

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
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TITLE (4)
Operation Prohibited By Technical Specification - Loss Of MSRV Acoustic Monitor

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
9	10	97	97	-- 020	-- 01	5	24	99	FACILITY NAME	DOCKET NUMBER
										05000
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) 100	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 Cornelius 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	CNV	T068	N					

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 15 single-spaced typewritten lines) (16)

On September 10, 1997, at 1750 hours, with Unit 1 in Condition 1 (Power Operation) at 100% Power, the acoustic monitor for the 'S' Main Steam Relief Valve (MSRV) was declared inoperable and Technical Specification 3.3.7.5, ACTION 80, and 3.4.2.c ACTION were entered. Repair of the acoustic monitor requires a primary containment entry. Operators, using guidance from the appropriate off-normal procedure, were able to assure that the 'S' MSRV was closed. Enforcement Discretion was requested by PP&L and granted by the NRC for continued operation until an outage of sufficient duration, not to exceed the Unit 1 10th Refuel Outage. This event is reportable per 10CFR50.73(a)(2)(i)(B), in that Susquehanna Unit 1 was in a condition prohibited by Technical Specifications when it remained at power operation beyond the limit specified in the ACTION statements of Technical Specifications. The cause of the acoustic monitor failure was determined to be degradation of the charge converter components due to aging. Operation with the 'S' acoustic monitor inoperable does not create a significantly degraded condition in the Station's ability to protect the health and safety of the public and the ability of the plant to shut down safely is unaffected. The following actions have been completed: troubleshooting to the extent possible at the time of the event, request for Enforcement Discretion (granted) at the time of the event, alarm removed from service at the time of the event, determination of cause of failure of the acoustic monitor, and replacement of acoustic monitor components inside containment in both Unit 1 and Unit 2.

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	387	97	-- 020	-- 01	

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

EVENT DESCRIPTION

On September 10, 1997, at 1750 hours, with Unit 1 in Condition 1 (Power Operation) at 100% Power, the Unit 1 Control Room received a spurious open Main Steam Relief Valve (MSRV) (EIS Code: SB) alarm for the 'S' MSRV. The acoustic monitor for the 'S' MSRV indicated that the valve was approximately 25% open. The Control Room operators (utility; licensed), using guidance from the appropriate off-normal (ON) procedure, determined that the 'S' MSRV was not open. Parameter trends used to conclude that this MSRV was not open included: MSRV tailpipe temperature, suppression pool temperature, suppression pool level, main generator megawatts, reactor pressure, reactor water level, and feedwater flow - steam flow mismatch. All other MSRV acoustic monitors are operable.

Significant effort was expended in troubleshooting this condition. All components exterior to the drywell were tested and ruled out as the cause of the erratic operation of the 'S' acoustic monitor. As a result of this investigation, the failed (or failing) component has been determined to be inside the drywell.

As a result of the spurious alarming, the 'S' acoustic monitor was declared inoperable, and Limited Conditions of Operation (LCO) 3.4.2.c and 3.3.7.5, ACTION 80, were entered. Technical Specification 3.3.7.5, ACTION 80, requires the acoustic monitor to be restored to service within 48 hours or be in Hot Shutdown within the next 12 hours.

In order to repair the acoustic monitor, a containment entry is necessary. This would require a Unit shutdown and the containment to be de-inerted. Enforcement Discretion was requested on September 11, 1997 and verbally granted on September 12, 1997 (granted in writing September 23, 1997) for continued operation until an outage of sufficient length to affect repairs, not to exceed the Unit 1 10th Refuel Outage, scheduled for Spring 1998.

On September 16, 1997, following several days with no alarms, the acoustic monitor began to erratically alarm at a frequency of 5 to 6 times per hour. This represented a potential operational nuisance. The temporary modification program (Bypass Program) was used to remove the 'S' acoustic monitor from service and eliminate the nuisance alarm.

CAUSE OF EVENT

The cause of the acoustic monitor failure was determined to be degradation of the charge converter components due to aging.

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), in that Susquehanna Unit 1 was in a condition prohibited by Technical Specification when it continued to operate in Condition 1 with an inoperable MSRV acoustic monitor. Technical Specifications 3.3.7.5 and 3.4.2 require all MSRV acoustic

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monitors to be operable in Conditions 1 and 2. Enforcement Discretion for continued operation was granted September 12, 1997, allowing the operation of the unit beyond the time limits specified in the ACTION statements of the applicable LCOs. Operation outside of these limits constitutes a condition prohibited by the Technical Specifications. Unit 1 exceeded the LCO time limits on September 13, 1997.

The ability of the plant to shutdown in a safe manner is not compromised. All of the Unit's MSRVs are operable and are closed. The acoustic monitor provides no automatic initiation or isolation function, but only provides valve position indication. The 'S' MSRV has been determined to be closed based on alternate indications, all of which indicate no abnormal condition for this equipment. The following parameter trends were observed, per the off-normal procedure, to assure the valve is closed: MSRV tailpipe temperature, suppression pool temperature, suppression pool level, loss of generator megawatts, decreasing reactor pressure, changing reactor water level, and indicated feedwater flow greater than steam flow. Also, failure of the acoustic monitor will not: affect any operation of the MSRVs, prevent the operators from identifying an open MSRV, increase the probability of a stuck open MSRV, affect the consequences of an open MSRV, or cause any unanalyzed failure or misoperation of plant equipment or an engineered safety feature. As such, operation of Unit 1 with the 'S' MSRV acoustic monitor inoperable does not create a significant degradation in the Station's ability to protect the health and safety of the public and/or plant personnel.

In accordance with the guidance provided in NUREG 1022, Supplement 1, the required submission date for the original report was determined to be October 13, 1997.

CORRECTIVE ACTIONS

The following corrective actions have been completed:

- Troubleshooting to the extent possible with the unit at Power.
- Obtained Enforcement Discretion to allow the plant to continue to operate until the next outage of sufficient duration to allow for drywell access, but no later than the Unit 1 10th Refuel Outage.
- Installed temporary modification (bypass) to remove the 'S' Acoustic Monitor from service.
- Determined the cause of the failure of the 'S' MSRV acoustic monitor.
- Replaced MSRV acoustic monitor components inside containment in both Unit 1 and Unit 2 with improved models.

ADDITIONAL INFORMATION

Failed Component Identification: Charge converter components

Past Similar Events: LER 50-388/94-003-00