

**LICENSEE EVENT REPORT (LER)**

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) Oyster Creek Unit 1		DOCKET NUMBER (2) 50 - 219	PAGE (3) 1 of 4
--	--	-------------------------------	--------------------

TITLE (4)  
Actuation of an Engineered Safety Feature by A Test Instrument Due To An Inadequate Procedure

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
09	16	98	98	-- 012	00					05000
									FACILITY NAME	DOCKET NUMBER
										05000

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

LICENSEE CONTACT FOR THIS LER (12)

NAME Peter Fischler	TELEPHONE NUMBER (Include Area Code) 609-971-4844
------------------------	--

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

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

On September 16, 1998, while performing a surveillance test on Core Spray System 2, an unplanned actuation of an engineered safety feature system occurred.

The Root Cause of the event has been determined to be 'written communication' in that the procedure did not adequately control the installation and removal of test equipment. The surveillance procedure specified that several electrical checks were to be conducted across terminals in the control system, however, the procedure was not clear in its intent not to have an ohmmeter installed across the terminals in question. The unplanned actuation occurred when the ohmmeter was reinstalled following troubleshooting, which simulated a trip in the redundant system.

Corrective actions included revising the procedure to include signature verifications to install and subsequently remove the ohmmeter.

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV	
Oyster Creek, Unit 1	50-219	98	012	00	2 Of 4

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

**DATE OF OCCURRENCE**

The event occurred on September 16, 1998.

**IDENTIFICATION OF OCCURRENCE**

During performance of Surveillance 610.3.205 Core Spray System 2 (EISS-BM) Instrument Channel Calibration Test and System Operability, an unplanned actuation of an engineered safety feature occurred. This event is considered to be reportable in accordance with 10 CFR 50.73(a)(2)(iv).

**CONDITIONS PRIOR TO OCCURRENCE**

The plant was operating at full power.

**DESCRIPTION OF OCCURRENCE**

On September 16, 1998, I & C technicians were assigned to perform the Core Spray System 2 Instrument Channel Calibration Test and System Operability Surveillance. Following the required pre-job briefing, the surveillance commenced. Step 6.3.5 directed the technicians "Using an ohmmeter across the cross-channel actuation relays, terminals AA-111 to AA-112 in ER18B, verify continuity". This same continuity check was required on several subsequent steps. The technicians discussed these upcoming steps with their supervisor to decide whether to install the meter or not. The supervisor decided to install the meter based on the fact that the same readings would be taken several times and working inside the panel manipulating test leads multiple times presented a human performance challenge.

The surveillance proceeded without incident through step 6.3.17, at which time a voltage was detected where none was expected. The technicians and their supervisor discussed the significance of the event, used the Ohmmeter previously installed in step 6.3.5 to obtain additional information and documented the situation in the surveillance procedure. The technicians decided to stop the test and obtain additional guidance. (This unexpected voltage issue has no significance in terms of reportability for this event.) While attempting to reinstall the ohmmeter, a problem occurred with the meter test leads, and the meter was not installed. The lead technician in the Control Room discussed the delay with the Control Room SRO and decided to place the "Normal-Inhibit" switch to "Normal". This was the next step in the surveillance test, and was considered a conservative action because it would allow a cross-channel initiation if the Core Spray System was called upon to start. The switch was placed in "Normal" with no adverse response.

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV	
Oyster Creek, Unit 1	50-219	98	012	00	3 Of 4

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

**DESCRIPTION OF OCCURRENCE (Cont.)**

At this point the end of the shift was approaching and the technicians discussed with the lead technician the status of the surveillance test equipment. The technicians informed the lead technician that the ohmmeter was not installed and intended to leave a note for the oncoming shift to inform them of that fact. After discussing the issue, the technicians were directed to install the meter to avoid confusion in light of the complexity of the surveillance. When the ohmmeter was connected across terminals AA-111 and AA-112, an actuation for Core Spray System 1 was received.

Subsequent analysis revealed that since the "Normal-Inhibit" switch had been placed in "Normal", connecting the ohmmeter across terminals AA-111 and AA-112 acted as an electrical jumper across the cross-channel actuation relays and created a spurious actuation signal that reached the Core Spray System that was not being tested. If the ohmmeter had been installed prior to operating the switch, the actuation would have occurred when the switch was placed in "Normal".

**APPARENT CAUSE OF OCCURRENCE**

The root cause of this event has been determined to be "written communication" in that the procedure did not adequately control the installation and removal of test equipment. Previous steps in the procedure had called for the installation of six separate test meters which were required to take intermittent readings throughout the surveillance. The manner in which step 6.3.5 was written was very similar. In addition the manner in which subsequent steps were written to record data are identical for the six test meters mentioned above. This led the technicians and supervisor to conclude that the ohmmeter should be left installed, and that this action was actually preferable from a human performance standpoint.

The procedure had been revised in July of 1998 to incorporate the requirements of NRC Generic Letter (GL) 96-01 "Testing of Safety-Related Logic Circuits" This revision added several additional checks, including steps for testing the cross channel actuation relays. This was the first complete implementation of this procedure since its revision.

**ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE**

During this event Core Spray System 1 was always available to meet its intended safety function. The pumps started as designed after receiving a spurious actuation signal from Core Spray System 2 logic, due to the ohmmeter being installed when the "Normal-Inhibit" Switch was in the "Normal" position.

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REV		
Oyster Creek, Unit 1	50-219	98	012	00	4	Of 4

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

**ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE**

Core Spray System 1 injection valve opening logic was not affected during this event and therefore, the valves remained in an operable condition.

This occurrence did not affect the ability of the Core Spray System to assure adequate core cooling in the unlikely event of an accident. Therefore, nuclear safety and plant safe operation were not impacted by the error.

**CORRECTIVE ACTIONS**

Immediate corrective action taken was to restore the system to normal.

The procedures for Core Spray System 1 and System 2 tests were revised to include signature verifications to install and subsequently remove the ohmmeter.

Other procedures revised to incorporate GL 96-01 will be reviewed to identify any similar inadequacies. This will be completed by the end of the first quarter of 1999.

**SIMILAR EVENTS**

LER 97-007: Inadvertent Initiation of Diesel Generator 2 During Surveillance Testing Due to Personnel Error