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**JUN 10 2015**

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)/2015-002-00**  
**UNIT 1 LICENSE NO. NPF-14**  
**UNIT 2 LICENSE NO. NPF-22**  
**PLA-7329**

**Docket Nos. 50-387**  
**50-388**

Attached is Licensee Event Report (LER) 50-387(388)/2015-002-00. The LER reports an event involving the inoperability of Secondary Containment. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(C), for an event or condition that at the time of discovery, could have prevented the fulfillment of the safety function of Secondary Containment 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.

A handwritten signature in black ink, appearing to read "J.A. Franke".

J. A. Franke

Attachment: LER 50-387(388)/2015-002-00

Copy: NRC Region I  
Mr. J. E. Greives, NRC Sr. Resident Inspector  
Mr. J. A. Whited, NRC Project Manager  
Mr. B. Fuller, PA DEP/BRP

<b>NRC FORM 366</b> (02-2014)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>    <b>LICENSEE EVENT REPORT (LER)</b> (See Page 2 for required number of digits/characters for each block)	<b>APPROVED BY OMB: NO. 3150-0104</b> <b>EXPIRES: 01/31/2017</b>  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.
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<b>1. FACILITY NAME</b> Susquehanna Steam Electric Station Unit 1	<b>2. DOCKET NUMBER</b> 05000387	<b>3. PAGE</b> 1 of 4
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<b>4. TITLE</b> Secondary Containment Inoperability Due to Failure to Meet Technical Specification Surveillance Requirement 3.6.4.1.1
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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
04	11	2015	2015	- 002	00	06	10	2015	Susquehanna Steam Electric Station, Unit 2	<b>05000388</b>
									FACILITY NAME	DOCKET NUMBER

<b>9. OPERATING MODE</b>	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>							
<b>10. POWER LEVEL</b>  100	<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.73(a)(2)(i)(C)		<input type="checkbox"/> 50.73(a)(2)(vii)	
	<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.2203(a)(2)(i)		<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)	
	<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)	
	<input type="checkbox"/> 20.2203(a)(2)(iii)		<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		<input type="checkbox"/> 73.71(a)(4)	
	<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(5)	
	<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> OTHER	
<input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(v)(D)		Specify in Abstract below or in NRC Form 366A		

<b>12. LICENSEE CONTACT FOR THIS LER</b>	
LICENSEE CONTACT Richard W. McIntosh, Nuclear Regulatory Affairs	TELEPHONE NUMBER (Include Area Code) (570) 542-1695

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
X	VA	SOL	A499	Y					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b>	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)  <p>On April 11, 2015, at 0051 hours, the ventilation system that maintains Secondary Containment at a minimum negative pressure failed requiring entry into the Action Statement for Technical Specification (TS) 3.6.4.1, Condition A, for failure to meet Surveillance Requirement (SR) 3.6.4.1.1 for Susquehanna Steam Electric Station (SSES) Unit 1 and Unit 2. The Reactor Building (RB) Zone II differential pressure fell below the TS limit of 0.25 inches water column (in. w.c.) vacuum when both RB Zone II exhaust fans (2V205A and B) would not develop flow. Operators found the Zone II exhaust fan B discharge damper control air solenoid valve (SV27578B) to be porting air, such that both exhaust fans could not continue to run. The failed solenoid valve was isolated and replaced. TS 3.6.4.1, Condition A, was exited at 0320 hours when the differential pressure was restored to meet the TS limit of 0.25 in. w.c. vacuum.</p> <p>The condition was reported as an 8 hour Event Notification #50974 in accordance with 10 CFR 50.72(b)(3)(v)(C) for any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. This report is in accordance with 10 CFR 50.73(a)(2)(v)(C) as an event that could have prevented the fulfillment of the safety function.</p> <p>Storage practices for these solenoid valves will be changed to use an appropriate standard, and the preventative maintenance strategy will be revised.</p> <p>There were no actual consequences to the health and safety of the public as a result of this event. An engineering evaluation concludes no Safety System Functional Failure actually occurred as a result of this event.</p>
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**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

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](mailto: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.

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Susquehanna Steam Electric Station, Unit 1	05000387	2015	- 002	- 00	2 of 4

**NARRATIVE****CONDITIONS PRIOR TO THE EVENT**

Unit 1 – Mode 1, 100 percent Rated Thermal Power

Unit 2 – Mode 3, Hot Shutdown, 0 percent Rated Thermal Power

There were no systems, structures, or components that were inoperable at the start of the event and contributed to the event.

**EVENT DESCRIPTION**

On April 11, 2015, at 0051 hours, the ventilation system that maintains Secondary Containment at a negative pressure failed requiring entry into the Action Statement for Technical Specification (TS) 3.6.4.1, Condition A, for failure to meet Surveillance Requirement (SR) 3.6.4.1.1 for Susquehanna Steam Electric Station (SSES) Unit 1 and Unit 2. The Reactor Building (RB) Zone II differential pressure fell below the TS limit of 0.25 inches water column (in. w.c.) vacuum when both RB Zone II exhaust fans (2V205A and B) [EIS System Code VA] would not develop flow. Operators found the Zone II exhaust fan B discharge damper control air solenoid valve (SV27578B) to be porting air, such that both exhaust fans could not continue to run. The failed solenoid valve was isolated and replaced. TS 3.6.4.1, Condition A, was exited at 0320 hours when the differential pressure was restored to meet the TS limit of 0.25 in. w.c. vacuum.

On April 11, 2015, at 0522 hours, this condition was reported as an 8 hour Event Notification #50974 in accordance with 10 CFR 50.72(b)(3)(v)(C) for any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material. SSES has no redundant Secondary Containment system.

In accordance with 10 CFR 50.73(a)(2)(v)(C), this LER is being submitted for an event or condition that at the time of discovery, could have prevented the fulfillment of the safety function of Secondary Containment to control the release of radioactive material.

**CAUSE OF THE EVENT**

The cause of the event is the storage practice for the solenoid valve and preventive maintenance (PM) strategy were both improper. The failure analysis of the solenoid valve has not yet been completed but will be addressed by the station's Corrective Action Program. If other cause(s) of this failure are found, then additional corrective action(s) will be identified to prevent a recurrence, and a supplement to this LER will be provided.

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**NARRATIVE****ANALYSIS/SAFETY SIGNIFICANCE**

The actual consequence of this event was a degradation of the Secondary Containment vacuum which led to an unplanned entry into the Action Statement for TS 3.6.4.1, Condition A, for Unit 1 and Unit 2. An Engineering evaluation was performed which concluded that Secondary Containment could have performed its safety function of isolating as assumed in the SSES accident analysis and also of re-establishing 0.25 in. w.c. vacuum (i.e., drawdown time) within the assumed accident analysis time of 10 minutes. Therefore, the safety function of the Secondary Containment boundary and Standby Gas Treatment systems were unaffected and capable of performing their safety function during this event. As such, there were no actual consequences to the health and safety of the public.

Additionally, this event will not be counted as a safety system functional failure (SSFF) for the NRC performance indicator based on the engineering evaluation that concluded there was no loss of Secondary Containment's ability to fulfill its safety function.

**CORRECTIVE ACTIONS**

Immediate compensatory action was performed by isolating and replacing the failed solenoid valve. The TS 3.6.4.1, Condition A was exited when differential pressure for Secondary Containment was restored to meet the required TS limit in SR 3.6.4.1.1.

Corrective action will be pursued with additional failure analysis, and the following to prevent recurrence:

1. Storage practices for these solenoid valves will be changed to use an appropriate standard.
2. A preventive maintenance strategy change for Zones I, II and III solenoid valves will be to replace these valves more frequently than the current practice.

**PREVIOUS SIMILAR EVENTS**

This event was similar to another malfunction of this type of solenoid valve, occurring on November 27, 2013, and reported in Licensee Event Report (LER) 2013-008-00, dated January 23, 2014.

Other events that more generally involve the entry into the TS 3.6.4.1, Condition A for a failure to maintain differential pressure requirements includes:

- LER 50-388/2014-001: Secondary Containment Personnel Airlock Doors Both Opened Resulting in Failure to meet TS 3.6.4.1
- LER 50-387(388)/2013-003-00: Loss of Secondary Containment
- LER 50-387(388)/2013-004-00: Loss of Secondary Containment Due to Differential Pressure Not Meeting Technical Specification 3.6.4.1
- LER 20-387(388)/2013-005-00: Loss of Secondary Containment

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**NARRATIVE**

**COMPONENT INFORMATION**

Manufacturer: ASCO Services  
Type: 3-way electrical solenoid valve  
Process fluid: Air  
Model: ASCO 8320 Solenoid Valve, General Use Model 8320G003  
Voltage: 120 VAC