Brad Berryman
Site Vice President

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

TALEN ENERGY

AUG 0 4 2017

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)/2017-004-00
UNIT 1 LICENSE NO. NPF-14
UNIT 2 LICENSE NO. NPF-22
PLA-7628

Docket No. 50-387
50-388

Attached is Licensee Event Report (LER) 50-387(388)/2017-004-00. The LER reports an event involving a failure of an exhaust fan breaker which resulted in a loss of Secondary Containment Zone 3 differential pressure. This event was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(v)(C) as a condition that could have prevented fulfilment 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.

B. Berryman

Attachment: LER 50-387(388)/2017-004-00

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

NRC FORM 366 (04-2017) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Susquehanna Steam Electric Station Unit 1	05000387	1 OF 3

4. TITLE Secondary Containment Declared Inoperable Due to Failure of an Exhaust Fan Breaker.

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
									Susquehanna Steam Electric Station Unit 2	**05000**388
06	09	2017	2017	- 004	- 00	08	04	2017	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
3	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
000	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☒ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Nicole Pagliaro – Licensing Specialist - Nuclear Regulatory Affairs	(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
X	NG	BKR	N/A	N					

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

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

On June 9, 2017 at approximately 0509 hours, Secondary Containment Zone 3 differential pressure was lost during a routine restoration due to the failure of the Unit 1 Zone 3 'A' Reactor Building Exhaust Fan. Technical Specification Surveillance Requirement (SR) 3.6.4.1.1 was not met.

Zone 3 differential pressure was recovered to > 0.25" WG (Water Gage) by placing Unit 1 Zone 3 Filtered Exhaust to STOP and allowing Unit 2 Zone 3 to recover differential pressure. Zones 1 and 2 were not affected. This event is being reported under 10 CFR 50.73(a)(2)(v)(C) as a condition that could have prevented the fulfillment of a safety function.

The cause was determined to be a broken ring terminal on the breaker which prevented the fan from starting. Maintenance replaced the ring terminal and re-terminated the wire.

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

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Susquehanna Steam Electric Station Unit 1	05000387	2017	- 004	- 00

NARRATIVE

CONDITIONS PRIOR TO EVENT

Unit 1 – Mode 3, approximately 0 percent Rated Thermal Power

Unit 2 – Mode 1, approximately 100 percent Rated Thermal Power

Unit 1 was in the process of starting up following a Scram on 6/8/17, however, this did not contribute to the event. There were no structures, systems, or components that were inoperable on Unit 2 that contributed to this event.

EVENT DESCRIPTION

On June 8, 2017 at approximately 2206, at the start of restoration of the Reactor Building HVAC [EIIS Code: NG] Unit 1 Zone 3 ventilation post Unit 1 SCRAM, Operations placed the 'A' Reactor Building Zone 3 Filtered Exhaust Fan [EIIS Code: FAN] in service. The 'A' Reactor Building Zone 3 Supply Fan [EIIS Code: FAN] started but the 'A' Reactor Building Zone 3 Exhaust Fan [EIIS Code: FAN] did not. With the Filtered Exhaust Fan in service, the supply air was greater than the exhaust air which resulted in a loss of differential pressure.

6/9/17 0441: Operations entered Technical Specification (TS) 3.6.4.1 due to Secondary Containment being inoperable during the start of the Zone 3 fan.

6/9/17 0449: Operations cleared TS 3.6.4.1.

6/9/17 0509: Secondary Containment Zone 3 differential pressure lowered to 0" WG as a result of the Reactor Building HVAC fans tripping and restarting several times. The required differential pressure per Surveillance Requirement 3.6.4.1.1 could not be maintained. Operations placed Unit 1 Zone 3 Filtered Exhaust in the STOP position.

6/9/17 0941: Operations entered LCO 3.6.4.1 due to Secondary Containment being inoperable while restoring Unit 1 Zone 3 HVAC.

6/9/17 1010: While restoring Unit 1 Zone 3 HVAC, a bell alarm for the Reactor Building Zone 3 Exhaust Fan supply breaker could not be reset.

6/9/17 1015: Operations placed the Unit 1 Zone 3 system in service using the 'B' Unit 1 Zone 3 fans. The 'A' Reactor Building Supply Fan and 'A' Reactor Building Filtered Exhaust Fans were placed in STANDBY. The 'A' Reactor Building Exhaust Fan was left in STOP.

6/9/17 11:11 The Maintenance investigation revealed that the terminal connection was broken in the supply breaker [EIIS Code: BKR] for the 'A' Reactor Building Zone 3 Exhaust Fan.

Maintenance replaced the ring terminal and re-terminated the wire. The exhaust fan was successfully placed in service. Zone 3 differential pressure was recovered to > 0.25"WG following the restart of Unit 2 Zone 3 Secondary Containment fans. Zones 1 and 2 were not affected. This event is being reported under 10 CFR 50.73(a)(2)(v)(C) as a condition that oculd have prevented the fulfillment of a safety function.

CAUSE OF EVENT

The cause was determined to be a broken ring terminal on the breaker [EIIS Code: BKR] which prevented the fan from starting.

ANALYSIS/SAFETY SIGNIFICANCE

An engineering evaluation was performed and concluded that secondary containment could have performed its safety function of isolating as assumed in the accident analysis and also of re-establishing 0.25 inches vacuum (drawdown) within the assumed accident analysis time (10 minutes). Therefore, the subject event did not cause a loss of safety function. 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.

CORRECTIVE ACTIONS

Maintenance replaced the ring terminal and re-terminated the wire and the exhaust fan was placed back in service.

PREVIOUS SIMILAR EVENTS

The following are recent LERs involving loss of secondary containment due to component failures:

LER 50-387(388)/2016-003-00, "Unit 2 Zone 3 HVAC Unable to Maintain Differential Pressure," dated May 6, 2016.

LER 50-387(388)/2016-012-00, "Unit 2 HVAC Unable to Maintain Differential Pressure," dated May 26, 2016.

LER 50-387(388)/2015-003-00, "Inoperable Secondary Containment Due to Fan Trips During Wind Gusts," dated June 22, 2015.

LER 50-387(388)/2015-005-00, "Loss of Secondary Containment Due to Unit 2 Damper Alignment," dated June 25, 2015.

LER 50-387(388)/2015-010-00, "Loss of Zone 2 During Unit 1 Reactor SCRAM," dated January 8, 2016.

LER 50-387(388)/2015-012-00, "Loss of Secondary Containment Differential Pressure Due to Icing of the Intake Supply Plenum Screens," dated February 2, 2016.

LER 50-387(388)/2015-013-00, "Loss of Secondary Containment Due to Failure of Fans," dated February 2, 2016.