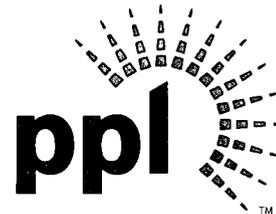


**C. J. Gannon**  
Vice President – Nuclear Operations

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**AUG 29 2008**

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Stop OP1-17  
Washington, DC 20555

**SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 50-387/2008-001-01  
LICENSE NO. NPF-14  
PLA-6414**

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**Docket Nos. 50-387  
50-388**

Licensee Event Report (LER) 50-387/2008-001, "Loss of Safety Function of Units 1 and 2 High Exhaust Radiation Monitors" was submitted March 31, 2008 in accordance with 10 CFR 50.73(a)(2)(v)(C). The attached Revision 1 corrects a referenced noun name of radiation monitors discussed under the 'Actual Safety Significance' section of the LER.

No commitments are associated with this LER.

A handwritten signature in black ink, appearing to read 'C. J. Gannon', written in a cursive style.

C. J. Gannon  
Vice President – Nuclear Operations

Attachment

*FE22  
NRR*

cc: Mr. S. Collins  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
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P. O. Box 8469  
Harrisburg, PA 17105-8469

# LICENSEE EVENT REPORT (LER)

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

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 Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> Susquehanna Steam Electric Station Unit 1	<b>2. DOCKET NUMBER</b> 05000387	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Irradiated fuel movement without all required radiation monitoring operable.

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
2	5	2008	2008	- 001 -	01	8	29	2008	Susquehanna Steam Electric Station Unit 2	05000388
									FACILITY NAME	DOCKET NUMBER
										05000

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> (Check all that apply)									
<b>10. POWER LEVEL</b>  100%	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<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)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A						

**12. LICENSEE CONTACT FOR THIS LER**

Dayne R. Brophy, Senior Engineer – Nuclear Regulatory Affairs (570) 542-3365

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b>				<b>15. EXPECTED SUBMISSION DATE</b>		
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)				<input checked="" type="checkbox"/> NO		
				MONTH	DAY	YEAR

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

Susquehanna Unit 1 and Unit 2 Reactor Buildings share a common Refuel Floor. To mitigate the consequences of a fuel handling accident, radiation monitors exist on both units to realign the Reactor Building ventilation system and initiate the Standby Gas Treatment & Control Room Emergency Outside Air Supply Systems if elevated radiation levels are detected. On 1/31/2008, a work order was implemented to defeat the Unit 1 & Unit 2 High Exhaust Radiation Monitors in support of activities on the Refuel Floor. The Exhaust Radiation Monitors are required to be operable during irradiated fuel moves and are defeated during activities which could cause a spurious trip as a result of 'shine'. A procedural checklist was completed without confirmation that the Radiation Monitors were operable. At 1700 on 2/05/2008 permission to move fuel was documented in the control room log and then subsequently logged at 1804 that fuel moves were complete for the day. During the oncoming shift turnover that same day it was recognized that the High Exhaust Radiation Monitors were inoperable. The inability of these systems to respond to radiological conditions on the refuel floor constitutes a condition that could have prevented the fulfillment of safety functions needed to control the release of radioactive material and is reportable per 10 CFR 50.73(a)(2)(v)(C). The Control Room alarms and indications for all of these monitors remained operable and actual radiological conditions observed on the refuel floor during the fuel shuffles did not approach levels necessary for system actuation. There were no actual adverse consequences to the fuel, any plant equipment, or to the health and safety of the public as a result of this event.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Susquehanna Steam Electric Station Unit 1	05000387	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2008	-- 001	-- 01	

**NARRATIVE**

**EVENT DESCRIPTION**

Susquehanna Unit 1 and Unit 2 Reactor Buildings share a common Refuel Floor. To mitigate the consequences of a fuel handling accident, radiation monitors exist on both units to realign the Reactor Building ventilation system (EIS Code: VA) and initiate the Standby Gas Treatment (EIS Code: BH) & Control Room Emergency Outside Air Supply (EIS Code: VI) Systems if elevated radiation levels are detected. On 1/31/2008, a work order was implemented to defeat the Unit 1 & Unit 2 High Exhaust Radiation Monitors in support of activities on the Refuel Floor. The Exhaust Radiation Monitors are required to be operable during irradiated fuel moves and are defeated during activities which could cause a spurious trip as a result of 'shine'. This information was documented on shift turnover sheets as a potential LCO. Fuel moves were subsequently scheduled to begin on 2/05/2008. Fuel moves were discussed at the Operations morning brief of 2/05/2008. A procedural checklist for fuel handling was completed which recognized the Technical Specification requirement for operability of the radiation monitors. The checklist was completed without confirmation that the Radiation Monitors were operable. At 1700 on 2/05/2008 permission to move fuel was documented in the control room log and then subsequently logged at 1804 that fuel moves were complete for the day. During the oncoming shift turnover that same day it was recognized that the High Exhaust Radiation Monitors were inoperable. The inability of these systems to respond to radiological conditions on the refuel floor constitutes a condition that could have prevented the fulfillment of safety functions needed to control the release of radioactive material and is reportable per 10 CFR 50.73(a)(2)(v)(C). The Control Room alarms and indications for all of these monitors remained operable and actual radiological conditions observed on the refuel floor during the fuel shuffles did not approach levels necessary for system actuation. There were no actual adverse consequences to the fuel, any plant equipment, or to the health and safety of the public as a result of this event.

**CAUSE OF EVENT**

The root cause for this event was determined to be less than adequate individual performance in the application of operator fundamentals. The on-shift Unit Supervisor (US) received turnover information from the off-going shift that the High Exhaust Radiation Monitors were potential LCOs but did not recognize this as conflicting with fuel moves. Another SRO assigned to fuel moves failed to review the turnover sheet for potential LCOs and perform a system status review as directed during the pre-job brief. The SRO also failed to communicate the desire to have his operability review peer checked.

This event was determined to be reportable under 10 CFR50.73(a)(2)(v)(C) in that the inability of these systems to respond to radiological conditions on the refuel floor constitutes a condition that could have prevented the fulfillment of safety functions needed to control the release of radioactive material.

**ANALYSIS/SAFETY SIGNIFICANCE**

Actual Safety Significance: Automatic isolation of the Refuel Floor would not have occurred in response to radiation conditions on the floor from the U1 or U2 high exhaust radiation monitors. Both Unit 1 and Unit 2 High Exhaust Radiation Monitors were inoperable during a plant evolution requiring their operability per Technical Specifications. No actual radiological challenge arose during the irradiated fuel movement that necessitated automatic system response. It should be noted that U1 and U2 Refuel Floor Wall Exhaust radiation monitors were operable and would have caused the same automatic initiations as the monitors that had their trip function disabled.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Susquehanna Steam Electric Station Unit 1	05000387	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2008	-- 001	-- 01	

**NARRATIVE**

Potential Safety Significance: Defeating the auto initiation and isolation capability provided by the radiation monitors compromises the protection afforded to the general public in the event of an actual fuel handling accident. However, the Control Room alarms and indications for all of these monitors remained operable and would have enabled operators to respond to an actual event.

**CORRECTIVE ACTIONS**

The following corrective actions have been completed:

- Temporarily increased management oversight to re-enforce operator fundamentals.
- Individual performance deficiencies relative to this event were addressed.
- Revised the Fuel Handling procedure to include a system status file operability check, LCO/TRO & potential LCO/TRO log review, U1 & U2 Unit Supervisor verification, and Shift Manager Review.

The following corrective actions are planned:

- Develop methodology for scheduling risk significant equipment/systems out of service that span more than one week.
- Review and revise Work Management (WM) procedures. Provide training to WM personnel on guidance for risk identification, assessment and management to ensure consistency.
- Review the standards for procedure adherence with WM personnel and include this event in the discussion.

Update terminology in the revised Fuel Handling procedure relative to 'independent review' to coincide with established station standards.

**ADDITIONAL INFORMATION**

Failed Component Information:

None

Previous Similar Events:

LER 2002-002-00, Docket No. 388 / License No. NPF-22, "Loss of Control Structure Safety Function When 4.16kV Breakers found Racked-Out"

LER 2003-003-00, Docket No. 387 / License No. NPF-14, "Both Trains of Standby Gas Treatment Inoperable Due to Inadequate Maintenance and Inadequate Operability Testing"

LER 2004-004-00, Docket No. 387 / License No. NPF-14, "Radiation Monitor Inoperable During Spent Fuel Cask Transport"