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MAY 26 2016

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.73


SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387(388)/2016-012-00
UNIT 1 LICENSE NO. NPF-14
UNIT 2 LICENSE NO. NPF-22
PLA-7478

Docket No. 50-387
50-388

Attached is Licensee Event Report (LER) 50-387(388)/2016-012-00. The LER reports a loss of secondary containment differential pressure that occurred due to failure of a solenoid valve. This event was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(v)(C) as an event that could have prevented fulfillment of a safety function required to control the release of radioactive material.

There were no actual consequences to the health and safety of the public as a result of this event.

This letter contains no new regulatory commitments.


J. A. Franke

Attachment: LER 50-387(388)/2016-012-00

Copy: NRC Region I
Mr. J. E. Greives, NRC Sr. Resident Inspector
Ms. T. E. Hood, NRC Project Manager
Mr. M. Shields, PA DEP/BRP

**LICENSEE EVENT REPORT (LER)**(See Page 2 for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Susquehanna Steam Electric Station Unit 1

2. DOCKET NUMBER

05000387

3. PAGE

1 of 3

4. TITLE

Secondary Containment declared inoperable due to loss of differential pressure as a result of a solenoid failure.

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	29	2016	2016	- 012	- 00	05	26	2016	Susquehanna Steam Electric Station Unit 2	05000388
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
5	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
10. POWER LEVEL	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Regina Genovese - Nuclear Regulatory Affairs

TELEPHONE NUMBER (Include Area Code)

(570) 542-2980

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	VA	SOL	A499	Y					

14. SUPPLEMENTAL REPORT EXPECTED☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO**15. EXPECTED SUBMISSION DATE**


MONTH	DAY	YEAR


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

On March 29, 2016 at approximately 2256 hours, Susquehanna Steam Electric Station (SSES) Unit 2 Secondary Containment Zone II ventilation differential pressure (dP) was not maintained above the Technical Specification (TS) Surveillance Requirement (SR) 3.6.4.1.1 required vacuum of 0.25 inches of water gauge (in. w.g.) with respect to outside atmosphere due to closure of reactor building exhaust fan discharge damper and subsequent trip of the reactor building exhaust fan. The Unit 1 and Unit 2 Secondary Containment systems were declared inoperable and Action Statement for TS 3.6.4.1 was entered. Secondary Containment dP was restored to greater than 0.25 in. w.g. at approximately 2321 hours, following the start of the "A" reactor building exhaust fan. Further investigation determined the damper closure was the result of a solenoid valve failure.

This event is being reported under 10 CFR 50.73(a)(2)(v)(C) as an event that could have prevented fulfillment of a safety function. SSES has no redundant Secondary Containment System.

Corrective actions for this event include revision of the preventive maintenance (PM) scope for Reactor Building Heating Ventilation Air Conditioning (HVAC) solenoid valves and evaluation of a more robust solenoid valve for Reactor Building HVAC system.

NRC FORM 366A (11-2015)		U.S. NUCLEAR REGULATORY COMMISSION <div style="text-align: center;">  </div> <div style="text-align: center;"> LICENSEE EVENT REPORT (LER) CONTINUATION SHEET </div>		APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018 <small>Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.</small>	
1. FACILITY NAME		2. DOCKET NUMBER		3. LER NUMBER	
Susquehanna Steam Electric Station, Unit 1		05000387		YEAR	SEQUENTIAL NUMBER
				2016	- 012
<div style="text-align: center; font-weight: bold;">NARRATIVE</div> <div style="margin-top: 10px;"> <h3>CONDITIONS PRIOR TO EVENT</h3> <p>Unit 1 – Mode 5, 0 percent Rated Thermal Power Unit 2 – Mode 1, 100 percent Rated Thermal Power</p> <p>There were no other structures, systems, or components that were inoperable at the start of the event that contributed to the event.</p> </div> <div style="margin-top: 10px;"> <h3>EVENT DESCRIPTION</h3> <p>On March 29, 2016 at approximately 2256 hours, SSES Unit 2 Zone II Secondary Containment [EIS System Code: VA] dP was not maintained above the TS SR required value of 0.25 in. w.g. as a result of the “B” Equipment Compartment Exhaust Fan Discharge Damper, HD27521B, [EIS Component Code: DMP] closure and subsequent trip of the reactor building exhaust fan, 2V206B [EIS Component Code: FAN]. The Unit 1 and Unit 2 Secondary Containment systems were declared inoperable and Action Statement for TS 3.6.4.1 was entered. Secondary Containment dP was restored to greater than 0.25 in. w.g. at approximately 2321 hours, following the start of the “A” reactor building exhaust fan, 2V206A.</p> <p>On March 30, 2016, at 0213 hours, this condition was reported (ENS #51830) in accordance with 10 CFR 50.72(b)(3)(v)(C) for an event or condition that, at the time of discovery, could have prevented the fulfillment of the safety function. SSES has no redundant Secondary Containment System.</p> <p>In accordance with 10 CFR 50.73(a)(2)(v)(C), this LER is being submitted for an event that could have prevented the fulfillment of the safety function of Secondary Containment to control the release of radioactive material.</p> </div> <div style="margin-top: 10px;"> <h3>CAUSE OF EVENT</h3> <p>The cause of the event was failure of solenoid valve, SV27521B, [EIS Component Code: SOL] which controls the “B” Equipment Compartment Exhaust Fan Discharge Damper. The failed valve was disassembled, inspected, and found to be damaged. Failure analysis of the solenoid valve determined the issue to be related to vendor parts quality.</p> </div>					

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Susquehanna Steam Electric Station, Unit 1		05000387		YEAR	SEQUENTIAL NUMBER	REV NO.	
				2016	- 012	- 00	
NARRATIVE ANALYSIS/SAFETY SIGNIFICANCE <p>Technical Specification 3.6.4.1 Surveillance Requirement 3.6.4.1.1 requires that secondary containment vacuum is maintained greater than or equal to 0.25 in. w.g. This event is being reported pursuant to 10 CFR 50.73(a)(2)(v)(C), as a loss of Secondary Containment differential pressure results in a condition that could have prevented fulfillment of a safety function to mitigate the consequences of an accident by controlling the release of radioactive material.</p> <p>There was no actual safety consequence as a result of this event. Engineering analysis of this event has determined that secondary containment could have performed its safety function of isolating, as assumed in the accident analysis, and also of re-establishing 0.25 in. w.g. vacuum (drawdown) within the assumed accident analysis time (10 minutes). Therefore, the subject event did not cause a loss of safety function.</p> <p>This event will not be counted as a safety system functional failure (SSFF) for the NRC performance indicator based on the Engineering analysis supporting the system's ability to fulfill the safety function.</p> CORRECTIVE ACTIONS <p>Corrective actions for this event include revision of the PM scope for Reactor Building HVAC solenoid valves and evaluation of a more robust solenoid valve for Reactor Building HVAC system.</p> COMPONENT INFORMATION <p>Manufacturer: ASCO Services Type: 3-way electrical solenoid valve Process Fluid: Air Model: ASCO 8320 Solenoid Valve, General Use Model 8320G003 Voltage: 120 VAC</p> PREVIOUS SIMILAR EVENTS <p>Docket No. 50-387, PLA 7437, LER 2015-013-00 "Loss of Differential Pressure in Zone I of Secondary Containment Due to Solenoid Valve Failure." Dated February 2, 2016.</p> <p>Docket No. 50-387, PLA 7329, LER 2015-002-00 "Secondary Containment Inoperability Due to Failure to Meet Technical Specification Surveillance Requirement 3.6.4.1." Dated June 10, 2015.</p>							