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August 21, 2024

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

10 CFR 50.73

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/2024-001-01
UNIT 1 LICENSE NO. NPF-14
PLA-8132

Docket No. 50-387

Attached is Licensee Event Report (LER) 50-387/2024-001-01. The LER supplement reports an event involving inoperability of a Main Steam Line Isolation Valve that was determined to be reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

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 that reads "Mark Jones".

Mark Jones, General Manager - Engineering
Acting Site VP for Ed Casulli

E. Casulli

Attachment: LER 50-387/2024-001-01

Copy: NRC Region I
Ms. J. England, NRC Senior Resident Inspector
Ms. A. Klett, 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)
(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/>)

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-8 A10M), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to Infocollections.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503. 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	<input checked="" type="checkbox"/> 050	2. Docket Number 00387	3. Page 1 OF 3
	<input type="checkbox"/> 052		

4. Title
Main Steam Isolation Valve Leakage Due to Valve Body Seat Wear

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	Docket Number
03	28	2024	2024	001	01	8	21	2024		<input type="checkbox"/> 050
										<input type="checkbox"/> 052

9. Operating Mode: 5 10. Power Level: 0

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)

<input type="checkbox"/> 10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 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"/> 73.1200(a)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<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"/> 73.1200(b)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<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"/> 73.1200(c)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<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"/> 73.1200(d)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 10 CFR Part 21	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 10 CFR Part 73	<input type="checkbox"/> 73.1200(e)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.77(a)(1)	<input type="checkbox"/> 73.1200(f)
<input type="checkbox"/> 20.2203(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(2)(i)	<input type="checkbox"/> 73.1200(g)
<input type="checkbox"/> 20.2203(a)(2)(iv)		<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(ii)	<input type="checkbox"/> 73.1200(h)
<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)		

OTHER (Specify here, in abstract, or NRC 366A).

12. Licensee Contact for this LER

Licensee Contact: Brad Yarzebinski, Nuclear Regulatory Affairs Engineer Phone Number (include area code): 570-542-2839

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
X	SB	ISV	A585	Y					

14. Supplemental Report Expected: No Yes (If yes, complete 15. Expected Submission Date)

15. Expected Submission Date: Month: Day: Year:

16. Abstract (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)

On March 28, 2024, during Local Leak Rate Testing (LLRT) conducted during the Unit 1 refueling outage, as-found leakage through the inboard Main Steam Isolation Valve (HV141F022B) was 57,166 standard cubic centimeters per minute (sccm) which exceeded the Technical Specification (TS) Surveillance Requirement 3.6.1.3.12 limit of 100 standard cubic feet per hour (scfh) (47,194 sccm) for individual valve leakage. This was due to normal wear on the valve body seat over the previous operating cycle compounded by inherent low margin following prior valve repair in 2022. HV141F022B was repaired resulting in a total penetration LLRT value of 1,568 sccm.

Based on cause, there is evidence that the condition existed during the last operating cycle for longer than allowed by TS 3.6.1.3. The condition is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS. Repairs to the valve resulted in an acceptable as-left LLRT value.

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**

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1. FACILITY NAME Susquehanna Steam Electric Station, Unit 1	<input checked="" type="checkbox"/> 050	2. DOCKET NUMBER 00387	3. LER NUMBER		
	<input type="checkbox"/> 052		YEAR 2024	SEQUENTIAL NUMBER 001	REV NO. 01

NARRATIVE

CONDITIONS PRIOR TO EVENT

Unit 1 – Mode 5, approximately 0 percent Rated Thermal Power (RTP)
Unit 2 – Mode 1, approximately 100 percent RTP

EVENT DESCRIPTION

On March 28, 2024, during Local Leak Rate Testing (LLRT) conducted during the Unit 1 refueling outage, as-found leakage through the inboard Main Steam Isolation Valve (MSIV) (HV141F022B) [EIIIS System / Component Code: SB/ISV] was 57,166 standard cubic centimeters per minute (sccm) which exceeded the Technical Specification Surveillance Requirement (TS SR) 3.6.1.3.12 limit of 100 standard cubic feet per hour (scfh) (47,194 sccm) for individual valve leakage. This was due to normal wear on the valve body seat over the previous operating cycle. HV141F022B was repaired resulting in a total penetration LLRT value of 1,568 sccm.

Based on cause, there is evidence that the condition existed during the last operating cycle for longer than allowed by TS 3.6.1.3. The condition is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS.

CAUSE OF EVENT

The cause of HV141F022B LLRT failure was normal wear on the valve body seat over the previous operating cycle compounded by inherent low margin following prior valve repair in 2022.

ANALYSIS/SAFETY SIGNIFICANCE

The redundant MSIV (HV141F028B) in the "B" steam line had an as-found individual leakage value of 4,029 sccm which is below the TS SR 3.6.1.3.12 limit of 100 scfh (47,194 sccm). The redundant valve, bounded by engineering evaluation, provides assurance that the dose consequences remain within the regulatory limit of 5 rem Total Effective Dose Equivalent (TEDE) for the control room and 25 rem TEDE for the low population zone and exclusion area boundary. As such, there was no loss of safety function for the redundant valve or the main steam penetration. Accordingly, this event will not be counted as a safety system functional failure in the Reactor Oversight Process Performance Indicators. There were no actual consequences to the health and safety of the public as a result of this event

CORRECTIVE ACTIONS

HV141F022B was repaired resulting in a leak rate within TS SR 3.6.1.3.12 limit. In addition, applicable LLRT implementing procedures will be revised to establish a post-repair leak rate alert level to invoke decision making regarding additional repairs.

COMPONENT FAILURE INFORMATION

Component Identification – HV141F022B
Component Name – Unit 1 Main Steam Line 'B' Inboard Isolation Valve
Valve Manufacturer – Atwood & Morrill Co.
Valve Type – Wye Globe
Valve Size – 26"
Actuator Manufacturer – Hanna
Actuator Type – Tandem Cylinder



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	<input type="checkbox"/> 052		YEAR 2024	SEQUENTIAL NUMBER 001	REV NO. 01

NARRATIVE

PREVIOUS OCCURRENCES

LER 50-387/2022-001-01, Main Steam Isolation Valve Leakage due to Seating Surfaces Wear and Material Deposits, dated August 10, 2022.

LER 50-388/2019-001-01, Main Steam Isolation Valve Leakage, dated July 10, 2019.

LER 50-387/2018-003-01, Main Steam Isolation Valve Leakage Due to Pilot Poppet and Pilot Poppet Seat Wear/Degradation, dated September 05, 2018.