

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2		DOCKET NUMBER (2) 05000388	PAGE (3) 1 OF 3
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TITLE (4)
Main Steam Isolation Valve Excessive 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 NAME	DOCKET NUMBER
03	19	99	99	001	00	04	16	99	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) 0	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)						
	20.2203(a)(1)	20.2203(a)(3)(i)	X 50.73(a)(2)(ii)	50.73(a)(2)(x)						
	20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71						
	20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER	Specify in Abstract below or in NRC Form 366A					
	20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)							
	20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)							

LICENSEE CONTACT FOR THIS LER (12)

NAME C. T. Coddington - Senior Engineer, Licensing	TELEPHONE NUMBER (Include Area Code) 610 / 774-4019
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	SB	ISV	A585	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

At 1000 hours on March 19, 1999, with Unit 2 in its ninth refueling and inspection outage (Mode 5, Refueling, 0% power), an evaluation of data from the scheduled Main Steam Line (MSL) penetration Local Leak Rate Testing (LLRT) determined that the "as-found" maximum pathway leakage for the Main Steam Isolation Valves (MSIV) was in excess of the limit of Technical Specification 3.6.1.3 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 1300 SCFH. However, the total "as-found" minimum pathway leakage was only 255 SCFH. The evaluation determined that the MSIV LLRT excess "as-found" maximum pathway leakage was reportable pursuant to 10CFR50.73(a)(2)(ii). The cause was determined to be that two (2) MSIVs had excessive leak rates. This excessive leakage was due to wear on the main seat for one MSIV and wear on the poppet valve seat of the other MSIV. The corrective actions included reworking of the MSIVs. Since the leakage (the minimum path leak rate - 255 SCFH) that would have actually reached the condenser is below the 300 SCFH analyzed in the dose calculations, there were no safety consequences or compromises to public health and safety as a result of this event.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Susquehanna Steam Electric Station - Unit 2	05000					
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

EVENT DESCRIPTION

At 1000 hours on March 19, 1999, with Unit 2 in its ninth refueling and inspection outage (Mode 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" maximum pathway leakage for the Main Steam Isolation Valves (MSIV; EIIS CODE: BD) was in excess of the limit of Technical Specification 3.6.1.3 for the MSL. The Technical Specification limit for the MSL containment penetration maximum pathway leakage is 300 standard cubic feet per hour (SCFH). The total "as-found" maximum pathway leakage was in excess of 1300 SCFH. However, the total "as-found" minimum pathway leakage was only 255 SCFH. The evaluation determined that the MSIV LLRT excess "as-found" maximum pathway leakage was reportable pursuant to 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 the "C" outboard MSIV and the "D" inboard MSIV could not be determined. The cause of the failure of the "C" outboard MSIV was a low spot on the valve main seat. The most probable cause of the failure of the "D" inboard MSIV was a void on the main poppet seat slightly above the usual line where the seats are typically engaged.

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(ii), as a condition resulting in degraded barriers found while the reactor was shutdown, in that MSL containment penetration leakage for the MSIVs was in excess of the total "as-found" maximum pathway leakage Technical Specification limit.

The MSIV leakage was found during scheduled testing with the unit in Mode 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 255 SCFH. This value is 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.

In accordance with the guidelines provided in NUREG-1022, Revision 1 Section 5.1.1, the required submission date for this report was determined to be April 19, 1999.

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

CORRECTIVE ACTIONS

The "D" inboard MSIV and the "C" outboard MSIV were reworked. The leak rate for the "C" outboard MSIV was restored to 7.5 SCFH. The leak rate for the "D" inboard was restored to less than 1 SCFH. The "as-left" maximum pathway leak rate is 98.2 SCFH. The "as-left" minimum pathway leak rate is 59 SCFH. The leak rate for each of the eight MSIVs is less than 100 SCFH.

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
 LER 90-020-00, Docket No. 387/License No. NPF-14
 LER 92-005-00, Docket No. 387/License No. NPF-14
 LER 95-006-00, Docket No. 387/License No. NPF-14
 LER 95-012-00, Docket No. 388/License No. NPF-22
 LER 96-010-00, Docket No. 387/License No. NPF-14
 LER 97-004-00, Docket No. 388/License No. NPF-22 (maximum pathway failure)

Failed Component: MSIVs, HV-241F022D and HV-241F028C

Manufacturer: Atwood and Morrill Co., Inc.

Model: 21190-H

