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)
PALISADES NUCLEAR PLANT	0 5 0 0 0	1 OF 0 4

TITLE (4)

INADVERTENT CONTAINMENT ISOLATION ACTUATION DURING POST-MODIFICATION TESTING

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)
									N/A	0 5 0 0 0
1 0	0 1	8 8	8 8	0 1 9	0 0	1 0	3 1	8 8	N/A	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)			
N		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, 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
CSKozup, Technical Engineer, Palisades	AREA CODE 6 1 6 7 6 4 - 8 9 1 3

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	
X	J E										

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)

Abstract

On October 1, 1988, at 1305, an inadvertent containment isolation actuation signal was received. This event occurred during the performance of a post-modification test to verify proper reinstallation of the left channel containment high radiation initiate switch [JE;17]. This switch was being relocated within Control Room panel EC-13 as part of the Palisades detailed Control Room design review. The reactor was in the refueling condition at the time of the event.

After relocation of containment high radiation initiate switch CHRC/CS, a post-modification test was performed to verify proper installation of relocated equipment. During performance of this test, precautions were taken to prevent inadvertent actuations by rendering relays downstream inoperable. The root cause of the actuation could not be absolutely identified, however, the most likely cause is felt to be associated with other activities in progress not being performed as part of this event.

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Description

On October 1, 1988, at 1305, an inadvertent containment isolation actuation signal was received. This event occurred during the performance of a post-modification test to verify proper reinstallation of the left channel containment high radiation initiate switch [JE;17]. This switch was being relocated within Control Room panel EC-13 as part of the Palisades detailed Control Room design review. The reactor was in the refueling condition at the time of the event.

The containment isolation control system is designed to isolate the Containment Building upon occurrence of either containment high pressure or containment high radiation. This system is designed on a two channel (left and right) concept with redundancy and physical separation. Each channel is capable of initiating a containment isolation. A containment isolation actuation signal is initiated on containment high radiation with two-out-of-four logic. Radiation levels are monitored by four detectors located in the lower level of the Containment Building. Coincident two-out-of-four high-radiation signals will trigger an alarm in the Control Room, close all containment isolation valves not required for engineered safety features and isolate the Control Room ventilation system.

After relocation of containment high radiation initiate switch CHRL/CS, post-modification test T-FC-760-5-1, Testing of Switch and Light Relocation, on Panel EC-13 was performed. This test was designed to verify proper installation of relocated equipment without causing system actuations. During performance of the portion of this test associated with initiate switch CHRL/CS, the containment high radiation relays (5R-1 through 5R-8) [JE;RLY] downstream of the actuation relays were rendered inoperable to prevent inadvertent actuations. Initiate switch CHRL/CS was then depressed to simulate a high radiation signal, thereby energizing two of the actuation relays. However, when initiate switch CHRL/CS was depressed, a right channel containment high radiation signal and a subsequent containment isolation actuation signal was received.

Cause Of The Event

In attempting to identify the cause of this event, the following steps were taken:

1. Operations, Testing and Construction personnel involved with the test were interviewed to ascertain if any anomalies were noted. No difficulties were noted.

2. The test was re-performed twice, on October 5 and October 7, 1988, with no indication of problems or subsequent inadvertent containment isolation actuations.

3. The Events Recorder and Data Logger outputs were reviewed. However, no information was available as to whether the inadvertent actuation was initiated by the left or right channel. The Data Logger did indicate that a right channel Control Room air filter fan had started.

4. Circuit continuity checks were performed to verify the two-out-of-four logic was correctly wired. All wiring was verified to be correct.

5. Switching and tagging orders for the time period of the test were reviewed to determine if other equipment tagged could have interacted with the actuation logic. No such equipment was noted.

6. The design of the test was discussed and reviewed with Electrical Maintenance personnel and independently verified by additional Plant Projects Department engineering personnel. These reviews confirmed that isolation points were adequate to prevent inadvertent actuations.

7. A review of other work in progress or conditions in effect in the area of relays associated with test was performed. This review revealed that other activities were in progress in the vicinity of these relays at the time of the test. Therefore, it is possible that other personnel working in panel EC-13 may have bumped an associated relay or caused shorting across an actuation relay.

Based on the above investigations, the root cause of this event could not be absolutely identified. However, the most likely cause is felt to be associated with activities not being performed as part of this test.

Corrective Actions

After reviewing all data collected and the direction provided in the test, the test was re-performed on October 5 and October 7, 1988. Neither of these test performances resulted in inadvertent containment isolation actuation signals. These efforts further demonstrated the test procedure and circuit logic were adequate.

Operations Department procedures will be reviewed to determine the need for revision regarding information recovery after inadvertent engineered safety feature actuations. This review will specifically focus on guidance provided regarding careful and deliberate recovery steps to pressure troubleshooting and root cause determination information.

Analysis Of The Event

During this event, the reactor was in the refueling condition and all required containment isolation features for this condition were in place. Therefore, no threat to the health and safety of the public was imposed by this inadvertent actuation.

This event is being reported per 10CFR50.73(a)(2)(iv) as an event which resulted in the actuation of an engineered safety feature.

Additional Information

For additional information regarding other inadvertent containment isolation signals, reference Licensee Event Reports 84-002, 84-005, 84-011, 05-030, 86-008, 88-014, 88-016, 88-017 and 88-018.

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Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
LICENSEE EVENT REPORT 88-019 - INADVERTENT CONTAINMENT
ISOLATION ACTUATION DURING POST-MODIFICATION TESTING

Licensee Event Report (LER) 88-019, (Inadvertent Containment Isolation Actuation During Post-Modification Testing) is attached. This event is reportable to the NRC per 10CFR50.73(a)(2)(iv).

Brian D Johnson
Staff Licensing Engineer

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachment

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