NRC FORM 366
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | N J O C P 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE | LICENSE NUMBER | LICENSE TYPE | CAT

CON'T 01 | REPORT SOURCE L (6) | 0 5 0 0 0 2 1 9 (7) | 1 2 2 3 8 3 (8) | 0 2 0 7 8 4 (9)
DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 The addition of lead for radiation shielding on two of three spent fuel
03 pool heat exchangers would overstress the heat exchanger's foundation
04 bolts during a seismic event. Based upon the potential consequences of a
05 failure of this type and the likelihood of occurrence, the safety signi-
06 ficance is considered minimal. The discovery of this condition is con-
07 sidered a reportable occurrence in accordance with Technical Specifica-
08 tions, paragraph 6.9.2.a.9.

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP SUBCODE	VALVE SUBCODE
09	F C (11)	D (12)	Z (13)	Z Z Z Z Z Z (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	8 3	—	0 2 6	/	0 1	T	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	F (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	Z (25)	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 Cause was attributed to lack of procedural controls in the past when
11 applying lead shielding to piping systems. A decontamination effort
12 will attempt to reduce the radiation levels in the vicinity of the heat
13 exchangers. Plant walkdown will identify similar situations affecting
14 safety-related systems. Safety evaluation prior to lead reapplication.

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
15	H (28)	0 0 0 (29)	NA	C (31)	engineering evaluation

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
16	Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
17	0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
18	0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
19	Z (42)	NA

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
20	N (44)	NA	

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GPU Nuclear

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Writer's Direct Dial Number:

February 7, 1984

Dr. Thomas E. Murley, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Murley:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report
Reportable Occurrence No. 50-219/83-26/01T

This letter forwards three copies of a Licensee Event Report (LER) to report Reportable Occurrence No. 50-219/83-26/01T in compliance with paragraph 6.9.2.a.9. of the Technical Specifications. As indicated in my letter to you dated January 16, 1984, further review necessitated a delay in submitting this LER.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:dam
Enclosures

cc: Director (40 copies)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Director (3 copies)
Office of Management Information and
Program Control
U.S. Nuclear Regulatory Commission
Washington, DC 20555

NRC Resident Inspector
Oyster Creek Nuclear Generating Station
Forked River, NJ 08731

OYSTER CREEK NUCLEAR GENERATING STATION
Forked River, New Jersey 08731

Licensee Event Report
Reportable Occurrence No. 50-219/83-26/01T

Report Date

February 7, 1984

Preliminary Report Date

December 23, 1983

Discovery Date

December 23, 1983

Identification of Occurrence

Over the past several years the addition of lead, for the purpose of radiation shielding, on two of three fuel pool cooling heat exchangers has created a situation where the heat exhangers' foundation bolts would be overstressed during a seismic event. In addition, while investigating this situation, it was discovered that the original portions of the fuel pool cooling piping system are supported only by dead weight supports and therefore may not be a seismic Class I System as stated in the station's "Facility Description and Safety Analysis Report" (FDSAR). This is considered to be a reportable occurrence in accordance with paragraph 6.9.2.a.(9) of the Technical Specifications.

Conditions Prior to Occurrence

The plant was in various operating and shutdown modes.

Description of Occurrence

In response to an ALARA concern in the area of the fuel pool cooling heat exchangers, the Technical Functions Division (Engineering) was requested to evaluate the addition of lead shielding to the heat exchangers. During the evaluation it was noted that an estimated total of 4320 lbs. of lead (1320 lbs. - upper HXGR; 3000 lbs - lower HXGR) is on the original fuel pool cooling heat exchangers. This condition was analyzed utilizing the seismic floor response spectrum developed during the NRC's Systematic Evaluation Program (SEP) for Oyster Creek. The analysis indicates that the foundation

bolts for the heat exchangers would be overstressed. During the course of this investigation, it was also discovered that there exists a discrepancy between the station FDSAR and the amended installation specification for the system. The FDSAR indicates that the fuel pool cooling system is a seismic Class I system while addendum No. 6 to Burns and Roe Specification G-2299-60A removed fuel pool cooling from the list of Class I seismic systems.

Apparent Cause of Occurrence

The cause of the occurrence was attributed to lack of procedural controls in the past when applying lead shielding to piping systems.

The exact cause of the discrepancy between the FDSAR and the installation specification could not be determined but is believed to be due to lack of control of changes during the construction phase of the plant.

Analysis of Occurrence

The spent fuel pool cooling system provides the means for heat removal from the spent fuel storage pool. The fuel pool cooling heat exchangers, in turn, are cooled by reactor building closed cooling water (RBCCW) which is in turn cooled by service water (SW). RBCCW and SW are not seismic Class I systems. The failure of any of these systems would cause the fuel pool to heat up. This heat-up might lead to structural damage of the fuel pool. The Technical Specification basis for the fuel pool indicates that there would be no damage to fuel pool structural integrity for approximately ten (10) hours, if heat-up commenced from the Technical Specification limit of 125 degrees F. This would provide time to restore cooling, if it were lost. An alarm annunciates in the control room when the fuel pool temperature reaches 120 degrees F.

Analyses performed to establish the Technical Specification bases conservatively assumed the heat load to the spent fuel pool resulting from a complete core offload within ten days following shutdown and all licensed storage locations (1800) filled from prior refuelings. There are 1375 irradiated fuel assemblies currently stored in the fuel pool. In addition, the full core offload to support the current outage has been in storage for approximately elever months. Therefore, the present heat addition due to fission product decay is significantly reduced. The heat load will be reduced further when refueling is completed.

Also, rupture of the fuel pool piping will not cause the fuel pool to drain due to the arrangement of return lines and skimmer surge tanks.

Based upon the potential consequences of a failure of this type and the likelihood of occurrence, the safety significance of this occurrence is considered to be minimal.

Corrective Actions

The following corrective actions have been initiated:

1. A decontamination effort has been completed which reduced the levels of radiation in the vicinity of the heat exchangers. All lead will be removed prior to startup. If, for ALARA reasons, lead shielding is still required, a safety evaluation will be performed before adding any shielding.

2. A walk-down of the plant will be conducted to insure that similar situations do not exist which might interfere with the functioning of safety-related equipment. This will be completed prior to plant startup.

3. A seismic analysis has been conducted for the fuel pool cooling piping system in its present configuration and it was found that the original fuel pool cooling system is not seismic Class 1, however, the augmented cooling system which was added as part of the fuel pool expansion described in Amendment 78 to the FDSAR is a seismic Class 1 system. To satisfy original licensing criteria, changes will be made to the return piping system to ensure a seismically qualified flow path can be established between the fuel pool and the seismically qualified portion of the cooling system. This will be accomplished prior to the next core offload. Seismic qualification will be based upon operational criteria consistent with ASME Section III, Division I, Appendix F. An assessment of the entire system will then be made to determine if further system upgrading is appropriate.