LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket Number (2)	Page (3)
LaSalle County Station Unit 2	0 5 0 0 0 3 7 4	1 of 0 4

Title (4) Unplanned Engineered Safety Feature Actuation During Modification Testing Caused by Personnel Error

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)
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0 4	0 2	8 7	8 7	---	0 0 6	0 0	0 5	0 1	8 7		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
5		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text)
		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
Ned W. Jacklin, Technical Staff Engineer, extension 397	AREA CODE 8 1 5 3 5 7 - 6 7 6 1

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
A	J M			N						

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)

At 1044 hours on April 2, 1987, with Unit 2 defueled, Operational Analysis Department (OAD) test engineers were performing functional/logic testing in the Primary Containment isolation circuitry that was changed as a result of a modification. During the course of the testing, an unexpected Group II isolation (Engineered Safety Feature, ESF) occurred.

The apparent cause of this event was inattention to detail by the OAD test engineers. Prior to testing, the engineers did not adequately review the circuitry that would be affected by the test.

Since this event occurred during an outage, most of the equipment affected was already in the isolated condition due to plant conditions necessary to support outage work. Equipment that was not in an isolated condition prior to the event, and whose isolations were not defeated (to support outage work), isolated per design upon initiation.

This event is reportable pursuant to 10CFR50.73(a)(2)(iv) due to the actuation of an ESF System.

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TEXT

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

A. CONDITION PRIOR TO EVENT

Unit(s): 1 Event Date: April 2, 1987 Event Time: 1044 hours

Reactor Mode(s): Defueled Mode(s) Name: Defueled Power Level(s): 0%

B. DESCRIPTION OF EVENT

At 1044 hours on April 2, 1987, with Unit 2 defueled, two Operational Analysis Department (OAD) test engineers were performing functional/logic testing (in accordance with Electrical Construction Test Procedure 19) on equipment installed under the Alternate Rod Insertion (ARI, RD) [AA] modification (M-1-2-84-061). This modification not only installed the ARI system, but also lowered the isolation setpoint for the Main Steam Isolation Valves (MSIV's, MS) [SB] and the Instrument Nitrogen System (IN) [LE].

Specifically, the OAD engineers were performing functional/logic testing in the Primary Containment (PC) [JM] isolation circuitry that was changed as a result of the modification. Prior to starting the test, the OAD engineers had informed the operating (shift) personnel that only Group I isolation circuitry would be affected by the test. Since the MSIV's were already closed, the testing would not change the position of the valves. However, the testing also verified the function of two relays which were added to the manual initiation portion of the isolation circuitry. The new manual isolation relays, 2B21-K35BX1 and 2B21-K35DX1, are installed in parallel with existing manual isolation relays 2B21-K35B and 2B21-K35D, respectively.

The two new isolation relays, which are in separate channels of the isolation circuitry, were tested one at a time. To demonstrate that the new isolation relays were properly wired, the OAD engineers proceeded to the nearest terminal point upstream of the new relay, and lifted the lead supplying power to the relay. This not only deenergized the new relay (2B21-K35BX1/2B21-K35DX1), but also the existing relay (2B21-K35B/2B21-K35D), which caused the Group II isolation.

The Unit 2 operator (NSO, licensed RO) determined that a Group II isolation had occurred (Post LOCA Containment Monitoring System (CM) [IK] had started) and identified that the activities of the OAD engineers may have caused the isolation. The Unit 2 NSO immediately notified the OAD engineers to stop the test, and an investigation was conducted with the Operating (shift) and OAD personnel involved.

There were no other systems or components inoperable at the beginning of the event which contributed to the event.

This event is reportable pursuant to 10CFR50.73(a)(2)(iv) due to an actuation of an Engineered Safety Feature (ESF) System.

TEXT

C. APPARENT CAUSE OF EVENT

The apparent cause of this event was inattention to detail by the OAD engineers performing the test. The OAD engineers did not review the entire relay development for the existing relays (2B21-K35B/2B21-K35D). The engineers assumed that the schematic diagram details for the existing relays all pertained to the MSIV isolation logic because the relays were identified on a schematic containing MSIV logic. These existing manual isolation relays are the initiating logic for multiple isolation groups.

D. SAFETY ANALYSIS OF EVENT

The safety consequences of this event were minimal since the unit was defueled. At the time of the isolation, most of the equipment affected was already in the isolated condition due to the low water level condition that existed in Unit 2 to support outage work. Equipment that was not in an isolated condition prior to the event, and whose isolations were not defeated (i.e., secondary containment isolations were defeated to prevent Unit 2 isolations due to low vessel level and high drywell pressure), isolated per design upon initiation.

E. CORRECTIVE ACTIONS

The following corrective actions were taken.

1. The Unit 2 NSO notified the OAD test engineers to immediately stop the test, and an investigation was conducted with the Operating (shift) and OAD personnel involved.

2. Electrical Construction Test Procedure 19 was reviewed and found to be adequate.

3. Further OAD isolation logic/functional testing for this modification was reviewed in advance by a member of the station's Outage Planning Group (a licenced SRO) for possible interactions with other systems.

4. All OAD personnel were trained on this event, with emphasis placed on attention to detail for relay reaction and the detail of information exchange with Operating (shift) personnel.

5. The station's Technical Staff is performing a review of the current testing philosophy by OAD. Action Item Record (AIR) 374-200-87-02500 will track completion of this review.

6. Since the OAD test engineers involved in this event were not permanently assigned to the station, a review is being conducted to determine if additional site specific training is necessary for OAD personnel. This item is tracked by AIR 374-200-87-02501.

7. All station personnel will be tailgated on this event. This item will be tracked by AIR's 374-200-87-02402 through 02403.

TEXT

F. PREVIOUS EVENTS

None.

G. COMPONENT FAILURE DATA

None.

Commonwealth Edison
LaSalle County Nuclear Station
Rural Route #1, Box 220
Marseilles, Illinois 61341
Telephone 815/357-6761

May 1, 1987

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

Licensee Event Report #87-006-00, Docket #050-374 is being submitted to your office in accordance with 10CFR50.73(a)(2)(iv).

G. J. Diederich
Station Manager
LaSalle County Station

GJD/NWJ/kg

Enclosure

xc: Nuclear Licensing Administrator
NRC Resident Inspector
NRC Region III Administrator
INPO - Records Center

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