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 4

TITLE (4)
IRM SETPOINTS EXCEEDED TECHNICAL SPECIFICATION LIMITS

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	2 2	8 5	8 5	—	0 1 0	—	0 0	0 6	1 9	8 5		0 5 0 0 0
												0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 8 1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 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
Robert J. Murdock, Engineering Assistant, Sr. II	AREA CODE 6 0 9 — 9 7 1 - 4 4 6 4

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)	X NO				

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

On Wednesday, May 22, 1985, following a check of IRM setpoints, it was discovered that several upscale and downscale setpoints had exceeded Technical Specification limits.

The alignment procedure, which would establish and adjust these setpoints, was inadvertently deleted in September of 1979. This procedure is normally performed during refueling outages. The plant IRM front panel test, which is executed weekly, does not test actual setpoints due to equipment design limitations.

A job order was issued to document the "as found" setpoints and to return all within Technical Specification limits.

A new refueling IRM alignment procedure will be developed and a test device modification to enhance setpoint testing is being evaluated.

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Date of Occurrence

The event was discovered on May 22, 1985.

Identification of Occurrence

IRM upscale and downscale setpoints exceeded allowable Technical Specification limits of Section 2.3.A.2, and table 3.1.1, K.3 and K.6.

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

Conditions Prior to Discovery

The reactor was operating in the RUN mode with reactor coolant temperature at 540°F. Generator load was 502 MWe.

Description of Occurrence

On Wednesday, May 22, 1985, while reviewing "as found" data on IRM setpoints, it was discovered that some upscale scram and upscale rod block setpoints had exceeded the allowable Technical Specification limits of 38.4% and 34.56%, respectfully. Also, all downscale rod block setpoints were discovered to be set too low. (0.64% versus $\geq$ 1.6% for 0 to 40 scale or 2% versus 5% for 0 to 125 scale).

This "as found" data had been requested by Plant Engineering when it was learned that proper documentation of past alignments may not have been maintained due to the inadvertent deletion of the IRM calibration procedure.

The present IRM front panel test does verify downscale and upscale trip function but does not test the actual point at which the trips occur. The IRM built-in calibration equipment does not contain a control to "ramp" indication over the range of the instrument, which would be required to test each actual setpoint.

Apparent Cause of Occurrence

The apparent cause of occurrence is attributed to the inadvertent deletion of the IRM calibration procedure which occurred in September of 1979. Since the deletion of this procedure, the IRM drawers have been

calibrated during refueling outages by instructions in applicable vendor manuals. The actual "as found" and "as left" setpoints have not been documented using this method of calibration.

Another contributing factor to this occurrence is inadequate equipment design for setpoint verification. The present front panel test verifies that setpoint trips have occurred, but the equipment built-in test device does not permit a test signal to be "ramped" to verify actual trip settings. The front panel test is written in accordance with vendor manual recommendations.

Analysis of Occurrence and Safety Assessment

The IRM System monitors core flux from 0.0001% to approximately 40% of rated power and is operational during the STARTUP mode. This system must be ranged linearly according to the neutron level in the core and is arranged to provide a trip on any neutron level change that is too rapid to be followed by ranging. Therefore, the IRM System limits the rate of power level change in the Reactor.

The downscale rod block trip would prevent rod withdrawal with an IRM downscale condition. This would indicate a failed IRM detector or amplifier module. This trip is bypassed in Range 1 to accomodate startup conditions. The safety significance of the misaligned downscale trip is minimal since a failed detector or amplifier would yield a zero IRM meter condition resulting in a downscale rod block, even at 2% on a scale of 0 to 125.

The upscale rod block setpoint Technical Specification limit is less than or equal to 34.56%. The highest rod block setpoint discovered during this occurrence was 35.85%.

The upscale scram setpoint Technical Specification limit is less than or equal to 38.4%. The highest scram setpoint discovered during this occurrence was 39.04%.

Again, the safety significance of these errors is minimal since the APRMs were operable to provide fuel cladding integrity. During reactor startup, the APRM scram is set at 87.1% of rated power at 65% of rated recirculation flow. The IRMs would have still terminated a flux excursion long before the APRM setpoint was reached since the highest IRM setpoint was 39.04%. Also, there is a significant uncertainty error built into the IRM upscale rod block and scram setpoints.

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

Corrective Action

The immediate corrective action was to align all IRM setpoints within Technical Specification limits, documenting "as found" and "as left" setpoint conditions for future trend analysis. Future actions and solutions to be evaluated include the following:

1. Prepare an IRM calibration procedure which would be performed during refueling outages. This procedure would bench align all drawer modules and document "before" and "after" setpoint conditions.

2. A modification is being evaluated to permit testing trip settings during the weekly front panel test. This modification would involve the addition of a front panel potentiometer which could ramp indication from 0 to 125% in the test mode.

GPU Nuclear

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Writer's Direct Dial Number:

June 19, 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. 85-010.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:KB:dam(0971A)
Enclosures

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