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March 5, 1993

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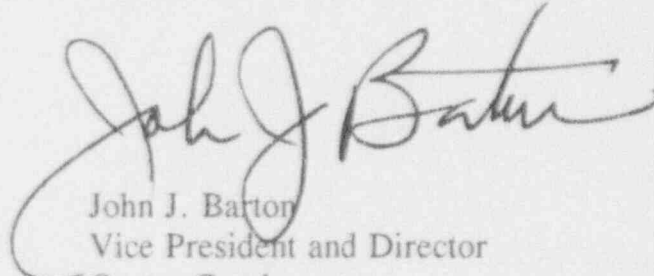
U. S. Nuclear Regulatory Commission
Att: Document Control Desk
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report 89-25, Revision 2

Enclosed is the Licensee Event Report 89-25, Revision 2. Changes from the previous submittal have been indicated by a bar placed in the right margin.

If there are any questions please contact Mr. John Rogers at 609.971.4893.



John J. Barton
Vice President and Director
Oyster Creek

JJB/JJR
Attachment

cc: Administrator, Region I
Senior Resident Inspector
Oyster Creek NRC Project Manager

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S PDR

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3180-0104
EXPIRES - 6/30/85

FACILITY NAME (1) Oyster Creek, Unit 1										DOCKET NUMBER (2) 050002191										PAGE (3) OF 05																														
TITLE (4) Inadvertant, Simultaneous Movement of Two Control Rods Due to Reactor Control Ground																																																		
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(S)											
12			16			89			89			025			020			03			05			93															050002191											
OPERATING MODE (9)										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 6. (Check one or more of the following) (11)																																								
POWER LEVEL (10)										20.402(b)										20.406(c)										50.73(e)(2)(iv)										73.71(b)										
										20.406(a)(1)(i)										50.36(a)(1)										50.73(e)(2)(v)										73.71(c)										
										20.406(a)(1)(ii)										50.36(a)(2)										50.73(e)(2)(vi)										OTHER (Specify in Abstract below and in Text, NRC Form 306A)										
										20.406(a)(1)(iii)										50.73(e)(2)(i)										50.73(e)(2)(vii)(A)																				
										20.406(a)(1)(iv)										50.73(e)(2)(ii)										50.73(e)(2)(viii)(B)																				
20.406(a)(1)(v)										50.73(e)(2)(iii)										50.73(e)(2)(i)																														
LICENSEE CONTACT FOR THIS LER (12)																																																		
NAME Lynne Munzing, Operations Engineer															TELEPHONE NUMBER 609 971-1438																																			
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																							
SUPPLEMENTAL REPORT EXPECTED (14)																				EXPECTED SUBMISSION DATE (15)										MONTH DAY YEAR																				
YES (If yes, complete EXPECTED SUBMISSION DATE)																				NO																														

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

On December 16, 1989, at 0533 hours, a Control Room Operator (CRO) was increasing power with control rods. The CRO inadvertently selected an incorrect control rod, realized the error and selected the adjacent, proper rod. Due to the manner in which the CRO operated the rod select push buttons, two control rods were simultaneously selected. The CRO did not immediately realize that two rods were simultaneously selected and initiated a rod withdrawal. Both selected control rods began to move. Corrective actions were taken immediately to terminate rod movement. The cause of the event was a ground in the Reactor Manual Control System (RMCS) rod select circuitry. The ground was located and removed during the subsequent 13R refueling outage. A modification to the wiring of the RMCS was also installed. Post modification testing revealed no further occurrences of dual rod motion.

The safety significance of this condition is considered minimal. Two safety evaluations were performed to evaluate this condition for differing plant conditions. Both of the evaluations concluded that the simultaneous movement of two control rods was within the design basis for the affected transients and did not constitute an unreviewed safety question.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9	NUMBER (3)			PAGE (3)	
		YEAR 8 9	SEQUENTIAL NUMBER 0 2 5	REVISION NUMBER 0 2	0 2	OF 0 5

TEXT: If more space is required, use additional NRC Form 365a (17)

DATE OF OCCURRENCE

This event occurred on December 16, 1989, at 0533 hours. This event was determined to be reportable on March 22, 1990.

IDENTIFICATION OF OCCURRENCE

Two control rods (EIIIS Code AA) were selected and moved simultaneously. This occurred while a Control Room Operator was increasing power with control rods. This event is reportable based on 10CFR50.73(a)(2)(ii).

CONDITIONS PRIOR TO OCCURRENCE

The reactor was in the RUN mode with a reactor coolant temperature of 520°F. Generator output was approximately 380 MWe. The initial positions of the two affected control rods were: rod 14-27 at position 48 (fully withdrawn), and rod 18-27 at position 12.

DESCRIPTION OF OCCURRENCE

On December 16, 1989, at 0533 hours, a Control Room Operator (CRO) was increasing power with control rods. The CRO intending to select control rod 18-27 inadvertently selected an adjacent rod 14-27. Realizing the error, the CRO selected the proper control rod at the same time that the rod select push button for the wrong control rod was being released. This resulted in both rods being inadvertently selected at the same time.

The CRO did not realize that two control rods were selected and attempted to withdraw rod 18-27 by taking the rod control switch to the "Notch Out" position. The reactor manual control system (EIIIS Code JD) withdrawal sequence momentarily inserts the control rod to unlatch the rod so it can be withdrawn. The CRO immediately recognized that both control rods were moving in and quickly took action to stop rod motion by turning off rod select power. This resulted in both rods returning to their original positions. Plant management was immediately notified.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Oyster Creek, Unit 1	0500021989	—	025	—	02	03 OF 05

TEXT: If more space is required, use additional NRC Form 3664 (17)

APPARENT CAUSE OF OCCURRENCE

The root cause of this occurrence was a neutral ground in the rod select circuitry. The ground was discovered during testing before a modification to reconfigure rod select circuitry to make dual control rod selection more difficult. The ground was caused by a poor solder joint on a rod select switch that had been replaced while the plant was shutdown December 8-14, 1989.

A contributing cause was personnel error. The two control rod select switches (14-27 and 18-27) are adjacent to one another. The CRO depressed the rod select push button for control rod 18-27 at the same time that the rod select push button for the previous control rod (14-27) was being released.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

The Reactor Manual Control System (RMCS) (EIS Code JD) utilizes relay sequencing to control the operation of solenoid operated valves in the Control Rod Drive Hydraulic System. These valves direct high pressure water to the control rod drive mechanism in order to move the control rod. Various switch contacts, including the rod select push button contacts, and an automatic sequencing timer within the system are utilized in the relay control logic.

Circuitry within the reactor manual control system is intended to prevent the selection of more than one control rod at a time. It was discovered that this circuitry could be defeated if contacts within the rod select push button were not properly made or disconnected when a rod select push button was actuated. This could occur when a rod select pushbutton was held mid position and another rod select pushbutton was depressed such as occurred during this event, or, it could occur as a result of a rod select pushbutton malfunction. The neutral ground in the rod select circuitry made an inadvertent selection of two rods more likely. Once the neutral ground was eliminated, testing showed that dual rod selection became very difficult. It was still possible, however, to select two rods by holding one button in mid position while depressing another. The modification to the circuitry further decreased the possibility of dual rod selection. There is no single component failure that would cause more than two control rods to be withdrawn at the same time. Therefore, this analysis considers only two control rods being withdrawn at one time due to an operator error or single component malfunction.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 6/30/85

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		8 9	0 2 5	0 2	0 4	OF 0 5

TEXT (If more space is required, use additional NRC Form 306A's) (17)

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENTCont'd)

Two safety evaluation were performed to determine whether the simultaneous movement of two control rods was outside the design basis for Oyster Creek and, therefore, might constitute an unreviewed safety question. The following were analyzed with respect to the event: Single Failure Criteria, Rod Worth Minimizer (EIS Code ID) Operation, Uncontrolled Control Rod Withdrawal from a Subcritical or Low Power Startup Condition, Uncontrolled Control Rod Withdrawal at Power, and the Control Rod Drop Accident. The safety functions of the three systems that could be affected by the event were evaluated. Those systems are the Reactor Manual Control System, the Rod Worth Minimizer and the Reactor Protection System. (EIS Code JC). The results of both of the evaluations concluded that the simultaneous movement of two control rods was within the design basis for the affected transients and did not constitute an unreviewed safety question. Therefore, the safety significance of this condition is considered minimal.

CORRECTIVE ACTIONSImmediate

Reactor manual control system rod control power was secured. This stopped the rod withdrawal sequence and allowed the affected control rods to return to their original positions.

Rod 18-27 was subsequently withdrawn to its programmed position (Notch 14) to provide a symmetrical rod pattern.

An administrative rod block was initiated which prevented any further withdrawal of control rods.

Short Term

The operability of the rod select/deselect and control rod positioning functions of the Reactor Manual Control System were tested and were found to be satisfactory. A second licensed operator was stationed at the control panel to verify that only one rod was selected during the withdrawal/insertion of control rods for the remainder of the operating cycle.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 2 1 9 8 9	LER NUMBER (6)			PAGE (3) 0 5 OF 0 5		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 2	5	0 2			

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

CORRECTIVE ACTIONS (Cont'd)Long Term

Plant Procedures were revised to include provisions to minimize the probability of inadvertent simultaneous withdrawal of two control rods where appropriate.

A Reactor Manual Controls System ground was located and removed during the 13R refueling outage. A modification to the wiring of the RMCS was also installed. These actions will preclude a recurrence of this type of event.

SIMILAR OCCURRENCES

None