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)
Duane Arnold Energy Center	0 5 0 0 0 3 3 1	1 OF 0 2

TITLE (4)
Reactor Scram on IRM's Upscale

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	3 0	8 4	8 4	-	0 1 5	-	0 0	0 5	3 0	8 4	None	0 5 0 0 0
												0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 1 0	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
Michael S. Harris - Technical Support Engineer	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 NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
A	J C										

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)

While in the startup mode, at 0237 hours on 4/30/84, DAEC experienced a reactor scram due to IRM upscale trip. Neutron flux at the time was being monitored on the SRM's and on IRM Range 1 with reactor power at less than .001% rated. Reactor coolant pressure was approximately 100 psi prior to the scram. Reactor had been brought to 400 psi several hours earlier to perform startup inspection for leakage. No observable coolant level or pressure transient occurred. All systems performed as designed. The cause of the scram was an operator error in recognizing the positive reactor period (approximately 20 seconds) and, consequently, failing to select higher IRM scales. Appropriate disciplinary action was taken for the reactor operator. Following post-event review, restart occurred without further complication in the afternoon of 4/30/84.

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

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

While the reactor was in the startup mode at 0237 hours on 4/30/84, the DAEC experienced a reactor scram due to an Intermediate Range Monitor (IG) upscale trip. Neutron flux at the time was being monitored on the SRM's and on IRM Range 1 with reactor power at less than .001% rated. The reactor coolant pressure was approximately 100 psi prior to the scram. The reactor had been brought to 400 psi several hours earlier to perform a startup inspection for leakage. The cause of the scram was an operator error in recognizing the positive reactor period (approximately 20 seconds) and, consequently failing to select higher IRM scales.

In accordance with plant procedures, a post-scram review of the event and applicable plant parameters before, during, and after the scram, was conducted prior to resuming reactor startup. During the course of the review, it was determined that the operator was momentarily distracted from the IRM's due to observation and diagnosing a two rod insert error which had occurred earlier when the reactor was being driven critical following the 400 psi reactor pressure drywell inspection. This error had left two control rods inserted one notch greater than that specified in the control rod pull sequence sheets (as designed, the rod worth minimizer system requires three "insert" errors to initiate a rod block). The operator had resumed rod pulls two steps later than the specified control rod pattern (pull sheets). Although this distraction warranted his prompt attention, it should not have been of a magnitude to have caused the operator's failure to observe the increasing IRM (and SRM's) flux levels. Consequently, appropriate disciplinary action was taken for the involved reactor operator. In addition to this, the training department has been made aware of the situation and its consequences and shall instruct other operators accordingly during requalification training.

Investigation of the aforementioned rod sequencing error revealed that the rod error would have caused a minor quadrant flux imbalance with no significant localized flux increase. This error and its significance has also been provided to training for appropriate instruction during requalification training.

The post-scram review confirmed that all systems functioned per design and there was no observable coolant level or pressure transient throughout the event. The health and safety of the public was not adversely affected. Normal restart was authorized approximately 10 hours later and accomplished without complications. There have been 6 previous occurrences of IRM high flux scrams from various causes since 1976. Apart from trending and the corrective actions outlined above, no further action is planned at this time.

Iowa Electric Light and Power Company

May 30, 1984
DAEC-84-327

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. 84-015

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/MSH/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

IE-22
1/1