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February 8, 2022

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

10 CFR 50.73

**SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-388/2021-002-01
UNIT 2 LICENSE NO. NPF-22
PLA-7981**

Docket No. 50-388

Attached is Licensee Event Report (LER) 50-388/2021-002-01. The LER supplement reports an event in which the secondary containment was inoperable due to differential pressure exceeding the Technical Specification limit. The condition is being reported in accordance with 10 CFR 50.73(a)(2)(v)(C) as an event or condition which could have prevented the 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 or revised regulatory commitments.

A handwritten signature in black ink, appearing to read "K. Cimorelli".

K. Cimorelli

Attachment: LER 50-388/2021-002-01

Copy: NRC Region I
Mr. C. Highley, NRC Senior Resident Inspector
Ms. A. Klett, NRC Project Manager
Mr. M. Shields, PA DEP/BRP

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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollections.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk a/c: oiria_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name Susquehanna Steam Electric Station				2. Docket Number 05000388				3. Page 1 of 3				
4. Title Loss of Secondary Containment due to Failed Differential Pressure Transmitter												
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		
08	30	2021	2021	- 002 -	01	02	08	2022	Facility Name	Docket Number		
									05000			
									05000			
9. Operating Mode						10. Power Level						
1						100						
11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)												
10 CFR Part 20		<input type="checkbox"/> 20.2203(a)(2)(vi)				<input type="checkbox"/> 50.36(c)(2)			<input type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)	
<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(3)(i)				<input type="checkbox"/> 50.46(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(v)(A)		10 CFR Part 73	
<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(3)(ii)				<input type="checkbox"/> 50.69(g)			<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(4)	
<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(4)				<input type="checkbox"/> 50.73(a)(2)(i)(A)			<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 73.71(a)(5)	
<input type="checkbox"/> 20.2203(a)(2)(i)		10 CFR Part 21				<input type="checkbox"/> 50.73(a)(2)(i)(B)			<input type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 73.77(a)(1)(i)	
<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 21.2(c)				<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 73.77(a)(2)(i)	
<input type="checkbox"/> 20.2203(a)(2)(iii)		10 CFR Part 50				<input type="checkbox"/> 50.73(a)(2)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(viii)(A)		<input type="checkbox"/> 73.77(a)(2)(ii)	
<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 50.36(c)(1)(i)(A)				<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)(v)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)				<input type="checkbox"/> 50.73(a)(2)(iii)			<input type="checkbox"/> 50.73(a)(2)(ix)(A)			
<input type="checkbox"/> Other (Specify here, in Abstract, or in NRC 366A).												
12. Licensee Contact for this LER												
Licensee Contact Shane Jurek, Principal Licensing Engineer									Phone Number (Include Area Code) (570) 542-1695			
13. Complete One Line for each Component Failure Described in this Report												
Cause	System	Component	Manufacturer	Reportable to IRIS	Cause	System	Component	Manufacturer	Reportable to IRIS			
E	VA	PDT	B384	Y								
14. Supplemental Report Expected					15. Expected Submission Date					Month	Day	Year
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date)												
16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)												
<p>On August 30, 2021, at 09:55, operators at the Susquehanna Steam Electric Station (SSES), Unit 2, identified that Reactor Building Zone II Pressure Differential Indicator (PDI), PDI-27581, was stuck at a reading of 0.32" water column vacuum. Operators also reported difficulties opening doors in the SSES Unit 2 Reactor Building, indicating a positive secondary containment differential pressure (D/P). At this time, operators determined that a loss of the secondary containment had occurred and entered the off-normal procedure for the condition. Review of alternate indication documented from earlier that day, identified the condition likely existed longer than allowed by the Technical Specification Surveillance Requirement 3.6.4.1.1 associated Note. This condition is being reported under 10 CFR 50.73(a)(2)(v)(C) as a loss of safety function. Secondary containment was restored to an operable status at 10:30 on August 30.</p> <p>The cause of the event was determined to be an age-related failure of Pressure Differential Transmitter (PDT) PDT-27581. Corrective actions included replacing PDT-27581. There were no actual safety consequences associated with the described condition.</p>												

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: aira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Susquehanna Steam Electric Station, Unit 2	05000-388	2021	- 002 -	01

NARRATIVE**CONDITIONS PRIOR TO EVENT**

Unit 1 – Mode 1, approximately 100 percent Rated Thermal Power (RTP)

Unit 2 – Mode 1, approximately 100 percent RTP

At 04:00 on August 30, 2021, operators at the Susquehanna Steam Electric Station (SSES), Unit 2, identified that both the A and B Standby Gas Treatment (SGT) System Zone 2 Outside Delta Pressure Indicators, pressure differential indicators (PDIs) PDI-07554A2 and PDI-07554B2 [EIS System/Component Codes BH/PDI], respectively, were indicating below downscale on the associated meters while the digital display was reading -0.25" water column (wc) vacuum. This is indicative of a positive differential pressure (D/P) in the secondary containment. At the time of discovery, this was believed to be an "indication-only" issue.

EVENT DESCRIPTION

At 09:55 on August 30, 2021, while investigating the downscale indication on the A and B SGT System Zone 2 Outside Delta Pressure Indicators, PDI-07554A2 and PDI-07554B2, operators at SSES, Unit 2, identified that the SGT System Zone 2 Exhaust System Circulating Space/Outside D/P Indicator, PDI-27581 [VA/PDI], was stuck at a reading of 0.32" wc vacuum. Operators also reported difficulties opening doors in the SSES Unit 2 Reactor Building, indicating a positive secondary containment D/P. At this time, operators determined that a loss of the secondary containment had occurred and entered the off-normal procedure for the condition. Entry into Technical Specification Limiting Condition for Operation (LCO) 3.6.4.1, Condition A was evaluated and determined to be unnecessary at the time of discovery based on no known breach in secondary containment and the SGT subsystem was determined to be capable of drawing down secondary containment to 0.25" wc vacuum. This allowance is defined within the associated Note for Surveillance Requirement (SR) 3.6.4.1.1.

Subsequently, when reviewing the stuck indication on PDI-27581 in aggregate with the downscale readings on PDI-07554A2 and PDI-07554B2, it was determined firm evidence exists that secondary containment D/P was likely lost at 04:00 when PDI-07554A2 and PDI-07554B2 were identified as reading downscale. As a result, the four-hour allowance of the Note modifying SR 3.6.4.1.1 would result in the SR not met at approximately 08:00 and LCO 3.6.4.1, Condition A being entered. Because there is no redundant system to secondary containment, this event requires reporting under 10 CFR 50.73(a)(2)(v)(C) as a condition that could have prevented the fulfillment of a safety function needed to control the release of radioactive material.

CAUSE OF EVENT

The cause of the event was determined to be an age-related failure of Pressure Differential Transmitter (PDT) PDT-27581 [VA/PDT]. The output of PDT-27581 was failed and providing incorrect inputs to the indicators and controllers, which resulted in the loss of Zone 2 D/P.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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1. FACILITY NAME

Susquehanna Steam Electric Station,
Unit 2

2. DOCKET NUMBER

05000-388

3. LER NUMBER

YEAR

SEQUENTIAL
NUMBER

REV
NO.

2021

- 002 -

01

NARRATIVE**ANALYSIS/SAFETY SIGNIFICANCE**

Based on engineering analysis of the event, secondary containment could have performed its safety function of isolating as assumed in the accident analysis and of re-establishing 0.25" wc vacuum (drawdown) within the assumed accident analysis time (10 minutes).

This event will not be counted as a safety system functional failure for the NRC performance indicator based on the engineering analysis supporting the system's ability to fulfill the safety function.

CORRECTIVE ACTIONS

PDT-27581 was replaced and the SGT System was returned to service.

COMPONENT FAILURE INFORMATION

Component Identifier – PDT-27581

Component Name – Reactor Building Zone 2 Exhaust System HVAC

Component Manufacturer – Brandt

Model Number – 21PDT2220-0.5

PREVIOUS OCCURRENCES

LER 50-388(387)/2016-006-00, "Loss of Secondary Containment Due to Damper Controller Sticking," dated November 17, 2016.

LER 50-388(387)/2015-010-01, "Supplemental Report to LER-2015-010-00, Loss of Differential Pressure in Zone II of Secondary Containment," dated July 6, 2016.