

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Duane Arnold Energy Center										DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 1					PAGE (3) 1 OF 02	
TITLE (4) Unplanned RWCU Isolation																
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)			
									None				0 5 0 0 0			
0 5	2 1	8 4	8 4	0 1	9	0 0	0 6	2 0	None				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)				20.406(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		20.406(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)		
0 0 0		20.406(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.406(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)						
		20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)						
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME Kenneth S. Putnam, Technical Support Engineer										TELEPHONE NUMBER						
										AREA CODE 3 1 9 8 5 1 - 7 4 5 6						
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	C	E		No												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				

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

At 0507 hours on May 21, 1984, while the reactor was in cold shutdown, a unplanned partial Group V (Reactor Water Clean-Up Inlet Line) isolation was experienced due to noise in the Reactor Water Clean-Up (RWCU) leak detection electrical circuitry. Similar isolations occurred on June 3, June 5, and June 6 (also while in cold shutdown). Each of the isolations was investigated and determined to be spurious.

Maintenance performed trouble shooting activities in an effort to determine the root cause for these isolations. Inspection of the isolation logic and electrical components of the circuitry identified no specific problems. The spurious isolations appear to be caused by random noise in the circuit.

The spurious isolation of the RWCU system has been a recurrent problem. Although primary containment isolation was not required to be operable, this event is reportable as an ESF actuation (containment isolation).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Duane Arnold Energy Center	0500033184	—	019	—	00	02	OF 02

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

At 0507 hours, while the reactor was in cold shutdown, the inboard reactor water clean-up inlet valve, CE-ISV-2700, automatically isolated for no immediately apparent reason, thus constituting an unplanned actuation of an engineered safety feature. After investigation of the situation, operators correctly attributed the isolation to electrical noise. At 0528 hours the inlet valve was reopened and the RWCU system was restored to normal.

On June 5, 1984 and again on June 6, 1984 the RWCU system isolated in a manner identical to the event described above. On June 3, 1984 a similar event occurred with redundant inlet valve CE-ISV-2701 isolating. The cause of each of these events appears to have been electrical noise in the RWCU leakage detection circuitry.

Trouble shooting activities and inspections were initiated to determine the root source of the electrical noise and spurious isolations. The isolation logic and electrical components of the circuitry were inspected and tested. Testing included temperature monitoring equipment and the RWCU isolation relays' dropout voltage.

These activities were unable to identify a specific problem. We believe the spurious isolation signals are the result of random noise in the circuit. The spurious isolation of the reactor water clean-up system has been a recurrent problem. Further study to reduce the susceptibility of the system to spurious isolation from random electrical noise is being pursued.

Although primary containment isolation was not required to be operable (Technical Specification 3.7.A) the containment isolation performed as designed during these events.

Iowa Electric Light and Power Company
June 20, 1984
DAEC-84-396

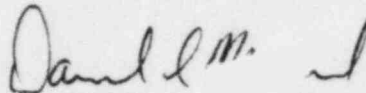
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No. 50-331
Op. License DPR-49
Licensee Event Report No. 84-019

Gentlemen:

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

Very truly yours,



Daniel L. Mineck
Plant Superintendent - Nuclear
Duane Arnold Energy Center

DLM/KSP/kp

attachment

cc: Mr. James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

NRC Resident Inspector - DAEC

File A-118a

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