NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

SGTS INITIATION DUE TO WATER ACCUMULATION IN THE AOG SYSTEM

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 NAMES	DOCKET NUMBER(S)
												0 5 0 0 0
1 2	0 1	8 7	8 7	—	0 4 5	—	0 0	1 2	2 8	8 7		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1 0 0	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 (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
John Galanto, Plant Engineering	AREA CODE 6 0 9 — 9 7 1 - 4 3 4 9

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

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

On December 1, 1987 at 0933 hours a Reactor Building isolation and Standby Gas Treatment System (SGTS) auto initiation occurred. At the time the reactor was operating at full power. The cause of this event is attributed to Main Condenser offgas pressure oscillations causing offgas flow through a water seal in a drain line. The drain involved is normally open to allow water accumulated in the offgas line piping to exit to a sump located under the plant vent stack. Due to pressure oscillations in the offgas system, the offgas line became momentarily pressurized above the static head of the water seal pot. Hydrogen gas and radioactive gas were released. The reactor building vent monitor located near the sump alarmed causing the safety system actuation. Plant Emergency Operating Procedures were entered. All safety equipment functioned normally. The safety significance is considered minimal since only a small quantity of offgas was released to the area. The four (4) inch offgas line causing the pressure oscillations was drained and maintenance is scheduled to verify clear passage of the drain line.

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

Date of Occurrence

This event occurred on December 1, 1987.

Identification of Occurrence

An automatic initiation of the Standby Gas Treatment System (SGTS) (EIIS Code BH) and a Reactor Building isolation (EIIS Code BD) occurred due to a reactor building vent monitor (EIIS Code IL) high radiation signal.

This is considered reportable under 10 CFR 50.73(a)(2)(iv).

Conditions Prior to Occurrence

The reactor was operating at full power. The Main Condenser Offgas system (EIIS Code WF) was experiencing some pressure oscillations. The cause was unknown at the time. There had been several trips of the Augmented Offgas (AOG) system (EIIS Code WF) over the previous several days.

Description of Occurrence

On December 1, 1987 a SGTS initiation and Reactor Building isolation occurred due to a reactor building vent monitor high radiation signal. Prior to the event, at 0848 hours the AOG system was manually tripped due to a high hydrogen concentration alarm from the area located under the plant vent stack. This area contains a sump which provides for the collection of water that may accumulate in the plant main condenser offgas line prior to the offgas entering the AOG system. At 0912 hours the AOG system was placed back in service. At 0924 another high hydrogen concentration alarm in the area under the stack occurred.

Hydrogen concentration was 1.4%. At 0933 hours a high radiation signal was received from the reactor building air exhaust duct vent monitor which is located in the area under the vent stack. The vent monitor was reading fifteen (15) millirem per hour which caused a SGTS initiation and a Reactor Building isolation. The AOG system was manually tripped. Emergency Operating Procedures (EOPs) were entered for Secondary Containment control. At 1020 hours the SGTS was shutdown and normal reactor building ventilation was restored. At 1050 hours reports from Radiological Controls and Safety personnel on the radiation and hydrogen levels were received. All levels were acceptable and the EOPs were exited.

Apparent Cause of Occurrence

The initiation of the SGTS and the isolation of the reactor building were a result of high radiation detected by the reactor building vent radiation monitor.

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The exhaust of the reactor building ventilation was not the source of the activity. The activity was forced out the main condenser offgas piping drain. This drain is normally open to the sump under the stack with a water seal pot to keep a water seal over the drain line to prevent gas escape. The pressure oscillations at the inlet of the AOG system caused the radioactive gases in the offgas line to be forced past the water seal into the area under the stack. The pressure oscillations are attributed to water accumulation in a four (4) inch pipe at the inlet to the AOG system. This accumulation acted as a type of water seal which allowed gas pressure to build up in the offgas piping upstream of the AOG system. Eventually the pressure overcame the water static pressure head and flowed through to the AOG system. In this case the pressure build up overcame the sump seal pot static head and offgas was released to the area under the vent stack. The four (4) inch inlet line to the AOG system is normally drained to a separate sump in the AOG building. It appears that a blockage in this drain line was the cause of accumulation of water in the four (4) inch inlet line to the AOG system.

Analysis of Occurrence and Safety Assessment

The Reactor Building isolation and SGTS function to minimize any ground level release of radioactive material which might result from a release of radioactive material in the reactor building. The SGTS provides a means to filter and exhaust the reactor building atmosphere to the stack. The initiation of these safety systems and the events causing the actuation are considered to have minimal safety significance.

This is based on the fact that the SGTS and Reactor Building isolation functioned as designed. The amount of offgas released to the area was small in quantity and limited in duration by the time necessary to take the AOG system off line and bypass the offgas flow directly to the vent stack.

Corrective Action

Immediate corrective action consisted of entering the Plant Emergency Operating Procedures for secondary containment control and the dispatch of radiological and safety personnel to verify actual conditions. The four (4) inch offgas line causing the pressure oscillations was drained and maintenance is scheduled to verify clear passage of the drain line.

Similar Events

Similar initiations of the SGTS, but with different causes were reported under LERs 87-013, 87-010, 87-003, and 86-017.

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GPU Nuclear

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December 28, 1987

U.S. Nuclear Regulatory Commission
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 (LER) No. 87-045.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:KB:dmd(0425A)
Enclosures

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