

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9	PAGE (3) 1 OF 0 4
-------------------------------------------	--------------------------------------	----------------------

TITLE (4)
REACTOR SCRAM ON ANTICIPATORY TURBINE TRIP CAUSED BY LIMIT SWITCH FAILURE

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		
03	06	86	86	004	00	04	07	86	DOCKET NUMBER(S) 0 5 0 0 0 0		

OPERATING MODE (9) R	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)							
POWER LEVEL (10) 0 9 2	20.402(b)		20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)		73.71(b)	
	20.405(a)(1)(i)		50.36(c)(1)	<input checked="" type="checkbox"/>	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)	<input checked="" type="checkbox"/>	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)(ix)				

LICENSEE CONTACT FOR THIS LER (12)						TELEPHONE NUMBER		
NAME John Galanto, Operations Engineer						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	MANUF. TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUF. TURER	REPORTABLE TO NPRDS	
X	S	B 0 0 3 3	N	0 0 7	N					

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

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

While operating at 92% power a surveillance was in progress on turbine stop valves 3 and 4 to verify anticipatory scram signals. Coincidentally, the position switch on stop valve 1 spuriously opened causing an anticipatory turbine trip reactor scram. The reactor mode switch was inadvertently left in the "run" Mode which caused the Main Steam Isolation valves to close when reactor pressure dropped to the low setpoint. Due to the fact that water level increased beyond that which allowed the Isolation Condensers to be operated, pressure was controlled with the Electromatic Relief Valves until the level was lowered enough to allow Isolation Condenser operation. Reactor pressure was lowered, the scram reset, and the Main Steam Isolation valves were opened. The reactor was brought to a hot standby condition. The cause of the scram was attributed to the failure of the position switch on turbine stop valve 1. The switch was replaced and tested satisfactorily. The remaining switches on the other 3 stop valves also tested satisfactorily. Additionally, during this event Containment Isolation valve V-16-14 was declared inoperable following the scram but neither V-16-14 nor V-16-1 were deactivated closed as required by Technical Specifications. At least one valve in the penetration was closed. This condition existed for approximately eight hours until V-16-14 was deactivated closed.

B604140419 B60407
PDR ADOCK 05000219
S PDR

JE22 1/1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

DATE OF OCCURRENCE

The reactor scram occurred on March 6, 1986 at 02:22 hours. Automatic closure of the Main Steam Isolation Valves and manual override of the Isolation Condensers auto activation occurred shortly after the scram.

Failure to comply fully with technical specification 3.5.A.3.a by not deactivating a containment isolation valve when one of the valves was considered inoperable occurred March 6, 1986 at approximately 06:30 hours.

IDENTIFICATION OF OCCURRENCE

A reactor scram occurred which was caused by a sensed anticipatory turbine trip signal (turbine did not actually trip). Automatic closure of the Main Steam Isolation valves occurred approximately 1 minute into the scram. The Isolation Condensers were prevented from auto actuation due to reactor water level increase. Reactor Cleanup System Containment Isolation motor operator valve V-16-14 was considered inoperable following the reactor scram. Technical Specification 3.5.A.3.a requires that at least one isolation valve in a penetration be deactivated closed. At least one valve was closed at all times but neither was deactivated. These events are reportable under 10CFR50.73.a.2.i.B, 10CFR50.73.a.2.IV, and 10CFR50.73.a.2.V.

CONDITIONS PRIOR TO OCCURRENCE

The reactor was operating at approximately 92% power at normal temperature and pressure. All safety systems were operable. Surveillance procedure 619.4.002 "Anticipatory Scram, Turbine Stop Valves Closure Test (> 45% load)" was in progress.

DESCRIPTION OF OCCURRENCE

During a surveillance on Turbine Stop Valves 3 and 4 the anticipatory scram 10% closure setpoint was being tested. Normally, this would cause only a half scram but coincident with the test a spurious signal from the position switch on stop valve 1 caused a full scram to occur due to Turbine Stop Valve closure (stop valves did not actually close) at 02:22 hours. Since the control room operators were involved in the surveillance in progress only one operator was immediately available at the front control panels and he devoted his attention to controlling reactor water level. The Turbine and Main Generator tripped. Plant response was normal. The operators inadvertently left the reactor mode switch in RUN position which caused the Main Steam Isolation valves to close on low main steam line pressure isolating the Main Condensers as a heat sink about one minute later. At 02:23, the Reactor Water Cleanup System tripped and isolated. Reactor water level

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

began to increase from 170 inches Top of Active Fuel (TAF), at this time the mode switch was placed in the SHUTDOWN position. At 02:24 reactor water level was steady at 182 inches TAF but because the level rose above the steam lines to the Isolation Condensers (>180 inches TAF) they were manually overridden to prevent an auto actuation and possible waterhammer event. Reactor pressure control was augmented by using the Electromatic Relief Valves. At 02:36 Reactor Water Cleanup system Containment Isolation valves were opened to attempt a restart of the cleanup system in order to control water level. A high pressure isolation occurred but V-16-14 did not fully close as noted by double valve indication. The torque switch was jumpered out and the valve closed. At 02:45 the cleanup system was successfully started and level was lowered. The "A" Isolation Condenser was placed in service. At 03:52 reactor pressure was lowered to reset the scram and open the Main Steam Isolation Valves. At 5:45 the plant was stable in a hot standby condition.

At approximately 06:16 the Reactor Water Cleanup system was taken out of service to determine the problem with Containment isolation valve V-16-14. Since the valve was declared inoperable and the reactor was not in a cold shutdown condition either V-16-14 or V-16-1 should have been deactivated closed per Technical Specification 3.5.A.3.a. At least one of the valves in the penetration was closed at all times while V-16-14 was declared inoperable. After valve testing was complete the deficiency was discovered and V-16-14 was deactivated closed. This condition existed for approximately 8 hours.

APPARENT CAUSE OF OCCURRENCE

A faulty position switch on turbine stop valve 1 caused the reactor scram by intermittently opening during surveillance test on stop valves 3 and 4. The switch on stop valve 1 was tested and showed variable resistance across the contacts after actuation possibly due to dirty contacts.

Automatic closure of the Main Steam Isolation Valves was a result of operator error by not placing the reactor mode switch to the SHUTDOWN position in a timely manner.

Manual override of the auto actuation of the Isolation Condensers was a result of reactor water level rising above the inlet nozzle to the Condensers.

Containment Isolation Valve V-16-14 was declared inoperable but neither V-16-14 nor V-16-1 was deactivated closed as required by Technical Specifications. This is attributed to operator error.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) OYSTER CREEK, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 2 1 9 8 6	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		86	004	000	4	OF 0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

The anticipatory turbine trip reactor scram is provided to reduce reactor pressure, neutron flux and heat flux in anticipation of the rapid closure of the turbine stop valves and potential failure of the Turbine Bypass system. The scram was due to an actuation of the 10% closure signal of the turbine stop valves. All safety systems that were called on functioned as designed. Plant response was normal.

Other factors contributing to the event were:

- a) The control room operator did not immediately place the mode switch to SHUTDOWN. This caused the Main Steam Isolation valves to close early in the transient which subsequently caused water level rise precluding the use of the Isolation Condensers until level was lowered. Reactor pressure was controlled with the Electromatic Relief Valves.
- b) Due to the fact that V-16-14 was considered inoperable one of the penetration isolation valves was required to be deactivated closed. Although not completely in compliance with the technical specifications, at least one valve was closed at all times. The ability to maintain isolation was intact.

CORRECTIVE ACTION

The position switch on turbine stop valve 1 was found to exhibit momentary open contact signals. The switch was replaced and the new switch satisfactorily tested. Position switches on the number 2, 3, and 4 valves were also tested satisfactorily.

The events that comprised the violation of technical specification 3.5.A.3.a will be reviewed during the operator training program.

In addition, plant procedures concerning level control will be revised which should improve the ability of the operators to control RPV water level post trip.

MANUFACTURER'S DATA

Manufacturer: Namco Controls
 Model: SnapLock Limit Switch
 Operating Range: Normally Open/Normally Closed Contacts

dam:0161A



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

April 7, 1986

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. 86-004.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:BH:dam(0161A)
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

IE22
11