentations and scratches in the poppet and poppet seat. The cause of the failure of the outboard MSIV was determined to be leakage through the pilot/pilot seat interface. Both causes were attributed to normal wear. The total "as left" containment MSL penetration minimum pathway leakage was measured at 6.3 slm (13.4 SCFH) and the "as left" maximum pathway leakage was measured at 28.2 slm (59.8 SCFH).

If the MSIVs had been challenged to perform their safety function during unit operation, it is assumed that the measured leakage of 203.6 SCFH would have passed through the MSIVs. Although leakage design assumptions were exceeded by the "as found" testing leakage results, a dose estimate employing realistic assumptions for Loss Of Coolant Accident (LOCA) as described in the Final Safety Analysis Report, Section 15.6.5, determined that offsite and control room doses would remain significantly below the current licensing basis analysis limits. As such, there were no consequences or compromises to public health and safety as a result of this event.

DESCRIPTION OF EVENT

At 0715 hours on September 15, 1996, with Unit 1 in its ninth refueling and inspection outage (Condition 5, Refueling, 0% power), an evaluation of data from the scheduled Main Steam Line (MSL; EIIS Code: SB) penetration Local Leak Rate Testing (LLRT) determined that the "as found" leakage through both the inboard and outboard Main Steam Isolation Valves (MSIV; EIIS Code: BD) was in excess of the limit of Technical Specification 3.6.1.2.c for the total MSL containment penetration leakage of 21.7 standard liters per minute (slm) (46.0 standard cubic feet per hour (SCFH)). The total "as found" minimum pathway leakage rate was 96.1 slm (203.6 SCFH). The evaluation determined that the MSIV 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 MSIVs. Upon restroking of the "C" inboard MSIV and retesting, the leak rate results for the "C" MSL penetration fell within the "as left" acceptance criteria and no additional rework was necessary. It is theorized that inadequate seating of the "C" inboard MSIV prior to the "as found" testing was caused by closing the MSIV at low pressure and low steam flow conditions. Therefore, it would fully seat in an accident. The cause of the failure of the "D" inboard MSIV was determined to be indentations and scratches in the poppet and poppet seat from normal wear. The cause of the failure of the "D" outboard MSIV was determined to be leakage through the pilot/pilot seat interface, also 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 MSL containment penetration leakage through both the inboard and outboard MSIVs was in excess of the plant's Technical Specification limits.

The MSIV leakage was found during scheduled testing with the unit in Condition 5, Refueling. If the MSIVs had been challenged to perform their safety function when the unit had been operating, it is assumed that the measured leakage of 203.6 SCFH would have passed through the MSIVs. Although leakage design assumptions were exceeded by the "as found" testing leakage results, a dose estimate employing realistic assumptions as described in the Final Safety Analysis Report, Section 15.6.5, determined that offsite and control room doses would remain significantly below the current licensing basis analysis limits. As such, there were no safety consequences or compromises to public health and safety as a result of this event. A final dose calculation is being performed.

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 15, 1996.

CORRECTIVE ACTIONS

The "C" inboard MSIV was restroked, the MSIV LLRT reperformed and the "C" MSL penetration leak rate test results fell within the "as left" acceptance criteria. The "D" inboard and outboard MSIVs were reworked, the MSIV LLRT was reperformed and the leak rate test results fell within the "as left" acceptance criteria. The total "as left" MSL containment penetration minimum pathway leakage was measured to be 6.3 slm (13.4 SCFH) and the "as left" maximum pathway leakage was measured to be 28.2 slm (59.7 SCFH). In addition, a review of MSIV trends and rework history will be performed to determine if there is an ability to predict failures of these valves.

ADDITIONAL INFORMATION

Past similar events: LER 86-007-00, Docket No. 50-388
LER 89-010-01, Docket No. 50-388
LER 90-020-00, Docket No. 50-387
LER 92-005-00, Docket No. 50-387
LER 95-006-00, Docket No. 50-387
LER 95-011-00, Docket No. 50-388

Failed Component: MSIVs HV-141F022C, D, HV-141F028D

Manufacturer: Atwood and Morrill Co., Inc.

Model: 21190-H