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MAY 15 2000

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/00-007-00
PLA - 5199 FILE R41-2

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

Attached is Licensee Event Report 50-387/00-007-00. Multiple test failures were experienced during as-found actuation pressure surveillance testing of the Main Steam Safety Relief Valves. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B) and NUREG-1022, Revision 1.

Bryce L. Shriver
Vice President – Nuclear Site Operations

Attachment

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

cc: Mr. S. L. Hansell
Sr. Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 35
Berwick, PA 18603-0035

JE22

EXPIRES 06/30/2001

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 1

DOCKET NUMBER (2)

05000387

PAGE (3)

1 OF 3

TITLE (4)

Multiple Test Failures of Main Steam Safety Relief Valves

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
04	14	00	00	-- 007	-- 00	05	15	00	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)		X		50.73(a)(2)(i)	50.73(a)(2)(viii)
			20.2203(a)(1)		20.2203(a)(3)(i)				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
			20.2203(a)(2)(iii)		50.36(c)(1)				50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)				50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

Joseph J. Meter - Senior Engineer, Licensing

TELEPHONE NUMBER (Include Area Code)

570 / 542-1873

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX

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)

On April 14, 2000 with Unit 1 in Mode 5 (Refueling), five of eight Main Steam Relief Valves (MSRV) that were tested, failed their as-found actuation pressure surveillance test required by Technical Specification Surveillance Requirement 3.4.3.1. The acceptable band for the as-found actuation pressure is plus or minus 1% of the nameplate setpoint pressure. Four of the five MSRVs that failed had as-found actuation pressures below the lower limit of minus 1% of the nameplate setpoint pressure. The remaining failed MSRV as-found setpoint was greater than the upper limit of plus 1%, but below the reactor vessel design pressure. The cause of the as-found actuation pressure surveillance MSRV failures is due to expected drift of the actuation pressures after exposure to in-service operation. Corrective actions include replacing all eight MSRVs removed for testing with refurbished MSRVs that have opening setpoints within plus or minus 1% of the nameplate setpoint pressure. This event is reportable per 10CFR50.73(a)(2)(i)(B), operation prohibited by the plant's Technical Specifications, based on the guidance provided in NUREG-1022, Revision 1, concerning multiple test failures. The safety significance of this event is low, and the health and safety of the public was not compromised.

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

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station - Unit 1	05000				2 OF 3
	387	00 --	007 --	00	

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

EVENT DESCRIPTION

On April 14, 2000 with Unit 1 in Mode 5 (Refueling), five of eight Main Steam Relief Valves (MSRV; EISS Code: SB) that were tested, failed their as-found actuation pressure surveillance test required by Technical Specification Surveillance Requirement 3.4.3.1. The acceptable band for the as-found actuation pressure is plus or minus 1% of the nameplate setpoint pressure. Four of the five MSRVs that failed had as-found actuation pressures below the lower limit of minus 1% of the nameplate setpoint (-1.08%, -1.16%, -2.72% and -3.43%). The remaining MSRV as-found actuation pressure was greater than the upper limit of plus 1% (+2.07%), but below the reactor vessel design pressure.

CAUSE OF EVENT

The cause of the as-found actuation pressure surveillance MSRV failures is attributed to expected drift of the actuation pressures after exposure to in-service operation. Four of the five MSRVs that failed had as-found actuation setpoints below the lower limit of minus 1% of the nameplate setpoint due to expected drift and seat leak-by during operation. The remaining MSRV as-found actuation pressure was greater than the upper limit of plus 1% because of expected drift, the length of time in service without opening (April, 1995), and its as-left setpoint at the time of installation was slightly higher than the nameplate setpoint pressure, but within plus or minus 1%.

REPORTABILITY/ANALYSIS

Technical Specification 3.4.3 requires that 12 of 16 MSRVs be operable while the unit is in Mode 1,2 or 3. Technical Specification Surveillance Requirement 3.4.3.1 requires the as-found actuation pressure of an MSRV be plus or minus 1% of the nameplate setpoint pressure. Eight of the sixteen MSRVs were removed for surveillance testing. Five of the eight MSRVs tested failed their as-found actuation pressure surveillance test. In accordance with the required Inservice Testing Program, no additional MSRVs were required to be tested as a result of these test failures. This event is reportable per 10CFR50.73(a)(2)(i)(B), operation prohibited by the plant's Technical Specifications, based on the example in NUREG-1022, Revision 1 concerning multiple test failures.

The Unit 1 reactor vessel did not reach a pressure that challenged the safety function of any of the MSRVs. No inadvertent lift of an MSRV occurred. All of the failed MSRVs would have functioned below the reactor vessel design pressure and the vessel overpressurization analysis was valid for the as-found conditions.

Additionally, the Susquehanna Steam Electric Station MSRVs have had historically repeatable as-found actuation pressures of less than plus 3% of the nameplate setpoint pressure after inservice operation with few failures outside of this range. The range of plus or minus 3% of the nameplate setpoint pressure has been approved for use in the Technical Specifications for another nuclear licensee. General Electric Topical Report NEDC-31753P addresses this issue and was approved via Nuclear Regulatory Commission Safety Evaluation Report in 1992.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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Susquehanna Steam Electric Station - Unit 1	387	00	-- 007 --	00	3 OF 3

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

Based on the above evaluation, the safety significance of this event is low and the health and safety of the public was not compromised.

Revision 1 to NUREG-1022, Event Reporting Guidelines included the addition of an example of multiple safety valves failing to pass setpoint testing. This was published in January 1998. There has been one previous event of multiple failures of MSRV as-found actuation pressure surveillance testing since Revision 1 to NUREG-1022 has been in effect. This event was not reported previously due to an administrative oversight. The procedures which provide guidance on reportability determination for MSRV test failures have been revised to more clearly include the criteria for multiple test failures of NUREG-1022, Revision 1.

In accordance with the guidelines provided in NUREG-1022, Revision 1 section 5.1.1, the required submission date for this report is May 15, 2000.

CORRECTIVE ACTIONS

The following corrective action has been completed:

- The eight MSRVs tested were replaced with refurbished MSRVs that have actuation pressures within plus or minus 1% of the nameplate setpoint pressure.

Corrective actions to be completed are:

- The MSRVs that failed will be refurbished to have actuation pressures within plus or minus 1% of the nameplate setpoint pressure.
- A change to the Technical Specification acceptable band for the as-found actuation pressure will be evaluated.

ADDITIONAL INFORMATION

Past Similar Events: LER 00-003-00, Docket No. 387/License No. NPF-14 – Multiple Test Failures of Suppression Chamber-to-Drywell Vacuum Breakers

Failed Component: None