



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

June 6, 1989

U.S. Nuclear Regulatory Commission  
ATTN: 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. 89-013.

Very truly yours,

E. E. Fitzpatrick  
Vice President & Director  
Oyster Creek

EEF:MH:dmd  
(0705A:01)  
Enclosures

cc: Mr. William T. Russell, Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Alexander W. Dromerick  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

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

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### LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>OYSTER CREEK</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 2 1 9</b>	PAGE (3) <b>1 OF 0 4</b>
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TITLE (4)  
**TECHNICAL SPECIFICATION SHUTDOWN DUE TO ISOLATION CONDENSER VALVE OPERATOR FAILURE**

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MO/NT	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
											<b>0 5 0 0 0</b>
<b>0 5</b>	<b>0 8</b>	<b>8 9</b>	<b>9 8</b>	<b>0 1 3</b>	<b>0 0</b>	<b>0 6</b>	<b>0 6</b>	<b>8 9</b>			<b>0 5 0 0 0</b>

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)										
	POWER LEVEL (10)	20.406(a)(b)			20.406(e)			50.73(a)(2)(iv)			73.71(b)
		20.406(a)(1)(i)			50.36(e)(1)			50.73(a)(2)(v)			73.71(c)
		20.406(a)(1)(ii)			50.36(e)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.406(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)			
		20.406(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)			
20.406(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)					

LICENSEE CONTACT FOR THIS LER (12)

NAME <b>Alex L. Hawley, Plant Engineer</b>	TELEPHONE NUMBER
	AREA CODE: <b>6 1 0 1 9</b> NUMBER: <b>9 1 7 1 1 - 1 2 3 1 3 5</b>

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
<b>B</b>	<b>B<sub>1</sub> L</b>	<b>2 0 1</b>	<b>L 2 0 0</b>	<b>Yes</b>					

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH DAY YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On May 8, 1989, a reactor plant shutdown and cooldown, as required by Technical Specifications, was conducted due to the "B" isolation condenser becoming inoperable. The isolation condenser became inoperable when isolation condenser condensate return valve, V-14-35, Limitorque operator (type SBD-2-60) tripped due to electrical current overload protection during a valve cycling evolution. This removed remote operation capability, leaving it inoperable in the shut position. Manual operation was still possible. The "B" isolation condenser was out of service approximately 13 hours. The cause of this occurrence is component failure. Immediate investigation revealed that a 3/32 inch roll pin in the Limitorque geared torque switch had sheared, preventing the torque switch from stopping the motor operator when the valve was fully seated in its shut position. The safety significance of this event is considered minimal since during this period the "A" isolation condenser was available for operation. Concurrently with plant shutdown, the "A" isolation condenser was demonstrated operable. The torque switch on V-14-35 was replaced. No evidence of further damage was discovered in the Limitorque operator. Analysis showed that the thrust applied to the valve during the event was not sufficient to damage the valve stem or seat. All other motor-operated valves in the "B" isolation condenser system were tested for operability with satisfactory results.

*IEDD*  
*11*

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  OYSTER CREEK, Unit 1	DOCKET NUMBER (2)  0500021A	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		89	013	00	02	OF 04

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

DATE OF OCCURRENCE

This event occurred on May 8, 1989 at approximately 1630 hours. Shutdown was completed at approximately 2059 hours.

IDENTIFICATION OF OCCURRENCE

A reactor plant shutdown and cooldown, as required by Technical Specifications, was conducted due to the "B" isolation condenser (EIS code BL) becoming inoperable.

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

CONDITIONS PRIOR TO OCCURRENCE

The reactor was critical with the mode switch in the startup position at a power level of approximately one percent. Plant heat-up to hot standby conditions was in progress. Reactor temperature was 280°F and pressure was approximately 40 psi.

DESCRIPTION OF OCCURRENCE

On May 8, 1989, a reactor plant shutdown and cooldown, as required by Technical Specifications, was conducted due to the "B" isolation condenser becoming inoperable. The isolation condenser became inoperable when isolation condenser condensate return valve V-14-35, Limitorque operator (type SBD-2-60) (IEEE component 20) tripped due to electrical current overload protection during a valve cycling evolution.

Station procedures require cycling of normally closed isolation condenser motor-operated valves, during plant heat-up, at each one hundred degree increase in temperature to prevent thermal binding. Valve V-14-35 had been successfully opened, but when it was shut, the motor operator tripped on current overload and would not reset. This removed remote operation capability from the valve, leaving it inoperable in the fully shut position. Manual operation was still possible.

Reactor shutdown was achieved at 1840 hours and cooldown to less than 212°F was completed at 2059 hours. The "B" isolation condenser was out of service approximately 13 hours.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 9	0 1 3	0 0	0 3	OF 0 4

TEXT (If more space is required, use additional NRC Form 306A's) (17)

APPARENT CAUSE OF OCCURRENCE

The cause of this occurrence is component failure. Immediate investigation revealed that a 3/32 inch roll pin in the Limitorque geared torque switch had sheared, preventing the torque switch from stopping the motor when the valve was fully seated in its shut position. The motor control circuitry is designed so that a geared limit switch interrupts current to the motor when opening, and the torque switch acts similarly when the valve shuts at a pre-set stem torque value. The roll pin that sheared connected the pinion gear to its shaft to drive the switch. When the roll pin sheared, the torque switch could not interrupt power to the motor. The motor kept driving the valve into its seat, continually increasing the torque applied until the current overload protector tripped. Presently, it is believed this failure is an isolated case. No other roll pin failures have previously occurred.

ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE

The safety significance of this event is considered minimal since during this period the "A" isolation condenser was available for operation. The purpose of the isolation condenser is to depressurize the reactor and remove decay heat in the event that the main condenser is unavailable as a heat sink and heat removal systems which require AC power for operation are unavailable.

Technical Specifications require two isolation condenser loops to be operable during power operation and any time reactor temperature is above 212°F (except during pressure vessel testing). If one isolation condenser is found to be inoperable during the run mode, the reactor may remain in operation for a period not to exceed seven days provided the motor operated valves in the operable isolation condenser loop are demonstrated daily to be operable. Since the reactor mode switch was still in the startup position and temperature was above 212°F, reactor shutdown was required.

CORRECTIVE ACTION

Concurrently with plant shutdown, the "A" isolation condenser system was demonstrated operable.

The torque switch on V-14-35 was replaced. Valve operation was tested using MOVATS. No evidence of further damage was discovered in the Limitorque operator. Analysis showed that the thrust applied to the valve by the motor operator during the event due to failure of the torque switch was not sufficient to cause damage to the valve stem or seat.

All other motor operated valves in the "B" isolation condenser system were tested for operability with satisfactory results.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
OYSTER CREEK, Unit 1	0   5   0   0   0   2   1   9	8   9	—   0   1   3	—   0   0	0   4	OF   0   4

TEXT (If more space is required, use additional NRC Form 386A's) (17)

FAILURE DATA

Limiterorque Corporation  
Torque Switch Assembly  
Part #B/B 11500-018

SIMILAR EVENTS

- LER 82-057      Emergency Condenser Valve Inoperable
- LER 81-065      "A" Isolation Condenser Isolation Valve Failure
- LER 79-001      Isolation Condenser Valve Failure
- LER 78-017      Isolation Condenser Valve Failure
- LER 78-002      Isolation Condenser Valve

Note:      None of these similar events were due specifically to a torque switch roll pin failure.

0770A: ddm