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NRC Form 388 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85										N	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION																								
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T		T		1	BER	SEQUENTIAL REVISION					YEAR										LICENSEE EVENT LITY NAME (1) OYSTER CREEK, UNIT 1 (If more apace is required, use additional NRC Form 308A(s) (17)														
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Date of Occurrence

The event occurred on July 8, 1985 at 0319 hours.

Identification of Occurrence

An automatic scram occurred on low condenser vacuum during power operation.

This event is considered to be a reportable event as defined in 10CFR50.73(a)(2)(iv).

Conditions Prior to Occurrence

The reactor was critical, reactor pressure was 1020 psig, and reactor power was approximately 1895 MWt. Condenser vacuum was 27.2" Hg.

Description of Occurrence

Prior to the event, the plant was critical at approximately 98.2% power, reactor pressure was 1020 psig and level was 160" above the top of active fuel. Condenser vacuum was 27.2" Hg. An operator entered the Steam Jet Ejector (SJAE) room to tag out the 1-2 SJAE drain pump for maintenance. Upon entering the room, the operator noticed that the 1-1 SJAE drain pump had a large leak from a crack in the pump casing. Since the seal leak on the 1-2 pump was smaller than the 1-1 pump leak, and the 1-2 pump had operated with no adverse effect on condenser vacuum, the Group Shift Supervisor (GSS) decided to terminate the tagging of the 1-2 pump and selected it as the lead pump with the 1-1 pump in reserve. While the 1-2 pump was running, condenser vacuum was monitored with no apparent problems, initially. As preparations were made to re-enter the SJAE room to examine the 1-1 pump, a Control Room operator saw condenser vacuum indication decrease to approximately 25.5" Hg and commenced reducing reactor power using control rods and recirculation flow. At this time it was noted that the 1-1 pump had initiated automatically due to drain tank high level. Continuous cycling of offgas flow between 0 and 70 SCFM was noted. indicating improper SJAE operation. When condenser vacuum reached the low vacuum alarm setpoint of 25", Control Room personnel began taking preparatory actions for the scram in accordance with the Abnormal Operating Event Procedure. In an attempt to restore the system to its original lineup, the breaker for the 1-2 pump was tripped because the pump could not be tripped from the Control Room and the 1-1 pump was given a start signal. 1-1 pump did not start on the start signal, so the breaker for the 1-2 pump was closed and the

LICENSEE	EVENT	REPORT	(LER)	TEXT	CONTINUATION	
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U.S. NUCLEAR REGULATORY COMMISSIO

EXPIRES: 8/31/85

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		YEAR SEQUENTIAL REVISION			
OYSTER CREEK, UNIT 1	0 5 0 0 0 2 1	19815-0115-010	0 1 3 OF 0 14		

1-2 pump was returned to service. Condenser vacuum was not recovered in time to prevent an automatic scram on low condenser vacuum from approximately 80% power. All control rods inserted fully and plant systems responded as expected.

Apparent Cause of Occurrence

1-1 SJAE drain pump had a crack in the casing, which allowed air to enter into the common suction header for both SJAE pumps and then into the 1-2 pump suction when the 1-1 pump was secured. The presence of air in the 1-2 pump suction degraded the pump's performance, causing the level in the drain tanks to back up into the SJAE condensers, severely degrading SJAE performance. Degraded SJAE performance caused a decrease in condenser vacuum. Operator actions were unsuccessful in mitigating the decreasing vacuum, and the reactor automatically scrammed on low condenser vacuum.

The cause of the 1-1 pump casing crack has been determined to be a casting flaw in the pump casing combined with stress caused by the lack of a support stool under the pump. Manufacturer's installation instructions did not require a support.

During a later shutdown it was discovered that a tube leak in the steam packing exhauster may have contributed to the event by supplying additional water to the SJAE drain tanks, compounding the flooding problem.

Analysis of Occurrence and Safety Assessment

The low condenser vacuum scram is an anticipatory function which is designed to scram the reactor before the turbine trips on decreasing vacuum. If the turbine were to trip at power, a pressure excursion would occur and result in collapsing voids, increasing moderation and increasing power. Anticipatory scrams anticipate the reactor power increase and initiate rod motion before the pressure excursion begins in order to minimze the pressure/flux peak.

There were no violations of Technical Specifications, the post trip response was normal, and the plant was stabilized in a safe condition after the scram. A high reactor water level condition followed shortly after the scram and precluded the use of the Isolation Condensers for approximately 8 minutes. However, the Isolation Condensers were not needed to remove decay heat because the turbine bypass valves and main condenser remained available for use.

Control Room personnel performed properly in the events leading up to the scram, and the safety significance of the event is considered minimal since all equipment performed its intended safety function.

NRC Form 366A 9-83)	LICENSEE EVENT REPORT	(LER) TEXT CONTIN	UATIO	N		U.S. NI	PPROVED	OM8 N /31/85	TORY CON 10. 3150-0	AMISEIO
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	<u>C</u>	orrective Action								
	Immediate corrective actions	taken were:								
	a. SJAE drain pump 1-2 was r with those from the 1-1 p	epaired by replaci ump prior to plant	ng it: start	s int tup.	tern	al	compoi	nent	s	
	b. SJAE drain pump 1-1 was r power.	eplaced prior to r	eturn	ing t	the	pla	nt to	ful	1	
	c. During a later plant shut exhauster was repaired.	down the tube leak	on th	he st	team	pa	cking			
the	A Maintenance, Construction pump failure and the followi	& Facilities Depar ng corrective acti	tment ons re	crit esult	tiqu ted:	e w	as he	ld o	n	
	a. Temporary supports have b	een installed unde	r boti	h SJ/	AE d	rai	n pum;	os.		
	b. Installation of permanent	SJAE drain pump s	upport	ts is	s be	ing	evalu	ate	ed.	
	Equi	pment Failure Dat	<u>a</u>							
	Cause: System: Compone	nt.	i iH							
	Compone	nt Manufacturer: 1	075							
	Reporta	ble to NPRDS: N	lo							

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GPU Nuclear Corporation

Post Office Box 388 Route 9 South Forked River, New Jersey 08731-0388 609 971-4000 Writer's Direct Dial Number:

August 8, 1985

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. 85-015.

Very truly yours,

1kgs) Peter edler

Vice President and Director Oyster Creek

PBF:JR:dam(0041A) Enclosures

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

Mr. Jack N. Donohew, Jr. U.S. Nuclear Regulatory Commission 7920 Norfolk Avenue, Phillips Bldg. Bethesda, MD 20014 Mail Stop No. 314

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

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