

Jon A. Franke
Site Vice President

Susquehanna Nuclear, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.2904 Fax 570.542.1504
Jon.Franke@TalenEnergy.com



JUN 17 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 50-388(387)/2016-003-00
UNIT 1 LICENSE NO. NPF-14
UNIT 2 LICENSE NO. NPF-22
PLA-7490

Docket Nos. 50-387
50-388

Attached is Licensee Event Report (LER) 50-388(387)/2016-003-00. The LER reports an event involving the loss of Unit 2 secondary containment differential pressure that occurred on April 19, 2016, as described in Event Notification 51872. This LER is submitted in accordance with 10 CFR 50.73(a)(2)(v)(C), as an event or condition that could have prevented fulfillment of a safety function. There was no actual loss of the secondary containment's ability to fulfill its safety function, and so this LER will not be counted as a safety system functional failure (SSFF) for the NRC performance indicator.

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 50-388(387)/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 2

2. DOCKET NUMBER

05000388

3. PAGE

1 of 4

4. TITLE

Secondary Containment Inoperability due to Failure to Meet Surveillance Requirement 3.6.4.1.1

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	19	2016	2016	- 003	- 00	06	17	2016	Susquehanna Steam Electric Station Unit 1	05000387
									FACILITY NAME	DOCKET NUMBER
										05000
9. OPERATING MODE										
11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)										
<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)										
<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

Richard W. McIntosh, Senior Engineer - 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

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 April 19, 2016, at 2159 hours, Secondary Containment became inoperable, requiring an action of Technical Specification (TS) 3.6.4.1 to restore the system to an operable status in four hours. The TS 3.6.4.1 Condition A for an inoperable Secondary Containment was entered because Reactor Building (RB) Zone II differential pressure (dP) was below the required TS limit of ≥ 0.25 inches of vacuum water gauge (in. w.g.), which does not meet the Surveillance Requirement (SR) 3.6.4.1.1. The Zone II supply system outside air (intake) louver XD-27586 was then adjusted and the Zone II dP returned to a steady 0.29 in. w.g. of vacuum, which was above the required TS limit. The TS 3.6.4.1, Condition A for inoperable Secondary Containment was exited at 2222 hours.

The event was reported to the NRC on April 20, 2016 in accordance with 10 CFR 50.72(b)(3)(v)(C) under Event Notification 51872, for the loss of a safety function. There is no redundant Secondary Containment system. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(C), 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. No actual consequences to the health and safety of the public occurred and this event will not be counted as a safety system functional failure (SSFF) for the NRC performance indicator.

The cause of this event was determined to be less than adequate Operating Procedure instructions for the RB HVAC systems, for instructions that follow fan swaps. Planned corrective action includes revising Operating Procedure instructions for the Units 1 and 2 RB HVAC 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 2	05000388	YEAR	SEQUENTIAL NUMBER	REV NO.
		2016	- 003	- 00

NARRATIVE

CONDITIONS PRIOR TO EVENT

Unit 1 – Mode 4, 0 percent Rated Thermal Power
Unit 2 – Mode 1, 100 percent Rated Thermal Power

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

On April 19, at 1606 hours, supply and exhaust fan swaps were completed for the Reactor Building (RB) Heating Ventilation and Air Conditioning (HVAC) systems [EIS System Identifier: VA]. The fan swaps were associated with equipment maintaining Zone II of Secondary Containment (Unit 2 RB [EIS System Identifier: NG]).

EVENT DESCRIPTION

On April 19, 2016 at 2159 hours, Secondary Containment became inoperable, requiring an action of Technical Specification (TS) 3.6.4.1 to restore the system to an operable status in four hours. The TS 3.6.4.1, Condition A for an inoperable Secondary Containment was entered because RB Zone II differential pressure (dP) was below the required TS required limit of ≥ 0.25 inches of vacuum water gauge (in. w.g.), which does not meet the Surveillance Requirement (SR) 3.6.4.1.1. The Zone II supply system outside air (intake) louver XD-27586 [EIS Identifier: LV] was then adjusted and the Zone II dP returned to a steady 0.29 in. w.g. of vacuum, which was above the required TS limit. The TS 3.6.4.1, Condition A for inoperable Secondary Containment was exited at 2222 hours.

The event was reported to the NRC on April 20, 2016 in accordance with 10 CFR 50.72(b)(3)(v)(C) under Event Notification 51872, and per the guidance of NUREG-1022, Revision 3, Section 3.2.7, for applicable reporting criteria on the loss of a safety function. There is no redundant Secondary Containment system. This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(C), 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.

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 2	05000388	YEAR	SEQUENTIAL NUMBER	REV NO.
		2016	- 003	- 00

NARRATIVE

CAUSE OF EVENT

The cause of this event was determined to be less than adequate Operating Procedure (OP) instructions for the RB HVAC systems. Specifically, a final step in the OP after swapping fans is only to ensure that dP is \geq to the required 0.25 in. w.g. of vacuum. As a result, the pressure (demand) on the zone controller was not being checked following fan swaps. If the pressure (demand) for the controller is out of the control band of 10 to 14 psi, it then leaves the zone vulnerable to changes that occur in dP, as may occur with changing ambient conditions. In order to ensure the dP will continue to meet the required SR acceptance criteria, a step will be added to the OP to ensure that controller demand is within the desired control band after swapping fans.

ANALYSIS/SAFETY SIGNIFICANCE

If the condition had not resolved within four hours, the unit would be required by TS to initiate actions to shutdown. The actual consequence was the degradation of the required Secondary Containment vacuum, and a resulting inability to meet the SR acceptance criteria for a brief period of time, approximately 23 minutes. This led to the unplanned need to take the Required Action of TS 3.6.4.1 to restore Secondary Containment to an operable status. An engineering evaluation was performed that concluded Secondary Containment could have still performed its safety function of isolating as assumed in the accident analysis and also of re-establishing 0.25 in. w.g. of 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 functions during this event. As such, there were no actual consequences to the health and safety of the public. Based on an engineering evaluation to show there to be no loss of the Secondary Containment safety function, this event will not be counted as a safety system functional failure (SSFF) for the NRC performance indicator.

CORRECTIVE ACTIONS

Immediate action completed on April 19, 2016, restored Secondary Containment to an Operable status.

The planned corrective action includes:

- The Operating Procedure (OP) instructions for the Units 1 and 2 RB HVAC systems will be revised to include a step that requires checking the pressure gauge on the RB exhaust fan controllers, (e.g., PDC-27581 and PDC-17581) for their respective zones.

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 2	05000388	YEAR	SEQUENTIAL NUMBER	REV NO.
		2016	- 003	- 00

NARRATIVE

PREVIOUS SIMILAR EVENTS

This event is similar to the following events involving use of procedures that had an impact on maintaining the RB Secondary Containment ventilation.

- LER 50-387(388)/2015-003-01, "Secondary Containment Inoperability Due to Failure to Meet Technical Specification Surveillance Requirement 3.6.4.1.1," January 26, 2016
- LER 50-388/2015-002-00, "Secondary Containment Inoperability Due to Failure to Meet Technical Specification Surveillance Requirement 3.6.4.1.1," May 11, 2015
- LER 50-387(388)/2013-006-01, "Loss of Secondary Containment due to Differential Pressure not Meeting Technical Specification 3.6.4.1, July 30, 2014
- LER 50-387(388)/2014-007-00, "Loss of Secondary Containment Pressure During RPS Transfer," June 12, 2014