Iowa Electric Light and Power Company

May 1, 1992
NG-92-2195

Mr. A. Bert Davis
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
Licensee Event Report #92-005

Gentlemen:

In accordance with 10 CFR 50.73 please find attached a copy of the subject Licensee Event Report.

Very truly yours,

David Wilson

David L. Wilson
Plant Superintendent - Nuclear

DLW/JK/eah

cc: Director of Nuclear Reactor Regulation
Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D. C. 20555

NRC Resident Inspector - DAEC

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NRC Form 366A (5-89) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO 3150-0104

EXPIRES 4-30-92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON DC 20503

FACILITY NAME (1): Duane Arnold Energy Center

DOCKET NUMBER (2): 0 5 0 0 0 3 3 1

PAGE (3): 1 OF 0 3

TITLE (4): Primary Containment Isolation System Half Group III Isolation due to Spurious Signal During Refueling/Maintenance Outage

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 4	0 8	9 2	9 2	— 0 0 5	— 0 0	0 5	0 1	9 2	None	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 0 0 0

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

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
John D. Kerr, Technical Support Specialist	3 1 9 8 5 1 - 7 4 9 2

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)

[ ] YES (If yes, complete EXPECTED SUBMISSION DATE)

[X] NO

EXPECTED SUBMISSION DATE (15): MONTH — DAY — YEAR

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

On April 8, 1992, the plant was in cold shutdown for a refueling /maintenance outage. A Primary Containment Isolation System Group III ("A" side) isolation occurred along with the initiation of the "A" Standby Gas Treatment System and isolation of Secondary Containment. None of the initiating devices showed any indication of cause of the isolation. Although there was work in progress in various areas of the plant, including wiring in the Control Room, none of this work appeared to have been the source of the isolation signal. Following investigation into the cause of the isolation and verification of isolation completion, the isolation was reset without further problems. The plant responded as expected with no effect on safe operation.

I. DESCRIPTION OF EVENT

On April 8, 1992, the plant was in cold shutdown during a refueling and maintenance outage. All of the fuel had been reloaded into the reactor vessel by April 6, 1992. Maintenance activities were in progress throughout the plant. At 0954 hours the Control Room received a Primary Containment Isolation System (PCIS) Group III isolation signal from the "A" channel logic for unknown reasons. In addition to the Primary Containment isolations, the "A" Standby Gas Treatment System aligned to the isolation status and Secondary Containment isolated as designed. Operators confirmed the automatic actions, and checked the status of the devices which could cause a Group III isolation. None of the five initiating signals in the logic for a Group III isolation showed any indication of the actual source of the isolation signal.

II. CAUSE OF EVENT

The root cause for the Group III isolation is unknown. All the inputs to the initiation logic were checked without any abnormalities being identified. Work was being performed in several areas of the plant which have Group III initiation equipment and cables including the Offgas Stack, the Refuel Floor, and the Reactor Building, but no specific activity could be related to the trip signal. Radiation monitors in these areas comprise three of the five possible sources of Group III Isolation Signals. The other two sources are low vessel level and high drywell pressure, but these signals also initiate several other group isolations and none of these isolation signals were received. At 1009 hours (15 minutes after the isolation occurred) the isolation was momentarily reset to determine if the isolation signal was still present. The isolation was successfully reset. The ability to do this eliminated the possibility of a blown fuse, cut wires, or defective relay as the cause of the isolation signal. No alarms were received when the isolation was reset, indicating that the initiating condition no longer existed. At 1010 hours the isolation logic was manually tripped via the Fuel Pool radiation monitor. Again, all equipment that was not already isolated or blocked due to plant conditions functioned as expected. This was done because although there was no indication that any of the above five isolation conditions actually did exist, the source of the isolation signal was still unknown. The operators wanted to investigate further before they concluded that the signal was spurious and returned the plant to normal status. After finding nothing further, the isolation was reset at 1122 hours. An attempt was made to recreate the circumstances which were suspected to have caused the isolation by jiggling a group of cables in the Control Room where a worker happened to be making a wire termination at the time of the isolation. This action did not produce another isolation. Plant walkdowns, equipment inspections, document reviews, and interviews with Operations, Engineering, Radiation Protection personnel, and others found all equipment performing properly with no identifiable source for the isolation signal.

III. ANALYSIS OF EVENT

This event had no effect on personnel safety or the safe operation of the plant. The Group III isolation function is designed to ensure that no effluent releases to the public occur by isolating the Reactor Building and portions of Primary Containment from the outside environment. Its actuation does not negatively affect safe plant operation. The Group III isolation, Standby Gas Treatment System initiation, and Secondary Containment isolation functioned as designed in response to the signal received. Had this event occurred under different plant conditions, the effect on safe operation would have been the same.

IV. CORRECTIVE ACTION

The immediate corrective actions were to confirm the automatic actions required by the event and check the status of the devices that can cause a Group III isolation as discussed above in paragraph I. After verifying power supply integrity and proper operation of the isolation equipment, the isolation was reset as discussed in paragraph II above. Further troubleshooting and followup investigation activities found all equipment performing properly with no identifiable source for the isolation signal. The event has not recurred since the April 8 isolation.

V. ADDITIONAL INFORMATION

A. Previous Similar Events

A review of DAEC LERs since 1984 identified the following Half Group III Isolations: LER 91-06, 90-08, 90-11, 88-03, 88-11, 88-17, 87-10, 87-11, 87-14, 87-17, 87-29, 86-09, 85-12, 85-22, 84-7, 84-22. LER 84-22 was similar in that none of the initiating devices showed any indication of cause of the isolation and no cause was determined. The causes and sources of the other isolations were determined.

B. EIIS System and Component Codes

Systems: JM, BH, ED Components: None

This event is being reported pursuant to 10CFR50.73 (a)(2)(iv)