

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8908080304 DOC. DATE: 89/07/28 NOTARIZED: NO DOCKET #  
 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331  
 AUTH. NAME AUTHOR AFFILIATION  
 AXLINE, J.S. Iowa Electric Light & Power Co.  
 HANNEN, R.L. Iowa Electric Light & Power Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-010-00: on 890705, inadvertent RCIC sys isolation due  
 to personnel error during steam leak detection surveillance.  
 W/8 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

### NOTES:

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	PD3-3 LA	1 1	PD3-3 PD	1 1
	HALL, J.R.	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2
	ACRS WYLIE	1 1	AEOD/DOA	1 1
	AEOD/DSP/TPAB	1 1	AEOD/ROAB/DSP	2 2
	DEDRO	1 1	IRM/DCTS/DAB	1 1
	NRR/DEST/ADE 8H	1 1	NRR/DEST/ADS 7E	1 0
	NRR/DEST/CEB 8H	1 1	NRR/DEST/ESB 8D	1 1
	NRR/DEST/ICSB 7	1 1	NRR/DEST/MEB 9H	1 1
	NRR/DEST/MTB 9H	1 1	NRR/DEST/PSB 8D	1 1
	NRR/DEST/RSB 8E	1 1	NRR/DEST/SGB 8D	1 1
	NRR/DLPQ/HFB 10	1 1	NRR/DLPQ/PEB 10	1 1
	NRR/DOEA/EAB 11	1 1	NRR/DREP/RPB 10	2 2
	NUDOCS-ABSTRACT	1 1	REG FILE 02	1 1
	RES/DSIR/EIB	1 1	RES/DSR/PRAB	1 1
	RGN3 FILE 01	1 1		
EXTERNAL:	EG&G WILLIAMS, S	4 4	FORD BLDG HOY, A	1 1
	L ST LOBBY WARD	1 1	LPDR	1 1
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Iowa Electric Light and Power Company

July 31, 1989  
DAEC-89-0534

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 #89-010

Gentlemen:

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

Very truly yours,



Rick L. Hannen  
Plant Superintendent - Nuclear

RLH/JSA/gt

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

File A-118a

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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Duane Arnold Energy Center (DAEC)										DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 1 OF 0 3										PAGE (3) 1 OF 0 3	
TITLE (4) Inadvertent Reactor Core Isolation Cooling System Isolation Due to Personnel Error During Performance of Steam Leak Detection Surveillance																					
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 None					DOCKET NUMBER(S) 0 5 0 0 0							
0 7	0 5	8 9	8 9	0 1 0	0 0	0 7	2 8	8 9						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) 1 0 0		20.402(b)				20.406(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)							
		20.406(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)							
		20.406(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)							
		20.406(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(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)											

LICENSEE CONTACT FOR THIS LER (12)

NAME Jeff S. Axline, Technical Support Engineer										TELEPHONE NUMBER 3 1 1 9 8 5 1 1 - 7 6 0 0									
AREA CODE 3 1 1 9																			

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO										EXPECTED SUBMISSION DATE (15)			MONTH	DAY	YEAR

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

On July 5, 1989, with the plant operating at 100% power, the Reactor Core Isolation Cooling (RCIC) inboard isolation valve closed following receipt of the "B" logic isolation signal. The isolation signal was generated during performance of the RCIC Steam Leak Detection System Surveillance Test Procedure (STP).

The root cause of this event was personnel error on the part of the utility apprentice instrument technician who lifted temperature switch input leads prior to completing the procedure steps which place the appropriate keylock test switch in the test position. Contributing factors in this event were a communication error between the journeyman instrument technician and the apprentice and the fact that the apprentice, although trained in general on performing STPs, had not performed this specific test previously.

This event had no effect on the safe operation of the plant. The isolation of RCIC was immediately identified and the appropriate actions were taken.

Immediate corrective actions were to determine the cause of the RCIC isolation. Upon determination, the STP was stopped and the RCIC system was unisolated. The STP was restarted following a discussion of the event between the shift supervisors and the Instrument Technicians performing the test. To prevent recurrence of this type of event, discussion of the July 5, 1989 RCIC isolation has been incorporated in the Maintenance Personnel Continuing Training Program.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER(6)			PAGE(3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Duane Arnold Energy Center	05000331	89	010	00	2	OF	3

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

## I. DESCRIPTION

On July 5, 1989, with the plant operating at 100% power, the Reactor Core Isolation Cooling (RCIC) (EIIS System Code BN) inboard isolation valve (BN-ISV-2400, DAEC MO2400) closed following receipt of the "B" logic isolation signal. The isolation signal was generated during performance of the RCIC Steam Leak Detection System (SLDS) (EIIS System Code JM) Surveillance Test Procedure (STP) at 1642 hours following lifting of input leads to a temperature switch (JM-TDS-2450B, DAEC TDS2450B). Prior to lifting instrument input leads the Instrument Technician working the STP failed to put the appropriate keylock test switch in the test position. This allowed the temperature switch to feed a trip signal to the downstream trip logic when the input leads were lifted.

## II. CAUSE OF EVENT:

The root cause of this event was personnel error on the part of the utility apprentice instrument technician who lifted the temperature switch input leads prior to completing the procedure steps which place the appropriate keylock test switch in the test position. A major contributing factor in this event was a communication error between the journeyman instrument technician and the apprentice. Prior to momentarily leaving the area the journeyman instructed the apprentice to re-terminate the input leads on the instrument they had just finished calibrating and de-terminate the input leads on the next instrument. What had been intended by this statement was "complete the STP steps up to and including the step which de-terminates the next instrument." What was actually performed was de-termination of the next instrument on the Temporary Modification Clearance Form immediately following re-termination of the previously worked instrument. Another contributing factor was the fact that the apprentice, although trained in general on performing STPs, had not performed this specific test previously.

## III. ANALYSIS OF EVENT:

This event had no effect on the safe operation of the plant. The isolation of RCIC was immediately identified and the appropriate actions were taken. The RCIC isolation valve responded as expected to the inadvertent isolation signal. During any other plant conditions this event would have had no effect on the safe operation of the plant as the RCIC system could rapidly be unisolated and put into service if required. In addition, no credit is taken for RCIC performance in the DAEC Emergency Core Cooling System analysis.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/88

FACILITY NAME (1)  Duane Arnold Energy Center	DOCKET NUMBER (2)  05000331	LER NUMBER(6)			PAGE(3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		89	-010	-00	3	OF	3

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

## IV. IMMEDIATE CORRECTIVE ACTIONS:

Immediate corrective actions were to determine the cause of the RCIC isolation. Upon talking with the instrument technicians and reviewing the SLDS STP, the cause (keylock switch not taken to test position before lifting of leads) for the isolation became apparent to the Shift Supervisor. The STP was stopped and the RCIC system was returned to its normal standby condition (approximately 10 minutes after the isolation). Prior to allowing completion of the STP the Shift Supervisors discussed this event with the instrument technicians involved. The instrument technicians involved were also counselled on the importance of performing STPs, without errors, by their supervisor.

## V. LONG TERM CORRECTIVE ACTIONS:

To minimize the possibility of this type of event occurring in the future, the importance of preventing personnel errors was discussed in the weekly Instrument Shop meeting on July 7, 1989. This event has been incorporated in the Maintenance (Electrical, Mechanical, I&C) personnel continuing training program as an example of how a personnel error can occur.

## VI. ADDITIONAL INFORMATION:

## Previous Similar Events

Three similar events, LERs 86-027, 87-017 and 88-013 (safety system actuation due to personnel failing to follow appropriate procedure steps) have occurred in the past, however, no common causes for the personnel errors existed.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(iv).