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September 16, 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 50-387/2021-003-00
UNIT 1 LICENSE NO. NPF-14
PLA-7967**

Docket No. 50-387

Attached is Licensee Event Report (LER) 50-387/2021-003-00. The LER reports an event involving an automatic scram due to a main turbine trip. The condition is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in an automatic actuation of the Reactor Protection System (including a reactor scram).

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 50-387/2021-003-00

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, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk all: oir_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 Unit 1	2. Docket Number 05000387	3. Page 1 of 2
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4. Title

Automatic Reactor Scram Due to Main Turbine Trip

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
07	21	2021	2021	- 003 -	00	09	16	2021	Facility Name	Docket Number
										05000
									Facility Name	Docket Number
										05000

9. Operating Mode

1

10. Power Level

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 checked="" 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 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)	

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

12. Licensee Contact for this LER

Licensee Contact

D. R. Smith, Senior Engineer – Nuclear Regulatory Affairs

Phone Number (Include Area Code)

570-542-1377

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

14. Supplemental Report Expected

☐ No ☒ Yes (If yes, complete 15. Expected Submission Date)

15. Expected Submission Date

Month	Day	Year
10	29	2021

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On July 21, 2021, at approximately 18:26, Susquehanna Steam Electric Station Unit 1 reactor automatically scrambled due to a main turbine trip. Both divisions of the Reactor Protection System (RPS) actuated and all control rods inserted. This event was reported by Event Notification 55370 in accordance with 10 CFR 50.72(b)(2)(iv)(B) and (b)(3)(iv)(A). This event is also reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in automatic actuation of a system listed in 10 CFR 50.73(a)(2)(iv)(B).

The cause of the event is under investigation and will be provided under a supplement to this LER along with associated corrective actions.

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	- 003 -	00

NARRATIVE**CONDITIONS PRIOR TO EVENT**

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

Unit 2 – Mode 1, approximately 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.

EVENT DESCRIPTION

On July 21, 2021, at approximately 18:26, Susquehanna Steam Electric Station Unit 1 reactor automatically scrammed due to a main turbine [EIS System/Component Code: TA/TRB] trip. The Unit 1 Control Room received indication of a main turbine trip with both divisions of the Reactor Protection System (RPS) [EIS System Code: JC] actuated and all control rods inserted. The Reactor Recirculation Pumps [EIS System/Component Code: AD/P] tripped on End of Cycle Recirculation Pump Trip. Operations subsequently maintained reactor water level at the normal operating band using the Reactor Feed Water system [EIS System Code: SJ].

This event was reported by Event Notification 55370 in accordance with 10 CFR 50.72(b)(2)(iv)(B) and (b)(3)(iv)(A). This event is also reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in automatic actuation of a system listed in 10 CFR 50.73(a)(2)(iv)(B).

CAUSE OF EVENT

The cause of the event is under review and will be provided in a supplement to this LER.

ANALYSIS/SAFETY SIGNIFICANCE

Safety significance information will be provided in the supplement to this LER.

CORRECTIVE ACTIONS

Corrective actions will be provided in a supplement to this LER.

COMPONENT FAILURE INFORMATION

Component failure information, as applicable, will be provided in a supplement to this LER.

PREVIOUS OCCURRENCES

Previous occurrences, as applicable, will be provided in the supplement to this LER.