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Writer's Direct Dial Number:

September 15, 1992  
C321-92-2251

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report 92-011.

Very truly yours,

for John J. Barton  
Vice President and Director  
Oyster Creek

JJB/MH:jc  
Enclosure

cc: Administrator, Region 1  
Senior NRC Resident Inspe. or  
Oyster Creek NRC Project Manager

(LER-COVLTRS)

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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)  
Oyster Creek

DOCKET NUMBER (2)

01500002119

PAGE (3)

1 OF 04

TITLE (4)

Design Deficiency Causes Non-Compliance With Appendix R Criteria

EVENT DATE (5)				LER NUMBER (6)				REPORT DATE (7)				OTHER FACILITIES INVOLVED (8)			
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER (8)		
08	26	92	92	011	0	09	15	92					0150000		

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)															
N	20.402(b)				20.406(e)				50.73(a)(2)(iv)				73.71(b)			
POWER LEVEL (10)	20.406(a)(1)(i)				50.36(a)(1)				50.73(a)(2)(iv)				73.71(a)			
	20.406(a)(1)(ii)				50.36(a)(2)				50.73(a)(2)(iv)				OTHER (Specify in Abstract below and in Text, NRC Form 308A)			
	20.406(a)(1)(iii)				50.73(a)(2)(ii)				50.73(a)(2)(iv)(A)							
	20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(iv)(B)							
	20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(v)							

LICENSEE CONTACT FOR THIS LER (12)  
NAME: P. Cervenka  
TELEPHONE NUMBER: 609971-4894

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM

SUPPLEMENTAL REPORT EXPECTED (14)  
YES (If yes, complete EXPECTED SUBMISSION DATE) X NO  
EXPECTED SUBMISSION DATE (15)  
MONTH: DAY: YEAR:

ABSTRACT (Limit to 1400 words, i.e. approximately fifteen single-space typewritten lines) (16)

As a result of a review of INPO operating experience report OE 4967, the circuitry of six valves was identified as potentially susceptible to hot shorts during a control room fire that could render the valves inoperable at the remote shutdown panel. Three valves are associated with the "B" Isolation Condenser which is the protected system for maintaining the plant in a hot shutdown condition during a control room fire scenario. The other three valves are associated with the shutdown cooling and recirculation systems which are used to achieve cold shutdown. The cause of this occurrence is an oversight in the Appendix R design. The design did not evaluate the effects of a hot short on the valve circuitry during the interim time it would take to transfer to the remote or local shutdown panels. The safety significance of this condition is minimal based on the low probability of the specific event. The circuitry for the valves identified to have this problem will be modified in accordance with the Oyster Creek integrated schedule. In the interim, operators were made aware of the problem and guidance was provided.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OME NO. 3150-010M

EXPIRES 8/21/95

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oyster Creek	05000021992	011	00	02	OF 04

TEXT (1) INDICATES IF REQUIRED, USE ADDITIONAL NRC FORM 366A (17)

DATE OF DISCOVERY

The condition being reported was initially identified on August 18, 1992. Further review determined the condition to be reportable on August 26, 1992.

IDENTIFICATION OF OCCURRENCE

The circuitry for six valves associated with Appendix R safe shutdown paths was found to have the potential for hot shorts that could render the valves inoperable from the remote shutdown panels. This condition was determined to be reportable in accordance with 10 CFR 50.7(a)(2)(ii)(b).

CONDITIONS PRIOR TO THE OCCURRENCE

This condition has existed since Appendix R modifications were made in December 1986.

DESCRIPTION OF OCCURRENCE

As a result of a review of INPO operating experience report OE 4967, the circuitry (EIIS-FA) of six valves (CFI-V) was identified as potentially susceptible to hot shorts during a control room fire that could render the valves inoperable at the remote shutdown panel. Three of the valves are associated with the "B" Isolation Condenser (EIIS-BL), which is the protected system for maintaining the plant in a hot shutdown condition during a control room fire scenario. Three other valves, two associated with the shutdown cooling system and one with the recirculation system were also determined to be affected however these valves could still be operated within the required time frame to maintain the plant within the Appendix R design basis.

The postulated hot short in the control room would defeat the limit and/or torque switch contacts and cause the valve to receive a continuous signal in either the open or close direction. This would cause the valve motor overloads to trip or, in the case of one valve which has the overloads bypassed, cause permanent damage to the motor operator before the transfer could be made to the remote shutdown panel. The valves with overloads would require the overloads to be reset and the valve with the overloads bypassed would require the operators to operate the valve manually. In either case, these actions would take a period of time for the operators to recognize and determine the appropriate corrective action and were not accounted for in the design basis.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OME NO. 3150-0104  
EXPIRES 8/31/85

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TEXT (1) MORE SPACE IS PROVIDED FOR ADDITIONAL NRC FORM 366A (1.1)

APPARENT CAUSE OF OCCURRENCE

The cause of this occurrence is an oversight in the design to meet Appendix R requirements. The design did consider the possibility of hot shorts in the control room for the circuitry of these valves and provided for the isolation of control room circuitry after the transfer to the local or remote shutdown panels. However, the design did not evaluate the effects of a hot short on these valves during the interim time it would take to transfer to the remote or local shutdown panels.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

The objectives of the 10 CFR 50 Appendix R Fire Protection Program are to prevent fires from starting; to rapidly detect, control and extinguish fires that do occur; and to provide protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant.

Three valves associated with the "B" Isolation Condenser have the potential of not being available within the required time frame assumed in the Appendix R analysis.

The Isolation Condenser is a high pressure system that is capable of removing decay heat from the reactor after a scram without causing a reduction in reactor coolant inventory. Placing the Isolation Condenser into service outside the time frame assumed in the Appendix R analysis would result in a longer period of time that the electromatic relief valves would have to be used to control reactor pressure. Using the electromatic relief valves does cause a reduction in water level in the reactor vessel, therefore, a delay in placing the Isolation Condenser into service could possibly result in inadequate cooling of the reactor core. The other three valves are associated with the shutdown cooling and recirculation systems which are used to bring the plant to the cold shutdown condition. Resetting the motor overloads of these valves could be identified and corrected within the required time to meet the design basis.

The safety significance of this condition is minimal since the Oyster Creek Appendix R Fire Protection Program offers many layers of protection in the prevention, rapid detection, and suppression of fires such that the probability of a catastrophic fire causing hot shorts to these valves and the evacuation of the control room is extremely low. In addition to the detection and automatic suppression systems in the control room, portable fire fighting equipment is available and the control room is continuously staffed by qualified fire brigade personnel.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Oyster Creek	01800021992	<table border="1"> <tr> <th data-bbox="1015 244 1115 266">YEAR</th> <th data-bbox="1115 244 1263 266">SEQUENTIAL NUMBER</th> <th data-bbox="1263 244 1362 266">REVISION NUMBER</th> </tr> <tr> <td data-bbox="1015 266 1115 327">011</td> <td data-bbox="1115 266 1263 327">011</td> <td data-bbox="1263 266 1362 327">00</td> </tr> </table>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	011	011	00	04 of 04
YEAR	SEQUENTIAL NUMBER	REVISION NUMBER							
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CORRECTIVE ACTION

The involved circuitry for all six valves identified to have this problem will be modified in accordance with the Oyster Creek Integrated schedule. A design review determined that no other valves are affected with this problem.

Interim corrective action consisted of informing all licensed operators of the potential for this problem as well as providing guidance (operator aids) so compensatory actions can be taken within the necessary time frame.

SIMILAR OCCURRENCES

LER 88-12 Electromatic Relief Valves and Cleanup System Valve  
Circuitry Does Not Meet Appendix R Criteria Due To Design  
Deficiency

LER 89-10 Design Deficiency Causes Non-Compliance With Appendix R Criteria