

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Duane Arnold Energy CenterDOCKET NUMBER (2)
0 5 0 0 0 3 3 1 1 OF 0 2TITLE (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)							
0	4	1	6	8	4	8	4	0	1	4	0	5	0	0	0		
									None	0	5	0	0	0			
									None	0	5	0	0	0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)															
N		20.402(b)			20.406(c)			X 50.73(a)(2)(iv)			73.71(b)						
POWER LEVEL (10)		0 0 0			20.406(a)(1)(i)			50.73(a)(2)(v)			73.71(c)						
		20.406(a)(1)(ii)			50.38(c)(1)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
		20.406(a)(1)(iii)			50.38(c)(2)			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)(ix)									
		20.406(a)(1)(vi)			50.73(a)(2)(iv)												

LICENSEE CONTACT FOR THIS LER (12)
NAME
Michael S. Harris, Technical Support EngineerTELEPHONE NUMBER
AREA CODE
3 1 9 8 5 1 - 7 3 0 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	
X	C E	T D S T	2 8 7	Yes						

SUPPLEMENTAL REPORT EXPECTED (14)
YES (If yes, complete EXPECTED SUBMISSION DATE) ☐ NO ☒ X
EXPECTED SUBMISSION DATE (15)
MONTH DAY YEAR

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

At 1953 hours, while the reactor was in cold shutdown, the inboard Reactor Water Cleanup inlet valve isolated when a Group III isolation was purposely auto-initiated during surveillance testing of secondary containment. As expected, the Group III isolations initiated per design. However, in addition to the Group III, a partial unplanned Group V isolation was experienced when the RWCU inlet valve isolated for no immediately apparent reason. After determining that the isolation was spurious, the valve was reopened and the RWCU system was restored to normal.

Subsequent troubleshooting of the system confirmed that the valve was auto-isolating due to electrical noise on a RWCU Leak Detection Temperature Differential Switch. The Temperature Switch was subsequently changed out and has functioned satisfactorily without further incident.

Throughout the spurious isolations, the Group III and V isolation logic was fully operable and the safety functions of the affected systems were not degraded. There were no adverse effects on public health and safety. There have been five previous occurrences of a similar nature.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Duane Arnold Energy Center	DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 8 4 - 0 1 4 - 0 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0 2	OF	0 2

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

At 1953 hours, while the reactor was in cold shutdown, the inboard Reactor Water Cleanup inlet valve, CE-ISV-2700, automatically isolated when both refuel floor radiation monitors (IL-RT-4131-A/B) were manually tripped during surveillance testing of secondary containment. The surveillance test is designed to auto-initiate a Group III isolation, initiate the Standby Gas Treatment System, and subsequently prove the capability of secondary containment to maintain a vacuum of a 1/4 inch water. The systems under test functioned per design. However, in addition to the expected Group III isolations, the RWCU inlet valve (part of a Group V isolation) isolated for no immediately apparent reason and, as such, constituted an unplanned actuation of an engineered safety feature. After a preliminary diagnosis of the situation, operators correctly attributed the isolation to electrical noise. At 2011 hours the inlet valve was reopened and the RWCU system was restored to normal.

In the process of troubleshooting the system, the surveillance test procedure generating the Group III isolation was repeated several times on 4/16, 4/23, and 4/25 and the RWCU valve auto-isolated all but once. An evaluation of the RWCU isolation logic and the repeated isolations revealed that the valve was being closed due to the susceptibility of a RWCU Leak Detection Temperature Differential Switch, CE-TDS-2743-C, to electrical noise generated during the Group III. This Temperature Differential Switch is one of six designed to isolate the RWCU system (CE) on high differential temperature between the inlet and outlet system ventilation ducts.

The TDS was exchanged with another of identical type and qualifications. Following the exchange, the replacement TDS functioned satisfactorily with no further trips on a Group III isolation. The TDS was placed in service on 4/27/84 and has functioned per design without further incident.

Throughout this situation, the reactor was in cold shutdown and the isolation functions of the affected systems were fully operable. There was no effect on public health and safety. There have been five previous occurrences of a similar nature. Apart from the corrective actions outlined above, no further action is warranted or planned at this time.

Iowa Electric Light and Power Company

May 16, 1984

DAEC-84-303

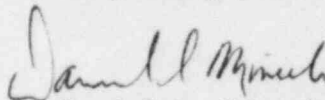
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No. 50-331
Op. License DPR-49
Licensee Event Report No. 84-014

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/MHS/pv

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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