

LICENSEE EVENT REPORT (LER)(See reverse for required number of
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY
INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS
LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED
BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN
ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-
6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 3

DOCKET NUMBER (2)

05000423

PAGE (3)

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TITLE (4)

Engineered Safeguards Building Monitor Noble Gas Activity Monitor Sensitivity Not Meeting Technical
Specification Requirements

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	03	97	97	024	00	04	02	97	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		<input checked="" type="checkbox"/> 50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

J.M. Peschel, MP3 Nuclear Licensing Manager

TELEPHONE NUMBER (Include Area Code)

(860)437-5840

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On March 3, 1997, with the unit in Mode 5, it was identified that the Engineered Safeguards (ESF) Building Monitor - Noble Gas Activity Monitor (3HVQ*RE49) was inoperable and that best efforts to repair the monitor had not been initiated in accordance with Action B to Technical Specification 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation". The radiation monitor was inoperable because it did not have sufficient sensitivity to measure in accordance with Technical Specification requirements. This event is reportable pursuant to 10 CFR 50.73 (a)(2)(i)(B), as an event or condition that is prohibited by the Technical Specifications.

The cause of this event was failure by Operations personnel to recognize that the ESF Building Monitor - Noble Gas Activity Monitor was inoperable because of an error induced in the stored background reading.

Operating procedures will be revised to provide guidance on purging. Operations and Chemistry personnel will be briefed on this event and additional radiation monitor system training will also be provided.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

On March 3, 1997, with the unit in Mode 5, it was identified that the Engineered Safeguards (ESF) Building Monitor - Noble Gas Activity Monitor (3HVQ*RE49) was inoperable and that best efforts to repair the monitor had not been initiated in accordance with Action B to Technical Specification 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation". The radiation monitor was inoperable because it did not have sufficient sensitivity to measure in accordance with Technical Specification (TS) requirements. TS 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation," states, "the radioactive gaseous effluent monitoring instrumentation channels ... shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specifications 3.11.2.1 [Gaseous Effluents - Dose Rate] are not exceeded." The Bases to TS 3.3.3.10 state:

"...The sensitivity of any noble gas activity monitors used to show compliance with the gaseous effluent release requirements of specification 3.11.2.2 shall be such that concentrations as low as 1×10^{-6} [E-06] $\mu\text{Ci/cc}$ are measurable."

This event is reportable pursuant to 10 CFR 50.73 (a)(2)(i)(B), as an event or condition that is prohibited by the Technical Specifications.

On February 28, 1997, at approximately 1120 hours, the Control Room began receiving a series of intermittent "Alert" alarms from the ESF Building Monitor - Noble Gas Activity Monitor. The alarms continued until approximately 1350 hours, at which time Operations personnel purged the radiation monitor. After the purge was completed the intermittent alarms stopped and Operations personnel concluded that the radiation monitor was operable.

This radiation monitor design contains a feature where, upon completion of a purge, a new background level is automatically measured and entered into the background subtraction circuitry. The radiation monitor subtracts the stored background reading from the current reading to obtain the indicated reading. A review of database entries by Chemistry personnel when the event was identified on March 3, 1997, indicated that a background value of 1.01 E-06 micro-curies per cubic centimeter ($\mu\text{Ci/cc}$) had been automatically entered at 1351 hours on February 28, 1997. (Normal background, at this location, is in the 1.0 E-08 to 1.0 E-07 $\mu\text{Ci/cc}$ range.) This background reading of 1.01 E-06 $\mu\text{Ci/cc}$ was larger than the minimum required Technical Specification required sensitivity of 1.0 E-06 $\mu\text{Ci/cc}$ and would mask low level readings resulting in the monitor displaying "zero".

A review of the Shift Managers Log verified that on February 28, 1997, welding had occurred in the ESF Building. The welding activities could have induced noise which was picked up by the instrument cabling system and amplified in the radiation monitors amplifier circuits, resulting in the radiation monitor storing the high 1.01 E-06 $\mu\text{Ci/cc}$ background reading.

On March 3, 1997, Chemistry personnel identified that the ESF Building Monitor - Noble Gas Activity Monitor had been reading "zero" for two (2) days. Upon notification, Operations declared the ESF Building Monitor - Noble Gas Activity Monitor inoperable and secured the ESF Building effluent ventilation system release path. Troubleshooting was initiated to determine the cause of the erratic alarms and the "zero" indication.

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II. Cause of Event

The cause of this event was failure by Operations personnel to recognize that the ESF Building Monitor - Noble Gas Activity Monitor was inoperable.

III. Analysis of Event

The purpose of the ESF Building Monitor - Noble Gas Activity Monitor is to detect the gross noble gas activity being discharged from the ESF Building to the atmosphere. This is a final effluent release point and hence the activity released must be quantified. The ESF building ventilation is secured upon receipt of a Safety Injection Signal. The ESF building ventilation is then directed to the monitored and filtered Supplementary Leak Collection and Release System and to the Unit 1 stack. There were no safety consequences from this condition. The monitor would still have provided the required alert and alarm functions in the event of an accident requiring isolation of the ESF Building ventilation exhaust pathway. In addition, daily grab samples confirmed that no radioactivity was released from this pathway during the event.

However, the condition is significant because this noble gas activity radiation monitor was inoperable according to the requirements of Technical Specification 3.3.3.10, due to the sensitivity not being sufficient to measure the minimum required concentration.

IV. Corrective Action

Spare cabling and grounded wires that had been abandoned in place in the same junction box as the ESF Building Monitor - Noble Gas Activity Monitor (3HVQ*RE49) were removed and remaining abandoned cable was grounded. The monitor was purged and returned to operable status.

The following corrective actions will be taken:

1. The other liquid and gaseous effluent radiation monitors will be evaluated to determine if procedural enhancements associated with the purge function are required by May 1, 1997.
2. An Operations procedure will be developed to provide guidance for purging the ESF Building Monitor - Noble Gas Activity Monitor (3HVQ*RE49) by May 15, 1997.
3. Operations and Chemistry management will review the lessons learned from this event with their personnel by June 1, 1997.
4. Additional, functional training will be provided to Chemistry and Operations personnel on the radiation monitoring system by September 30, 1997.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

V. Additional Information

None

Similar Events

None

Manufacturer Data

EIIS System Code

Radiation Monitoring System.....IL

EIIS Component Code

Radiation Monitor.....RIT
(Transmitter, Indicating, Radiation)