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MAY 06 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)/2016-003-00
UNIT 1 LICENSE NO. NPF-14
PLA-7459

Docket No. 50-387
50-388

Attached is Licensee Event Report (LER) 50-387(388)/2016-003-00. The LER reports as a loss of secondary containment differential pressure that occurred during a routine preventative maintenance activity. This event was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(v) as an event or condition that could have prevented fulfillment of a safety function.

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)/2016-003-00

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 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.

1. FACILITY NAME

Susquehanna Steam Electric Station Unit 1

2. DOCKET NUMBER

05000387

3. PAGE

1 of 3

4. TITLE

Unit 2 Zone 3 HVAC unable to maintain Zone 3 differential pressure greater than 0.25 in wg

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	08	2016	2016	- 003	- 00	05	06	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)			
1	<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 087	<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

Nicole Pagliaro, Licensing Specialist - Nuclear Regulatory Affairs

TELEPHONE NUMBER (Include Area Code)

(570) 542-6578

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	DMP	A124	Y					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO15. EXPECTED
SUBMISSION
DATE

MONTH	DAY	YEAR

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

On March 8, 2016 at 0232 hours Secondary Containment Zone III ventilation differential pressure lowered to 0.16" inch of vacuum water gauge (WG) when securing Unit 1 Zone III ventilation for a routine preventative maintenance activity. Required differential pressure per Surveillance (SR) 3.6.4.1.1 could not be maintained in the intended alignment and Technical Specification (TS) 3.6.4.1 was entered for Unit 1 and Unit 2. Zone III ventilation was restored to the original alignment and Zone III differential pressure recovered to > 0.25" WG at 0335 hours.

This event is being reported under 10 CFR 50.73(a)(2)(v)(C) and per the guidance of NUREG 1022 Rev 3 section 3.2.7 as an event or condition that could have prevented fulfillment of a safety function. There is no redundant Susquehanna Secondary Containment System.

There were no actual or potential consequences to the health and safety of the public as a result of this event. An engineering evaluation concludes no safety system functional failure (SSFF) actually occurred as a result of this event.

The apparent cause is less than adequate design of the outside air dampers. The corrective action for this condition is an engineering change that allows the closing of the upper and lower damper sections to be operated separately for the reactor building HVAC supply systems.

NRC FORM 366A
(11-2015)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018



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 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.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
Susquehanna Steam Electric Station, Unit 1	05000387	YEAR	SEQUENTIAL NUMBER	REV NO.
		2016	- 003	- 00

NARRATIVE

CONDITIONS PRIOR TO EVENT

Unit 1 – Mode 1, 86.6 percent Rated Thermal Power

Unit 2 – Mode 1, 100 percent Rated Thermal Power

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

EVENT DESCRIPTION


On March 8, 2016 at 0232 hours, and while securing the Unit 1 Secondary Containment (EIS Code: NG) Zone III Heating Ventilation and Air Conditioning (HVAC) for a preventive maintenance activity, Zone III (Unit 1 and 2) Reactor Building (RB) differential pressure lowered to 0.16 inch of vacuum water gauge (WG). The required differential pressure per SR 3.6.4.1.1 of 0.25 inch WG could not be maintained in the intended alignment for the RB HVAC and Technical Specification (TS) 3.6.4.1 was entered for Unit 1 and Unit 2. The affected Zone III ventilation was restored to the original alignment and differential pressure recovered to > 0.25" inch WG at 0335 hours.

On March 8, 2016, at 0937 hours, this condition was reported in accordance with 10 CFR 50.72(b)(3)(v)(C) for any event or condition that, at the time of discovery, could have prevented the fulfillment of the safety function. There is 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 could have prevented the fulfillment of the safety function of Secondary Containment to control the release of radioactive material.

CAUSE OF EVENT

The direct cause of the event was misalignment between upper and lower damper blades. The outside air dampers were originally designed to be maintained Full Open, but have since initial plant startup been throttled to control Reactor Building differential pressure. Over time, the alignment of the upper and lower blades has become misaligned, such that the top blades are more open than the lower blades, decreasing differential pressure. This misalignment caused a larger gap in the upper blades than was needed to restrict supply flow into Zone III when operations swapped the fans. The apparent cause is less than adequate design of the outside air dampers. The manual outside air dampers use a single level to control the entire bank of 13 louver blades. This design puts more stress on the linkages than if it were controlled by multiple levers.

NRC FORM 366A (11-2015)	U.S. NUCLEAR REGULATORY COMMISSION  LICENSEE EVENT REPORT (LER) CONTINUATION SHEET	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, NEOF-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 Susquehanna Steam Electric Station, Unit 1	2. DOCKET NUMBER 05000387	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left; padding: 2px;">3. LER NUMBER</th> </tr> <tr> <th style="width: 33%; text-align: center; padding: 2px;">YEAR</th> <th style="width: 33%; text-align: center; padding: 2px;">SEQUENTIAL NUMBER</th> <th style="width: 33%; text-align: center; padding: 2px;">REV NO.</th> </tr> <tr> <td style="text-align: center; padding: 2px;">2016</td> <td style="text-align: center; padding: 2px;">- 003</td> <td style="text-align: center; padding: 2px;">- 00</td> </tr> </table>	3. LER NUMBER			YEAR	SEQUENTIAL NUMBER	REV NO.	2016	- 003	- 00
3. LER NUMBER											
YEAR	SEQUENTIAL NUMBER	REV NO.									
2016	- 003	- 00									
NARRATIVE ANALYSIS/SAFETY SIGNIFICANCE <p>The actual consequences from this event were entering the condition in TS for not satisfying the SR 3.6.4.1.1, and an eight hour notification of the event to the NRC. There is no redundant secondary containment system. The safety-related function of the reactor building HVAC system is to isolate in the event of secondary containment isolation. Not maintaining the required pressure within secondary containment in this instance did not jeopardize this function because none of the isolation dampers or trip signals were impacted.</p> <p>There were no actual or potential consequences to the health and safety of the public as a result of this event.</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 that shows there was no loss of ability to fulfill the safety function.</p> CORRECTIVE ACTIONS <p>Immediate action was taken to perform troubleshooting, soon after the event occurred, identifying this Unit 2 Zone III outside air damper alignment deficiency. Troubleshooting has since been completed.</p> <p>The corrective action for this condition is an engineering change that allows the closing of the upper and lower damper sections to be operated separately for the reactor building HVAC supply systems. This action is scheduled to be complete in October of 2016.</p> PREVIOUS SIMILAR EVENTS <p>LER 2015-005-00 "Loss of Secondary Containment Due to Unit 2 Damper Alignment"</p> <p>LER 2014-005-00 "Loss of Secondary Containment Due to Differential Pressure Not Meeting Technical Specification 3.6.4.1"</p>											