

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek, Unit 1									DOCKET NUMBER (2) 0 5 0 0 0 2 1 1 9			PAGE (3) 1 OF 0 1 4	
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TITLE (4) DEGRADED STANDBY GAS TREATMENT SYSTEM DUE TO PERSONNEL 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 NAMES	DOCKET NUMBER(S)	
0	3	2	4	8	8	0	0	5	0	5	0
0	3	2	4	8	8	0	0	4	2	5	8

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)		20.406(c)		50.73(a)(2)(iv)		73.71(b)			
POWER LEVEL (10)	100	20.406(a)(1)(B)		50.36(c)(1)	X	50.73(a)(2)(v)		73.71(c)			
	100	20.406(a)(1)(B)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 386A)			
	100	20.406(a)(1)(B)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)					
	100	20.406(a)(1)(v)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)					
	100	20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)					
	100	20.406(a)(1)(v)		50.73(a)(2)(iv)							

LICENEE CONTACT FOR THIS LER (12)											
NAME											TELEPHONE NUMBER
John Galanto, Plant Engineering											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 NPPDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPPDS	

SUPPLEMENTAL REPORT EXPECTED (14)											EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO														

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

On March 24, 1988, at approximately 1525 hours, it was discovered that a tagging error caused components of both Standby Gas Treatment Systems (SGTS) to be inoperable due to personnel error. At the time, the reactor was operating at 100% power. SGTS train one (1) had its fan breaker de-energized which rendered it totally inoperable while SGTS train two (2) had an instrument power fuse pulled for maintenance which placed it in a degraded mode. It was actually intended that SGTS train two (2) fan breaker be de-energized but the operator preparing the paperwork made an error that was not identified by subsequent independent review. Operation of SGTS train two (2) in this degraded mode would result in lower air flow from the Reactor Building and lower iodine removal efficiency by the charcoal filter. The total time the systems were in this configuration was about two (2) hours. A previous evaluation shows that, in this degraded mode, the charcoal efficiency is still adequate to control releases of iodine within 10CFR100 limits. The reduction in flow rate would have been limited by restricting orifices to approximately 100 cubic feet per minute. Even with this reduction of flow, the system would still have been above the minimum required flow to perform its function. Therefore, the safety significance is considered minimal. Corrective action includes management reinforcement of expected performance and required reading for licensed operators.

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

DATE OF OCCURRENCE

The event was discovered on March 24, 1988 at approximately 1525 hours.

IDENTIFICATION OF OCCURRENCE

Standby Gas Treatment System (SGTS) (EIIS Code BH) train one (1) was inadvertently made inoperable while maintenance activities would have degraded the performance of SGTS train two (2). This condition is in violation of Technical Specification 3.5.B.2 and is reportable under 10CFR50.73(a)(2)(B).

CONDITIONS PRIOR TO OCCURRENCE

The reactor was operating at approximately 100% power. Maintenance had just been completed on a differential pressure switch for SGTS train two (2).

DESCRIPTION OF OCCURRENCE

During the morning of March 24, 1988 a switching and tagging request was submitted by an Instrument and Controls supervisor to remove a fuse to de-energize control power from a SGTS charcoal filter bed differential pressure switch. A failure alarm had indicated a problem with one of several switches associated with SGTS train two (2). A control room operator prepared the necessary tags which received an independent review by another control room operator. At approximately 1255 hours, the equipment was tagged out of service and the maintenance work performed. At approximately 1425 hours, when the control power was re-established in SGTS train two (2), an alarm was received as expected in the control room. The Group Operating Supervisor (GOS), present at the time, realized that possibly both SGTS trains had been inoperable because an alarm was already present indicating the SGTS train one (1) fan had an overload condition. This condition existed because the breaker from the train one (1) fan was racked out. The GOS immediately questioned the control room operators and discovered that an error had been made. At approximately 1445 hours, the tags were removed and the equipment was ready for testing and return to service. During the time between 1255 and 1445 hours, the SGTS train one (1) fan breaker was de-energized and SGTS train two (2) instrument control power was interrupted by the removal of a fuse to work on the differential pressure switch. This condition rendered SGTS train one (1) inoperable while SGTS train two (2) was in a degraded mode.

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APPARENT CAUSE OF OCCURRENCE

The cause of this event is attributed to personnel error. While preparing the tagging documentation, the control room operator inadvertently chose the SGTS train one (1) breaker to be de-energized. This mistake was made because one of the actions to be performed as part of the tagging was to select train one (1) as the primary system if an actuation occurred. Because this was the first piece of information recorded on the tagging paperwork, the operator inadvertently followed through thinking about train one (1) and also recorded the breaker for the train one (1) fan to be de-energized instead of train two (2). The paperwork was then reviewed by an independent control room operator who failed to identify the mistake. During discussions with the independent operator, he admitted that his review could have been more thorough. The fuse, included on the paperwork for train two (2) instrument power, was correctly identified and removed.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

The SGTS functions as part of Secondary Containment to minimize ground level release of radioactive material by keeping the Reactor Building (EIIS Code NG) at a negative pressure with respect to atmospheric pressure. In addition, the air drawn out of the building is filtered by high efficiency particulate filters and a charcoal bed and discharged up the stack. The tagging mistake rendered SGTS train one (1) totally inoperable because the breaker for the fan was de-energized. SGTS train two (2) would have operated without instrument power but would have been in a slightly degraded condition. The SGTS two (2) electrical heating coil would have been inoperable thereby reducing the efficiency of the charcoal in removing iodines. Additionally, the air inlet orifice purge valves would have remained open allowing atmospheric air to enter the system reducing the exhaust flow from the reactor building. The design purpose of these inlet orifice purge valves is to automatically open if a train fails due to low flow. This allows for a small percentage of atmospheric air to pass through the idle system and keep the charcoal bed cool to avoid over heating due to radiological decay heat within the bed. Even though this degraded condition existed, SGTS train two (2) would still have met the minimum design flow rate of 2340 cubic feet per minute. The inlet orifice purge lines are fitted with restricting orifices to minimize the flow rate through these lines to approximately 50 cubic feet per minute per line. A review of the latest surveillances on SGTS flow tests reveals flow rates above 2500 cubic feet per minute. With both inlet orifice purge valves open a total of approximately 100 cubic feet per minute would not be drawn from the Reactor Building. Reactor Building exhaust flow would decrease to 2400 cubic feet per minute, 60 cubic feet per minute above the minimum design flow.

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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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An evaluation has previously been performed on the reduced efficiency of the charcoal bed with air at 100% relative humidity entering the bed. It was found that, with the reduced efficiency, the LOCA exclusion boundary thyroid dose due to iodine is less than 80% of the 10CFR100 limit of 300 Rem. Therefore, loss of the heater did not render the SGTS non-functional.

The safety significance of this event is considered minimal because SGTS train two (2) could have drawn greater than the minimum required flow rate from the Reactor Building and effectively filtered the air even without the heaters..

CORRECTIVE ACTION

Operations department management will review this event with all Operations personnel and stress the importance of attention to detail at all times. In addition, this LER will be issued as required reading for all control room licensed operators.

SIMILAR EVENTS

LER 86-028 - Personnel Error Defeats an Automatic Initiation Function of Standby Gas Treatment System

LER 87-004 - Technical Specifications Violation Caused by Improper Removal of Equipment From Service Due to Personnel Error.

LER 87-021 - Technical specifications Violation Caused by Blocking Open Containment Vacuum Breakers Due to Personnel Error

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**GPU Nuclear Corporation**  
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Writer's Direct Dial Number:

April 25, 1988

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. 88-005.

Very truly yours,

John J. Barton  
Acting Director  
Oyster Creek

JJB:GB:dmd(0450A)  
Enclosures

cc: Mr. William T. Russell, Administrator  
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