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July 6, 1992  
C321-92-2206

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report 92-007.

Very truly yours,

John J. Barton  
Vice President and Director  
Oyster Creek

JJB/JJR  
Attachment

cc: Administrator, Region I  
Senior NRC Resident Inspector  
Oyster Creek NRC Project Manager

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S PDR

*Handwritten initials/signature*

LICENSEE EVENT REPORT (LER)

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

TITLE (4) Reactor Scram Caused by Failed IRM Bypass Switch During Plant Startup

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 NAME	DOCKET NUMBER (9)	
0 6	1 0	9 2	9 2	0 0 7		0 0	0 7	0 6		0 1 5 1 0 1 0 1	
										0 1 5 1 0 1 0 1	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)

OPERATING MODE (9)	<input type="checkbox"/> N	20.402(a)	<input type="checkbox"/> 20.406(a)	<input checked="" type="checkbox"/> 50.72(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10)		25.005(a)(1)(i)	<input type="checkbox"/> 50.36(a)(1)	<input type="checkbox"/> 50.72(a)(2)(v)	<input type="checkbox"/> 73.71(c)
		20.405(a)(1)(B)	<input type="checkbox"/> 50.36(a)(2)	<input type="checkbox"/> 50.72(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 399A)
		20.405(a)(1)(B)(i)	<input type="checkbox"/> 50.72(a)(2)(ii)	<input type="checkbox"/> 50.72(a)(2)(vii)	
		20.405(a)(1)(B)(ii)	<input type="checkbox"/> 50.72(a)(2)(iii)	<input type="checkbox"/> 50.72(a)(2)(viii)	
		20.405(a)(1)(B)(iii)	<input type="checkbox"/> 50.72(a)(2)(iv)	<input type="checkbox"/> 50.72(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Lynne Munzing, Operations Engineer TELEPHONE NUMBER 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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
B	I	G	H	S	G	O	8	2	Y

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

A full reactor scram occurred during a reactor startup on June 10, 1992 at 2301 hours. An Intermediate Range Neutron Monitor Hi-Hi signal caused by electrical noise from a failed bypass switch initiated the scram. All systems responded to the scram as expected and there was no safety significance to this event. The plant was placed in COLD SHUTDOWN at 0100 hours on June 11. Both Intermediate Range Neutron Monitor bypass switches were replaced before restart. A review of the same design switch in other applications has revealed reliability concerns. Another model switch has been evaluated and will be used for all future replacements.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR 1 0 0 7	REVISION NUMBER 0 0 0 2	

TEXT (If there are any references, use abbreviated NRC Form 366A's) (17)

Date of Occurrence

The event occurred on June 10, 1992, at 2301 hours.

Identification of Occurrence

A full reactor scram occurred on an Intermediate Range Neutron Monitor (IEEE-2) high-high signal. This is reportable in accordance with 10CFR50.73(a)(2)(iv).

Conditions Prior to Occurrence

The reactor was in the STARTUP mode (less than 0.5% reactor power) with three Intermediate Range Neutron Monitors (IRM) in Range 6 and five IRMs in Range 7. Reactor coolant temperature was 212 degrees F.

Description of Occurrence

The reactor mode switch was placed in STARTUP at 2125 hours on June 10, 1992. Criticality was achieved at 2240 hours. The reactor was being maintained critical while a correlation between IRM ranges 6 and 7 was being performed sequentially by the Instrument Technicians. The correlation is necessary because the monitors switch to a different amplifier (CFI-AMP) when going from Range 6 to Range 7. Five of the eight IRMs had been correlated and were in Range 7. An operator was preparing to bypass the next IRM for correlation when a reactor scram occurred on an IRM Hi-Hi signal. The operator does not recall touching the bypass switch, but may have inadvertently brushed against it while preparing to bypass the next IRM. No alarms annunciated before the scram to indicate any abnormal conditions. Analysis of plant computer (EIIIS-ID) data indicated the IRM Hi-Hi signal was present for approximately 25 milliseconds. All control rods (EIIIS-AA) fully inserted and no other Engineered Safety System actuated. The reactor was brought to COLD SHUTDOWN at 0100 hours on June 11, 1992.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR 1	SEQUENTIAL NUMBER	REVISION NUMBER	
		0 0 7	0 0		

TEXT (If more space is required, see additional NRC Form 365A (1))

Apparent Cause of Occurrence

The possibilities of cold water addition, control rod movement, and a control rod drop were analyzed and found not to have occurred. The event was not caused by reactivity addition.

The IRM Hi-Hi signals were apparently caused by electrical noise generated in the bypass switch(es) (CFI-HS). The bypass switch associated with the Reactor Protection System (RPS) 2 (IEEE-JC) IRMs had failed such that electrical noise associated with the bypass circuitry caused three IRMs in that RPS channel to receive upscale trip signals. Further investigation which attempted to recreate the event conditions revealed that IRMs could receive Hi and Hi-Hi alarms by lightly touching the bypass switch. IRM 12, associated with RPS 1 has been demonstrated to be more sensitive to electrical noise than the other IRMs. IRM 12 apparently sensed electrical noise at the same time as three IRMs in RPS 2, thus causing the scram.

Analysis of Occurrence and Safety Significance

The IRM Hi-Hi scram is designed to provide protection to the core in the event of an uncontrolled reactivity addition. The IRM scram logic is a one out of four taken twice arrangement. There are eight IRM detectors, with four detectors associated with each channel of the two-channel RPS. In this case, there was no reactivity addition. The IRM system responded to an apparent signal in multiple channels caused by electrical noise. As there was no reactivity addition and all systems responded as expected to the scram signal, this event represents an unnecessary challenge to the Reactor Protection and Control Rod Drive (IEEE-AA) systems, but there is no safety significance.

Corrective Actions

Immediate actions were taken to place the plant in the COLD SHUTDOWN condition. A Post Transient Review group was convened to analyze the event. Both IRM bypass switches were replaced with switches of the same model and manufacturer before plant restart.

Use of the same switch in other applications (such as the Average Power Range Monitor System) has revealed reliability problems. Another model switch has been evaluated and will be used for all future replacements.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR (4)  0 0	SEQUENTIAL NUMBER (5)  7	REVISION NUMBER (7)  0 0	

TEXT (8) should appear in REPORTS, and CONTINUE NRC Form 306A (9/117)

Failure Data

Manufacturer: General Electric Co.; Nuclear Engineering Division, G082  
 Model Number: DJ188C8892P001

Similar Events

None.