PETER E. KATZ
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BGE

December 31, 1996

U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 2; Docket No. 50-318; License No. DPR 69
Licensee Event Report 96-002, Revision 1
Missed Fire Watch Due to Personnel Error

The attached report is being sent to you as required under 10 CFR 50.73 guidelines. Should you have questions regarding this report, we will be pleased to discuss them with you.

Very truly yours,

Peter Katz

PEK/DWM/bjd

Attachment

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
Director, Project Directorate I-1, NRC
A. W. Dromerick, NRC
H. J. Miller, NRC
Resident Inspector, NRC
R. I. McLean, DNR
J. H. Walter, PSC

NRC FORM 366 (4-95)

U. S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES: 04/30/98
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENISNG 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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Calvert Cliffs, Units 2	05000 318	1 OF 05

TITLE (4)

Missed Fire Watch Due to Personnel Error

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER 05000
05	22	96	96	-- 002	-- 01	12	31	96	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more) (11)					
POWER LEVEL (10)	100	20.2201(b)	20.2203(a)(2)(v)	X	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
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (include Area Code)
D. W. Muth, Engineer	410-495-3592

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)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately15 single-space typewritten lines) (16)

On May 22, 1996 at 0734 hours, a required hourly fire watch was missed when maintenance workers failed to perform the fire watch after opening the Unit 2 Service Water Room fire door an hour earlier to permit work to be done in the room.

The root cause of this event was personnel error on the part of the maintenance job supervisor.

Plant Management has reemphasized to site personnel the importance of and requirements for performing compensatory fire watches. Tailgate training on this and recent similar events was provided to appropriate groups. A root cause analysis has been completed, resulting in additional corrective actions.

I. DESCRIPTION OF EVENT

On Wednesday, May 22, 1996 at 0734 hours, a required hourly fire watch was missed when maintenance workers failed to perform the fire watch after opening the Unit 2 Service Water Room fire door an hour earlier to permit work to be done in the room. Unit 2 was in MODE 1 at 100 percent power and normal operating temperature and pressure at the time of the event. Unit 1 was not affected since the missed fire watch occurred only in the Unit 2 Service Water Room.

At 0620 that morning a Mechanical Maintenance job supervisor obtained a permit to hold open the Unit 2 Service Water Room door in order to permit hoses to be run into the room and equipment to be brought in and out in support of cleaning the 21 Service Water Heat Exchanger. He was briefed on the requirement to conduct an hourly fire tour of the room while the fire barrier was breached. The door was opened at 0634 and work commenced. The permit was hung on the door but was not filled out and no fire tours were conducted.

At 0900 a contract security guard was posted at the door to control access into the room. The guard noted that no fire watch had been recorded and notified her supervision, who contacted Safety and Fire Protection. Safety and Fire Protection requested that she perform the fire tour while a Safety and Fire Protection technician and Mechanical Maintenance supervisor were dispatched to the room. Hourly fire tours continued from this time on until the work was completed.

II. CAUSE OF EVENT

The cause of this event was lack of attention to detail on the part of the job supervisor. He was aware of his responsibilities and had been briefed by Safety and Fire Protection prior to starting the job but failed to ensure that the hourly fire tour was conducted. When questioned, he stated that he believed his presence in the room the entire time met the requirement for the fire watch. However, it is management's expectation that an hourly fire tour will consist of the designated individual stopping work to inspect the room for fires or conditions that could lead to a fire. This is clearly stated on the Fire Barrier/Stop Breach Permit that the job supervisor had posted on the door.

A root cause analysis was completed for this event and two other similar events that occurred in about the same time frame (LER 317/96-002,

LER 318/96-003). This determined that there were three programmatic weaknesses contributing to the problem:

- Inadequate control and monitoring of changes in maintenance activities and worker turnovers.

- Less than conservative interpretations of SA-1-100.

- Less than adequate attention to detail to administrative requirements within the procedure.

These weaknesses are the result of a general lack of knowledge of fire protection programmatic requirements on the part of workers and supervisors.

III. ANALYSIS OF EVENT

There were no safety consequences associated with this event. Fire protection at Calvert Cliffs relies on a defense-in-depth scheme which includes automatic fire detection and suppression as well as personnel awareness and training. In this case, fire detection and suppression were available in the room throughout this event. Personnel were in the room and a guard was posted at the door the entire time. All personnel are trained to report fires to the Control Room.

This item is reportable under the provisions of 10 CFR 50.73(a)(2)(i) as a condition prohibited by plant Technical Specifications.

IV. CORRECTIVE ACTIONS

A. Plant Management has reemphasized to site personnel the importance of and requirements for fire watches. Tailgate training has been conducted with appropriate groups to review the circumstances of this and recent similar events.

B. We have instituted an administrative requirement to have first line supervisors (one level above the mechanics involved in this event) review and acknowledge their work group's responsibilities for compensatory fire watches prior to entry into Technical Specification action statements.

As a result of the root cause of this and similar events, the following actions were taken:

C. Interdepartmental Procedure SA-1-100, "Fire Protection," was revised:

- Impairments to fire suppression and detection systems are now included in the same permitting process as fire barriers.
- The responsibilities of the Operations supervision have been changed to indicate that they must confirm compensatory measures for fire protection prior to entering an action statement.
- It is now required that if responsibility for a fire watch is transferred to another work group, a new permit must be completed and signed by the supervisor taking over.
- Safety and Fire Protection Unit (SFPU) now confirms that compensatory measures are in place as part of shift turnover.
- It is now required that compensatory measures fire watches report completion of their tour each hour to SFPU.

D. Written supervisory expectation for SFPU has been revised in SOP-111, Control of Fire Protection Action Statements. This document provides expectations for briefing of compensatory measures fire watches, logging Fire System/Fire Barrier Impairments and documenting unreported tours on the pager.

E. Training on the purpose of fire protection compensatory measures and the procedure changes was provided to supervisors of work groups that provide fire watches or cause entry into fire protection action statements. This training was led by either the Operations or Maintenance Superintendent to provide appropriate management emphasis on expectations for compliance.

F. The Fire Protection Program Manager has worked with both Maintenance Training and Technical Training to develop lesson plans for both Initial and Continuing training. These lesson plans are being used in Maintenance, SFPU, Security, and General Orientation Training programs.

V. ADDITIONAL INFORMATION

A. Affected Component Identification:

Component or System	IEEE 803 EIIS Funct	IEEE 805 System ID
Service Water Heat Exchanger	HX	BI
Fire Detection System	28	KQ
Fire Suppression System	SRNK	KP

B. Previous Similar Events:

There have been two events reported via Licensee Event Report involving a missed fire watch:

LER 317/89-025 reported that a single hourly tour had been missed due to personnel error. The corrective action was to have a single individual assigned each shift to perform hourly fire tours. Circumstances have changed significantly since this event. Work groups are now responsible for performing their own fire watches. We are evaluating this practice in light of this and recent similar events.

LER 317/96-002 reported a missed fire watch due to lack of ownership. The corrective actions include revising the governing procedure for fire watches to clarify ownership and provide additional process controls. These procedure changes had not been implemented at the time of this event. These changes are being reviewed as a result of this event.