

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9210080234 DOC. DATE: 92/10/02 NOTARIZED: NO DOCKET #  
FACIL: 50-275 Diablo Canyon Nuclear Power Plant, Unit 1, Pacific Ga 05000275  
AUTH. NAME AUTHOR AFFILIATION  
SISK, D.P. Pacific Gas & Electric Co.  
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-013-00: on 920906, FHBVS shifted to iodine removal mode, constituting ESFA. Caused by personnel error. Surveillance test procedure will be revised to minimize distractions & mitigate effects of alarms. W/921002 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6  
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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EXTERNAL:	EG&G BRYCE, J.H	2 2	L ST LOBBY WARD	1 1
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Pacific Gas and Electric Company

77 Beale Street  
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415/973-4684

Gregory M. Rueger  
Senior Vice President and  
General Manager  
Nuclear Power Generation

October 2, 1992

PG&E Letter No. DCL-92-210



U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80  
Diablo Canyon Unit 1  
Licensee Event Report 1-92-013-00  
Fuel Handling Building Ventilation System Engineered Safety  
Feature Actuation due to Personnel Error

Gentlemen:

Pursuant to 10 CFR 50.73(a)(2)(iv), PG&E is submitting the enclosed Licensee Event Report concerning a fuel handling building ventilation system shift to the iodine removal mode due to a personnel error. This event constitutes an engineered safety feature (ESF) actuation.

This event did not affect the health and safety of the public.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Gregory M. Rueger'. The signature is written in dark ink and is positioned above the printed name.

Gregory M. Rueger

cc: Ann P. Hodgdon  
John B. Martin  
Philip J. Morrill  
Harry Rood  
CPUC  
Diablo Distribution  
INPO

DC1-92-TI-N039

Enclosure

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9210080234 921002  
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A handwritten signature in cursive script, appearing to read 'Gregory M. Rueger'. The signature is written in dark ink and is positioned at the bottom right of the page.



# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>DIABLO CANYON UNIT 1</b>										DOCKET NUMBER (2) <b>0 5 0 0 0 2 7 5</b>					PAGE (3) <b>1</b> OF <b>5</b>									
TITLE (4) <b>FUEL HANDLING BUILDING VENTILATION SYSTEM ENGINEERED SAFETY FEATURE ACTUATION DUE TO PERSONNEL ERROR</b>																								
EVENT DATE (6)			LER NUMBER (8)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)													
MON	DAY	YR	YR	SEQUENTIAL NUMBER			REVISION NUMBER		MON	DAY	YR	FACILITY NAMES			DOCKET NUMBER (5)									
09	06	92	92	-	0	1	3	-	0	0	10	02	92				0	5	0	0	0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (11)																						
POWER LEVEL (10)		<div style="display: flex; justify-content: space-between;"> <span><input checked="" type="checkbox"/> 10 CFR <u>50.73(a)(2)(iv)</u></span> <span><input type="checkbox"/> OTHER - _____</span> </div> <p style="text-align: center;">(Specify in Abstract below and in text, NRC Form 366A)</p>																						
0		9		0																				
LICENSEE CONTACT FOR THIS LER (12)																								
DAVID P. SISK, SENIOR REGULATORY COMPLIANCE ENGINEER												AREA CODE <b>805</b>		TELEPHONE NUMBER <b>545-4420</b>										
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS														
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR						
<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																								
ABSTRACT (16)																								
<p>On September 6, 1992, at 1757 PDT, the fuel handling building ventilation system (FHBVS) shifted to the iodine removal mode. This event constitutes an engineered safety feature (ESF) actuation. A four-hour, non-emergency report was made to the NRC in accordance with 10 CFR 50.72(b)(2)(ii) on September 6, 1992, at 1830 PDT.</p> <p>The FHBVS shift was caused by a high radiation alarm on radiation monitor RM-59. Control room operators immediately verified that no actual high radiation condition existed, and reset the FHBVS to its normal mode of operation.</p> <p>The root cause of the RM-59 high radiation alarm was determined to be personnel error (cognitive). The I&amp;C technician that had been testing RM-58 failed to recognize that he was operating the wrong channel. The technician also failed to perform an adequate self-verification as required by I&amp;C department policy, and therefore inadvertently actuated RM-59 instead of RM-58. The technician had been trained and was aware of the requirement to perform self-verification.</p> <p>Corrective actions to prevent recurrence included: (1) counseling the technician involved to re-emphasize the importance of self-verification when concentration on a task is interrupted and (2) conducting I&amp;C tailboards re-emphasizing the importance of self-verification. In addition, the appropriate surveillance test procedure will be revised to minimize distractions and mitigate the effects of inadvertent alarms.</p>																								



# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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						2	of 5

TEXT (17)

**I. Plant Conditions**

Unit 1 was in Mode 1 (Power Operation) at approximately 90 percent power.

**II. Description of Event**

**A. Event Description:**

Radiation monitors (IL)(MON) RM-58 and RM-59 are located in the fuel handling building (ND). A high radiation alarm on either radiation monitor (whether due to an actual condition, spurious signal, or radiation monitor failure) will cause the fuel handling building ventilation system (FHBVS)(VG) to shift to its iodine removal mode.

On September 6, 1992, between 1702 and 1754 PDT, Surveillance Test Procedure (STP) I-119A, "Functional Test: Fuel Handling Building Area Radiation Monitors RIS-58/RIS-59," was being performed on radiation monitor RM-58. This STP is a functional test that requires an I&C technician to: (1) remove power to the radiation monitor and verify proper FHBVS operation; (2) verify that Operations returns the FHBVS to normal; and (3) perform a source check and test of the high alarm setpoint with the radiation monitor in a test mode. The I&C technician had completed the first portion of the test and verified with Operations that the FHBVS was in its normal mode, when he inadvertently actuated the high radiation alarm on RM-59 instead of RM-58.

On September 6, 1992, at 1757 PDT, the FHBVS shifted to iodine removal mode. This event constitutes an engineered safety feature (ESF) actuation. A four-hour, non-emergency report was made to the NRC in accordance with 10 CFR 50.72(b)(2)(ii) on September 6, 1992, at 1830 PDT.

The FHBVS shift was caused by a high radiation alarm on RM-59 lasting approximately one second. Control room operators verified that no actual high radiation condition existed by checking that RM-58 and RM-59 were not in alarm, and reset the FHBVS to its normal mode of operation.

On September 6, 1992, at 1820 PDT, RM-59 was removed from service for further investigations. Following successful completion of functional testing, RM-59 was returned to service at 1846 PDT.

**B. Inoperable Structures, Components, or Systems that Contributed to the Event:**

None.





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**C. Dates and Approximate Times for Major Occurrences:**

1. Sept. 6, 1992; 1757 PDT: Event/Discovery date. RM-59 high radiation alarm caused the ESF actuation.
2. Sept. 6, 1992; 1830 PDT: A four-hour, non-emergency report was made to the NRC in accordance with 10 CFR 50.72(b)(2)(ii).

**D. Other Systems or Secondary Functions Affected:**

None.

**E. Method of Discovery:**

The event was immediately apparent to plant operators due to alarms and indications received in the control room.

**F. Operator Actions:**

The operators verified that no actual high radiation condition existed by checking that RM-58 and RM-59 were not in alarm, and returned the FHBVS to its normal mode of operation. RM-59 was removed from service for further investigations.

**G. Safety System Responses:**

The FHBVS shifted to iodine removal mode, as designed.

**III. Cause of the Event**

**A. Immediate Cause:**

The immediate cause of the FHBVS shift was a high radiation alarm on RM-59.

**B. Root Cause:**

The root cause of the RM-59 high radiation alarm was determined to be personnel error (cognitive). The I&C technician that had been testing RM-58 paused to document test results as directed by the test procedure. However, upon returning to his task, he failed to recognize that he was operating the wrong channel, and also failed to perform an adequate self-verification as required by I&C department policy, "Policy for Unit/Channel/Component Self-Verification," dated June 30, 1988. The technician had been trained and was aware of the requirement to perform self-verification.



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## IV. Analysis of the Event

A FHBVS shift to iodine removal mode is a conservative actuation, regardless of plant conditions. All FHBVS equipment functioned as designed. This event provides a greater degree of confidence that the system would have actuated had an actual high radiation condition existed. Therefore, this event did not adversely affect the health and safety of the public.

## V. Corrective Actions

### A. Immediate Corrective Actions:

1. The operators verified that no actual high radiation condition existed by checking that RM-58 and RM-59 were not in alarm, and returned the FHBVS to its normal mode of operation.
2. A functional test of RM-59 was performed following the event. No abnormal indications were noted, and all acceptance criteria were satisfied.
3. The interrupted RM-58 functional test was successfully completed.

### B. Corrective Actions to Prevent Recurrence:

1. The I&C technician involved has been counseled to re-emphasize the importance of self-verification when concentration on a task is interrupted.
2. I&C tailboards have been conducted regarding this event and the importance of self-verification when concentration on a task is interrupted.
3. STP I-119A will be revised to return the FHBVS to its normal mode of operation after all testing is completed, to minimize distractions during the performance of the test and mitigate the effects of any inadvertent radiation monitor alarms.

## VI. Additional Information

### A. Failed Components:

None.



# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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**B. Previous Similar LERs:**

1. LER 1-91-009-00, Reactor Trip due to Personnel Error and Safety Injection due to Leaking Steam Dump Valves

The root cause of this ESF actuation was personnel error by an I&C technician. Corrective actions included physical barriers over the nuclear instrumentation drawers and additional self-verification training for the I&C department. Because the physical barriers were on a different system and the current I&C technician failed to re-perform adequate self-verification upon returning to his task, the corrective actions did not prevent the current LER.

2. LER 2-91-007-00, Inadvertent Safety Injection While in Mode 5 due to Personnel Error

The root cause of this ESF actuation was personnel error by two I&C technicians. Corrective actions included an I&C department tailboard and a memorandum issued by the Vice President, Diablo Canyon Operations and Plant Manager, emphasizing the need for procedural compliance and verification. Because the current I&C technician failed to re-perform adequate self-verification upon returning to his task, the corrective actions did not prevent the current LER.

These previous corrective actions, as well as PG&E's ongoing human performance enhancement system (HPES) program, have been successful in reducing the number of inadvertent ESF actuations. PG&E recognizes that it must remain vigilant and continue to improve in reducing personnel errors.

