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Writer's Direct Dial Number:

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

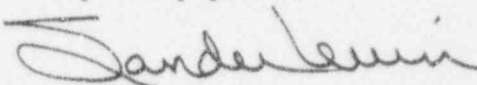
Dear Sir:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report 94-013

Enclosed is the Licensee Event Report 94-013.

If there are any questions please contact Mr. Terry Sensue at 609-971-4680.

Very truly yours,

  
for John J. Barton  
Vice President and Director  
Oyster Creek

JJB/TS:jc  
Attachment

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

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PDR ADDCK 05000219  
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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Oyster Creek, Unit 1

DOCKET NUMBER (2)

05000219

PAGE (3)

1 OF 4

TITLE (4)

Technical Specification Shutdown Margin Limit Exceeded due to Human 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
07	26	94	94	-- 013 --	00	08	25	94	FACILITY NAME	DOCKET NUMBER
										05000
										05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)						
POWER LEVEL (10)	100	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		Abstract below
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		and in Text, NRC Form 366A)

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Thomas Corcoran, Plant Operations Engineer

TELEPHONE NUMBER (Include Area Code)

609.971.4986

## 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)

YES

(If yes, complete EXPECTED SUBMISSION DATE).

X

NO

EXPECTED  
SUBMISSION  
DATE (15)

MONTH

DAY

YEAR

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

On July 26, 1994, the reactor was operating at approximately 100% power. To facilitate repairs to a nitrogen leak on HCU 06-19, the HCU was removed from service at 1930 hours with its associated control rod at the full out position. At 2220 hours, a determination was made that the shutdown margin criteria required by the Technical Specifications could not be satisfied with the rod removed from service in the full out position.

The cause of the event was human error.

The safety significance is minimal. Ample time would be available for manual actions to be performed to ensure the reactor core is shutdown following a postulated event where a face adjacent control rod failed to scram. There is a low probability of such an event occurring.

Immediate corrective action was taken to return HCU 06-19 to service. The Control Rod was then fully inserted to complete repairs. Additional corrective actions taken were discussing this event in detail with the personnel involved and including this event in the licensed operator training program.

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

U.S. NUCLEAR REGULATORY COMMISSION  
APPROVED BY OMB NO. 3150-0104  
EXPIRES 5/31/95

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Oyster Creek, Unit 1	05000219	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		94	-- 013 --	00	

**DATE OF OCCURRENCE**

This event occurred on July 26, 1994 at 1930 hours.

**IDENTIFICATION OF OCCURRENCE**

Hydraulic Control Unit (HCU) (CFI-HCU) 06-19 was tagged out of service with its associated control rod in the full out position. This action was later determined to be a violation of the shutdown margin (SDM) criteria. This event has been determined to be reportable under 10 CFR 50.73(a)(2)(i).

**CONDITIONS PRIOR TO OCCURRENCE**

The hydraulic control unit leak detector test was in progress on HCU 06-19 to verify operability of the low nitrogen gas pressure alarm, high water level alarm, and rod block control function. The reactor was at approximately 100% power with the mode selector switch in RUN. All 137 control rods and their associated HCU were operable and valved in service.

**DESCRIPTION OF OCCURRENCE**

On July 26, 1994, at approximately 1530 hours, the Maintenance Department was in the process of performing surveillance procedure 617.3.012 "Hydraulic Control Unit Leak Detector Test". When HCU 06-19 was returned to service, the technician noticed a nitrogen leak and reported it to the Group Shift Supervisor (GSS). A decision was made to isolate the nitrogen leak and initiate an immediate work request to repair the leak.

At 1630 hours, a shift briefing was held for the oncoming crew and a shift turnover was completed. Upcoming maintenance activities for HCU 06-19 were discussed. Subsequent to the shift briefing, the oncoming Lead Control Room Operator (LCRO) reviewed the requirements of operating procedure 302.1 "Control Rod Drive Hydraulic System" (EIIS-AA) and noted a prerequisite to contact the Core Engineering Manager to verify the adequacy of shutdown margin prior to isolating any control rod which is not in the fully inserted position.

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

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**DESCRIPTION OF OCCURRENCE (Cont.)**

The LCRO also reviewed Technical Specification 3.2.A which states in part:

"The core reactivity shall be limited such that the core could be made subcritical at any time during the operating cycle with the strongest operable control rod fully withdrawn and all other operable control rods fully inserted."

The LCRO determined if control rod 06-19 was assumed to be the strongest operable control rod fully withdrawn, it could be safely removed from service since all the other control rods were operable and could be fully inserted. The HCU was removed from service at 1930 hours, and subsequently tagged and released for maintenance.

At 1915 hours, the Shift Technical Advisors (STAs) conducted their shift turnover and the nitrogen leak on HCU 06-19 was discussed. After conducting a tour of the HCU at approximately 2050 hours, the oncoming STA asked to review the SDM determination paperwork. The LCRO stated that the paperwork would routinely be included in the job package in the field but had not been verified as being in the package. The GSS was then contacted at which time the GSS realized that the SDM determination had not been verified as being in the package.

A call was placed to the Core Engineering Manager, and at 2220 hours it was concluded that the shutdown margin requirements were not being met.

**APPARENT CAUSE OF THE OCCURRENCE**

The root cause of this event has been determined to be human error. The GSS did not recognize the Technical Specification shutdown margin requirements for removing an HCU from service. A contributing cause was an improper work practice by the LCRO. It was not verified that proper approvals had been obtained from the Core Engineering Manager as required by an operating procedure. An additional significant contributing cause was the lack of verbal communication during the evolution. At no time did the GSS discuss the evolution with the LCRO beyond the initial task assignment. Both people were under the impression that the other person was fully aware of the existing conditions.

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**ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT**

When utilizing conservative assumptions, if HCU 06-19 is isolated at the full out position and a face adjacent rod had failed to scram, then by analysis core shutdown could not be assured. However, this analysis assumes that the reactor core is Xenon free before the scram occurs. The core was at an equilibrium Xenon concentration at the time of this event. In fact after a scram, the Xenon concentration would increase for approximately the next six hours.

3D simulator code Node-B calculations have determined that Xenon would have precluded criticality after shutdown for 21 hours by using conservative assumptions, and for 32 hours by using more realistic assumptions. This would have provided ample time to take manual actions in accordance with approved plant procedures to insert at least one of the two control rods.

Therefore the safety significance of this event is minimal since ample time to take appropriate actions is available coupled with the low probability of such an event occurring.

**CORRECTIVE ACTIONS**

Immediate corrective actions were taken to return HCU 06-19 to service. The control rod was then fully inserted to complete repairs.

The Manager of Plant Operations reviewed this event with each control room crew. Management's expectations and standards on procedural adherence, shift communications, and reactivity control as they contribute to acceptable human performance were discussed. The personnel directly involved in the event were counselled on their individual performance.

The licensed operator training program will include enhanced training on the requirements of shutdown margin and its bases. Also, the critique report of this event will be included in the required reading program. These program additions are scheduled to be completed by the end of 1994.

The Site Human Performance Review Committee has reviewed the human performance aspects of this and other events. The committee will seek to establish action items to enhance communications and self-checking techniques across the site. Development of these items is scheduled to be completed by the end of October, 1994.

**SIMILAR EVENTS**

None