NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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)

REACTOR SCRAM ON APRM DOWNSCALE AND IRM HI-HI

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
0 8	0 9	8 5	8 5	— 0 1 6	— 0 0	0 9	0 5	8 5		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)			
POWER LEVEL (10)	0 9 9	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		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
	AREA CODE
Lynne W. Leitman, Operations Engineer	6 0 9 9 7 1 - 4 3 8 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)	NO				

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

During a plant shutdown on August 9, 1985, the reactor scrammed on coincident signals of Average Power Range Monitors (APRMs) downscale and Intermediate Range Monitors (IRMs) hi-hi. The reactor scrammed properly, all plant systems responded as required, and operators took actions to stabilize the reactor. The cause of this event has been determined to be operator error by the inadvertent insertion of all eight IRMs simultaneously with the APRMs downscale. The IRM operating procedure for plant shutdown has been revised and the IRM drive select switch will be relabeled in order to preclude a similar event in the future.

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

Date of Occurrence

The event occurred on August 9, 1985 at 2218 hours.

Identification of Occurrence

A full automatic scram occurred on coincident signals of Average Power Range Monitors downscale and Intermediate Range Monitors hi-hi during a plant shutdown.

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

Conditions Prior to Occurrence

The plant had commenced a shutdown from approximately 1904 MWt, with reactor pressure at 1020 psig and reactor level 160" above the top of the active fuel. Immediately prior to the scram, reactor power was approximately 8% (160 MWt) and the mode switch was in RUN with the turbine off line and steam flow through the bypass valves.

Description of Occurrence

Prior to the event, the plant was operating at approximately 99% power. Unit Substations 1A2 and 1B2 were declared inoperable due to low transformer oil levels and a plant shutdown was commenced in accordance with Technical Specifications.

Control Room personnel began to reduce power using recirculation flow and by inserting control rods. Shutdown proceeded according to plant procedures and the turbine generator was taken off line at 2212 hours.

When Average Power Range Monitor (APRM) indication reached approximately 8%, a Control Room operator prepared to insert the Intermediate Range Monitors (IRMs) as required by shutdown procedures. The operator selected the "IRM 1-4" position on the Master Drive Select switch, then the "ALL" position on the IRM Drive Select switch, attempting to insert all IRMs in the 1-4 group. When the operator subsequently selected the "IN" position on the IRM-SRM Drive Control, all eight IRMs inserted simultaneously. The operator was adjusting the ranges on IRMs 1-4 when a half scram signal was received for coincident signals of APRMs downscale and IRMs hi-hi on the Reactor Protection System (RPS) channel containing IRMs 5-8. When the operator turned his attention to responding to the half scram alarm, an IRM hi-hi condition resulted from the 1-4 group. Combined with an APRM downscale condition, this signal caused a full automatic reactor scram from a power of approximately 160 MWt. The reactor scrammed properly and plant systems responded as expected.

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

Apparent Cause of Occurrence

The cause of the occurrence has been determined to be operator error. An ambiguous label on the IRM Drive Select switch contributed to the event. The Control Room operator selected the "ALL" position on the IRM Drive Select switch thinking he was selecting all four IRMs in one group (IRMs 1-4), instead of all eight IRMs. The IRMs can be inserted either one at a time or all eight at once, but they cannot be inserted in a group of four.

The inadvertent simultaneous insertion of all eight IRMs caused upscale readings on the four IRM channels not being monitored by the operator coincident with downscale readings on APRM channels, which resulted in a half scram. The APRM downscale readings resulted from at least one Local Power Range Monitor (LPRM) channel input to each affected APRM sensing a downscale condition. While the operator was responding to the half scram alarm as required by procedure, the other four IRMs reached a hi-hi condition coincident with APRMs downscale in that channel. A full reactor scram resulted.

Analysis of Occurrence and Safety Assessment

No single type of detector can effectively monitor neutron flux over the entire range anticipated during reactor operation. The reactor scram on coincident signals of APRMs downscale and IRMs hi-hi is designed to ensure that proper neutron monitoring overlap is provided when going from the STARTUP mode to the RUN mode, and vice versa.

The safety significance of this event is considered minimal since the plant responded as expected and was subsequently brought to a safe shutdown condition.

Corrective Actions

Corrective actions to prevent recurrence are as follows:

a. The label on the IRM Drive Select switch in the Control Room will be changed from "ALL" to "ALL EIGHT".

b. The procedure for IRM operation during plant shutdown has been revised to notify the operator that the "ALL" position on the IRM Drive Select switch will cause all eight detectors to move.

This event will also be discussed with operators during operator training.

GPU Nuclear

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

September 5, 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. 85-016.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:KB:dam(0069A)
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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