	CATEGORY 1
REGULATORY	(RIDS) INFORMATION DISTRIBUTION SYSTEM
ACCESSION NBR:9704240137 FACIL:50-388 Susquehanna AUTH.NAME AUTHOR	DOC.DATE: 97/04/18 NOTARIZED: NO Steam Electric Station, Unit 2, Pennsylva AFFILIATION

DOCKET # 05000388

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CODDINGTON, C.T. Pennsylvania Power & Light Co. KUCZYNSKI, G.J. Pennsylvania Power & Light Co.

RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-004-00:on 970322, main steam line penetration leakage rate exceeded TS limit due to two MSIVs having excessive leakage rates. Two MSIVs were reworked & maint procedure revised. W/970418 ltr.

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Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

APR 1 8 1997

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

SUSQUEHANNA STEAM ELECTRIC STATION LICENSEE EVENT REPORT 50-388/97-004-00 PLAS - 706 FILE R41-2

Docket No. 50-388 License No. NPF-22

Attached is Licensee Event Report 97-004-00. 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.

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G. J. Kuczyński General 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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NRC FOR (6-89)	RM 366	LICE .	NSEE EVENT	U.S. N	UCLEAR REC	GULATORY CO	DMMISSION	ESTIMATED INFORMATIO COMMENTS AND REPOR REGULATOR THE PAPER OF MANAGEJ	APPROVED ON EXPIRE BURDEN PER RES N COLLECTION RE REGARDING BURDO ITS MANAGEMENT I Y COMMISSION, W WORK REDUCTION WORK AND BUDGET,	IB NO. 3150-0104 S: 4/30/92 PONSE TO COMPLY WITH THIS QUEST: 50.0 HRS. FORWARD IN ESTIMATE TO THE RECORDS BRANCH (P-530), UT.S. NUCLEAR ASHINGTON, DC 20555, AND TO PROJECT (3150-0104), OFFICE WASHINGTON, DC 20503.
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NRC FORM 368a U.S. NUCLEAR REGULATORY COMMISSION (6-89 LICENSEE EVENT REPORT (LER) TEXT CONTINUATION									APPROVED OMB NO. 3159-0104 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), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 2055, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.														
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EVENT DESCRIPTION

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At 1730 hours on March 22, 1997, with Unit 2 in 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 MSL containment penetration maximum pathway leakage of 300 standard cubic feet per hour (SCFH). The total "as-found" maximum pathway leakage was in excess of 700 SCFH. However, the total "as-found" minimum pathway leakage was reportable pursuant to 10CFR50.72(b)(2)(i) and 10CFR50.73(a)(2)(ii).

CAUSE OF EVENT

The excess "as-found" maximum pathway leakage was attributed to the combined performance of the MSIVs. The leak rate for both the "C" outboard MSIV and the "B" inboard MSIV were in excess of 100 SCFH (141.5 slm) for each valve. Upon restroking of the "C" outboard MSIV and retesting, the leak rate dropped to approximately 30 SCFH. The cause of the failure of the "C" outboard MSIV was determined to be due to normal wear of the MSIV and rust on the pilot seat. It is theorized that inadequate seating of the "C" outboard MSIV prior to the "as-found" testing was caused by closing the MSIV at low pressure and low steam flow conditions. Therefore, it would seat in an accident. The cause of the failure of the "B" inboard MSIV was determined to be loss of integrity of the bolted connection between the stop plate and poppet. This was caused by the loss of the bolted connection pre-load due to either 1) improper sizing and fit-up between the poppet and stop plate when the valve was last worked (1989), or 2) the use of new parts during the last maintenance introduced a possibility for an embedment condition which allowed the fasteners to lose their pre-load.

REPORTABILITY/ANALYSIS

This event was determined to be reportable under 10CFR50.72(b)(2)(i), as a condition resulting in degraded safety barriers found while the reactor was shutdown, and 10CFR50.73(a)(2)(ii) in that MSL containment penetration leakage through both the inboard and outboard MSIVs was in excess of the total "as-found" maximum pathway leakage Technical Specification limit.

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NRC FORM 368a U.S. N (6-59 · · LICENSEE EVENT R TEXT CONTIN	UCLEAR REGULATORY COMMISSION EPORT (LER) UATION	APPROVED OMB NO. 3159-0104 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), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 2055, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.														
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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 during unit operation, the MSIVs would have closed. The maximum pathway leak rate through the valves would have been greater than the 300 SCFH Technical Specification criteria. However, the leakage that would have actually reached the condenser (i.e., the minimum pathway leak rate) was 78.8 SCFH. This value is well below the 300 SCFH analyzed for the condenser and in the dose calculations. As such, there were no safety consequences or compromises to public health and safety as a result of this event.

The generic implication of the loose internal parts was investigated. It was determined that of the 15 other MSIVs (total for both units), only the Unit 2 "A" outboard MSIV could be susceptible to this type of failure. The "A" outboard MSIV was inspected. The integrity of the bolted connection was found to be good, and proper fit between the stop plate and poppet was confirmed.

In accordance with the guidelines provided in NUREG-1022, Supplement 1, Item 14.1 and 10CFR50.4, the required submission date for this report was determined to be April 21, 1997.

CORRECTIVE ACTIONS

The "B" inboard MSIV and the "C" outboard MSIV were reworked and the leak rate for each MSIV was restored to less than 11.5 SCFH. The "as-left" maximum pathway leak rate was measured to be 145.2 SCFH. The leak rate for each of the eight MSIVs is less that 100 SCFH. The appropriate maintenance procedures have been revised to measure the adequacy of the fit between the poppet and the stop plate prior to completing valve assembly. Also the torque value for poppet studs was increased. 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

The events listed below are for the total minimum pathway leak rates exceeding the MSIV as-found criteria. The Technical Specifications were revised in 1995 for Unit 2 and in 1996 for Unit 1 to change the acceptance criteria to the total maximum pathway leak rates which is the subject of this LER.

Past Similar Events:	LER 83-062-00, Docket No. 387/License No. NPF-14
	LER 83-064-00, Docket No. 387/License No. NPF-14
	LER 86-007-00, Docket No. 388/License No. NPF-22
	LER 89-010-01, Docket No. 388/License No. NPF-22

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