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June 28, 2021

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

10 CFR 50.73

**SUSQUEHANNA STEAM ELECTRIC STATION**  
**LICENSEE EVENT REPORT 50-387(388)/2021-002-00**  
**UNIT 1 LICENSE NO. NPF-14**  
**UNIT 2 LICENSE NO. NPF-22**  
**PLA-7956**

**Docket No. 50-387**  
**50-388**

Attached is Licensee Event Report (LER) 50-387(388)/2021-002-00 that reports an event involving inoperability of the Division II Computer Room Floor Cooling Fan. This event was determined to be reportable as a condition prohibited by Technical Specifications in accordance with 10 CFR 50.73(a)(2)(i)(B) and a condition that could have prevented fulfillment of a safety function in accordance with 10 CFR 50.73(a)(2)(v)(D).

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", written over a horizontal line.

K. Cimorelli

Attachment: LER 50-387(388)/2021-002-00

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



**LICENSEE EVENT REPORT (LER)**

(See Page 3 for required number of digits/characters for each block)  
(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 [Infocollections.Resource@nrc.gov](mailto:Infocollections.Resource@nrc.gov), and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: [omb\\_submission@omb.eop.gov](mailto:omb_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.

<b>1. Facility Name</b> Susquehanna Steam Electric Station 1	<b>2. Docket Number</b> 05000387	<b>3. Page</b> 1 of 3
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**4. Title** Inoperability of Computer Room Floor Cooling Fan Caused by Extended Operation with Worn Belts Due to Less Than Adequate Preventive Maintenance Replacement Interval

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	29	2021	2021	002	00	06	28	2021	Susquehanna Steam Electric Station 2	05000388
									Facility Name	Docket Number
										05000

<b>9. Operating Mode</b> 1	<b>10. Power Level</b> 100
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**11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)**

<b>10 CFR Part 20</b>	<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)	<b>10 CFR Part 73</b>
<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 type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(i)	<b>10 CFR Part 21</b>	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" 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)	<b>10 CFR Part 50</b>	<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)	

**Other** (Specify here, in Abstract, or in NRC 366A).

**12. Licensee Contact for this LER**

<b>Licensee Contact</b> C. E. Manges, Jr., Principle Engineer – Nuclear Regulatory Affairs	<b>Phone Number (Include Area Code)</b> (570) 542-3089
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**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	VI	FAN	C150	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)

On May 4, 2021 at 11:00, Technical Specification (TS) 3.7.3, "Control Room Emergency Outside Air Supply (CREOAS) System" and TS 3.7.4, "Control Room Floor Cooling System" were entered for Units 1 and 2 to support the investigation of elevated vibration associated with the Division II Computer Room Floor Cooling Fan (0V115B) identified on April 29, 2021. During the May 4, 2021 investigation, 0V115B was found with two of the five belts thrown (disengaged from the sheaves) and one belt beginning to loosen. In the as-found condition, mission time requirements for the Division II systems could not be justified.

Concurrent with the elevated vibrations on Division II, the associated Division I systems were inoperable due to trip of the Division I Control Structure (CS) Chiller. Since the vibration is considered to have been the result of the degraded belts, both ventilation trains were concurrently inoperable from April 29, 2021 to April 30, 2021, when the Division I CS Chiller was returned to service. Based on information available, the concurrent inoperability is considered to have existed for longer than allowed by TS 3.0.3 and is reportable as a condition prohibited by TS (10 CFR 50.73(a)(2)(i)(B)) and a condition that could have prohibited the fulfillment of a safety function (10 CFR 50.73(a)(2)(v)(D)).

The cause was determined to be extended operation with worn belts due to less than adequate preventive maintenance (PM) replacement interval. Key corrective actions include replacing the belts and revising the PM frequency from eight years to six years.

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



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

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Susquehanna Steam Electric Station, Unit 1	05000-387	2021	002	00

**NARRATIVE**

**CONDITIONS PRIOR TO EVENT**

Unit 1 – Mode 1, approximately 100 percent Rated Thermal Power  
Unit 2 – Mode 1, approximately 90 percent Rated Thermal Power

The Division I Control Structure (CS) Chiller [EIS System/Component Identifier: VI/CHU] was inoperable when the vibration in the Division II Computer Room Floor Cooling Fan (0V115B) [EIS System/Component Identifier: VI/FAN] was identified.

**EVENT DESCRIPTION**

On May 4, 2021 at 11:00, Technical Specification (TS) 3.7.3, “Control Room Emergency Outside Air Supply (CREOAS) System” and TS 3.7.4, “Control Room Floor Cooling System” were entered for Units 1 and 2 to support the investigation of elevated vibration associated with the Division II Computer Room Floor Cooling Fan (0V115B) which was identified on April 29, 2021. During the May 4, 2021 investigation, 0V115B was found with two of the five belts thrown (disengaged from the sheaves) and one belt beginning to loosen. In the as-found condition, mission time requirements for the Division II systems could not be justified.

Concurrent with the elevated vibrations on Division II, the associated Division I systems were inoperable due to trip of the Division I CS Chiller. Since the vibration is considered to have been the result of the degraded belts, both ventilation trains were concurrently inoperable from April 29, 2021 to April 30, 2021, when the Division I CS Chiller was returned to service. Based on information available, the concurrent inoperability is considered to have existed for longer than allowed by TS 3.0.3 and is reportable as a condition prohibited by TS (10 CFR 50.73(a)(2)(i)(B)) and a condition that could have prevented the fulfillment of a safety function (10 CFR 50.73(a)(2)(v)(D)).

A detailed timeline of events is as follows:

4/28/2021 at approximately 12:14 - The Division I Control Structure Chiller tripped, and TS 3.7.3 and TS 3.7.4 were entered.

4/29/2021 at approximately 13:00 - Maintenance personnel performing routine predictive maintenance activities, identified that vibrations on the Division II Computer Room Fan were elevated. An immediate operability determination was performed that determined that the fan was operable, and a prompt operability determination was initiated.

4/30/2021 at approximately 20:35 - Division I components were declared operable and TS 3.7.3 and TS 3.7.4 were exited. Division I systems were subsequently placed in lead and Division II were placed in standby.

5/4/2021 at approximately 11:00 - Operations entered TS 3.7.3 and TS 3.7.4 to support investigation of the Division II Computer Room fan elevated vibrations. The fan plenum was inspected identifying two of the five belts thrown (disengaged from the sheaves) and one belt beginning to loosen. Belt replacement was initiated.

5/4/2021 at approximately 14:15 - Repairs were completed.

5/4/2021 at approximately 16:01 - Division II was declared operable and TS 3.7.3 and TS 3.7.4 were exited.



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CONTINUATION SHEET**

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		YEAR	SEQUENTIAL NUMBER	REV NO.
Susquehanna Steam Electric Station, Unit 1	05000-387	2021	002	00

**NARRATIVE**

**CAUSE OF EVENT**

The direct cause of the Computer Room Floor Cooling Fan (0V115B) throwing its belts was extended operation with worn belts. This worn belt condition was due to less than adequate Preventive Maintenance (PM) replacement interval of the belts.

**ANALYSIS/SAFETY SIGNIFICANCE**

Evaluation determined that, although mission time requirements could not be justified, the fan was determined to have been performing its safety function during the time when both trains were considered inoperable. As a result, there was no actual loss of safety function. Based on this evaluation, this event will not be counted as a safety system functional failure for the NRC Reactor Oversight Process performance indicator.

**CORRECTIVE ACTIONS**

Key corrective actions include the following:

1. Replaced the belts with new belts.
2. Revise the PM frequency from eight years to six years.

**COMPONENT FAILURE INFORMATION**

Computer Room Floor Cooling Fan B (0V115B):

Manufacturer: Carrier Corporation

Model No: 39ED75

**PREVIOUS SIMILAR EVENTS**

LER 50-387(388)/2019-001-01, "Loss of Both Control Structure Chillers due to Misaligned Breaker Stab", dated December 11, 2019

LER 50-388(387)/2015-015-00, "Loss of Safety Function due to Inoperability of Both Trains of the Control Room Emergency Outside Air Supply (CREOAS) System," dated May 5, 2016

LER 50-387(388)/2014-009-00, "Loss of Both Trains of Control Structure Chilled Water during Application of Clearance Order," dated August 11, 2014

LER 50-387(388)/2014-008-00, "Loss of Both Trains of Control Structure Chilled Water due to Personnel Error," dated August 11, 2014