



DEC/DCB

Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324
Telephone 319 851 7611
Fax 319 851 7611

November 13, 1996
NG-96-2491

Mr. A. Bill Beach
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Licensee Event Report #96-05
File: A-118a

Gentlemen:

Please find attached a copy of the subject Licensee Event Report in accordance with 10CFR50.73. There are no new commitments made in this letter.

Sincerely,

Gary Van Middlesworth
Plant Manager - Nuclear

cc: Director of Nuclear Reactor Regulation
Document Control Desk
U. S. Nuclear Regulatory Commission
Mail Station P1-37
Washington, D. C. 20555-0001

NRC Resident Inspector - DAEC
DOCU

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION
COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO
THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING
BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33),
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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)

05000-331

PAGE (3)

1 OF 3

TITLE (4)

PCIS Groups 3 and 5 Isolations Due to Temporary Power Connections to Instrument AC

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 NAME	DOCKET NUMBER
10	20	96	96	05	00	11	18	96	FACILITY NAME	DOCKET NUMBER
										05000-331
									FACILITY NAME	DOCKET NUMBER
										05000-331
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		0	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		X 50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Leonard Sueper, Principal Licensing Engineer	(319) 851-7365

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO	EXPECTED SUBMISSION	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 20, 1996 with the reactor shutdown for a refueling outage a spurious Division II Primary Containment Isolation System (PCIS) Group 3 and 5 isolation occurred. The Group 3 isolation resulted in a secondary containment isolation, loss of drywell ventilation, and isolation of various containment and reactor coolant sample valves. The Group 5 isolation caused the isolation of the Reactor Water Cleanup system. These isolations were not required to be operable at the time of the event.

The cause of the isolations is believed to be a voltage transient on a temporary power connection which was supplying Instrument AC regulating transformer 1Y2A. The transient resulted in a brief voltage drop that caused a momentary loss of power to the Division II Reactor Building Exhaust Radiation Monitor, the Reactor Water Cleanup instrument panel and various other instruments. All automatic actions occurred as designed on equipment that was not removed from service for maintenance.

As a result of this event a temporary power cart was removed from the breaker that was also supplying power to 1Y2A.

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		--	--	00	

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

I. DESCRIPTION OF EVENT

On October 20, 1996 with the reactor shutdown for a refueling outage, spurious Division II Primary Containment Isolation System (PCIS) Group 3 and Group 5 isolations occurred due to a momentary loss of power to the 'B' Instrument AC bus. After verifying that the associated valves and secondary containment ventilation dampers closed as designed, the control room operators reset the isolations and restored the valves and dampers to their pre-isolation condition. No fuel movement was in progress during this event.

II. CAUSE OF EVENT

The isolations were likely initiated by a brief drop in voltage at a 480 volt AC breaker, 1BR8602, used to provide temporary power to the 'B' Instrument AC regulating transformer, 1Y2A. The resulting interruption in power to the 'B' Reactor Building Exhaust radiation monitor caused a Division II Group 3 isolation. The interruption in power to the Reactor Water Cleanup (RWCU) instrument panel caused a 'B' channel Group 5 isolation. No other PCIS functions are powered by Division II of the Instrument AC system.

The Instrument AC system normally supplies 120 volt AC power to various controls and instrumentation during all modes of plant operation. Although not a safety-related system, the continuous operation of several plant systems requires that many loads supplied by Instrument AC remain operational. The normal source of power to Division II of Instrument AC is from a 125 volt DC inverter, 1D25. The primary backup supply is from a regulating transformer, 1Y2A, energized by a 480 volt AC breaker, 1B4203. 1D25 and 1Y2A have a phase-matching feature that allows a closed or "bumpless" transfer between the two. A third source of power is via transformer 1Y2, which is also supplied from 1B4203.

During planning for the refueling outage, it was anticipated that the maintenance schedule would at times require both 1D25 and 1B4203 to be unavailable simultaneously. A temporary modification was initiated to supply power to the Division II Instrument AC system from 1Y2A through a tie to a maintenance and outage power breaker, 1BR8602. The modification was implemented around 0435 on October 20.

At 1430 on October 20, bus 1BR86 experienced faults resulting from outage activities. Although the faulted circuits were fuse protected and the resultant voltage drop was brief, it was of sufficient duration and magnitude to cause a momentary loss of power to the "B" Reactor Building Radiation monitor, the RWCU instrument panel and other plant equipment and instruments.

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

III. ANALYSIS OF EVENT

This event had no adverse effect on the safe operation of the plant. These isolations were not required to be operable at the time of the event. No fuel movement was in progress at the time. The PCIS Group 5 isolation affects the RWCU system isolation valves which had already been removed from service for maintenance. The PCIS Group 3 isolation resulted in a secondary containment isolation and caused a temporary loss of drywell ventilation. The control room operators reset the isolations and restored drywell ventilation after confirming that the required automatic actions had occurred.

IV. CORRECTIVE ACTIONS

In response to this event a temporary power cart that was also connected to 1BR8601 was removed. The normal sources of power to the Instrument AC system were restored prior to plant startup.

IV. ADDITIONAL INFORMATION

A) PREVIOUS SIMILAR EVENTS

LER 92-5 discusses a spurious Group 3 PCIS isolation during a refueling outage. The cause of that event was not determined.

B) EEIS SYSTEM AND COMPONENT CODES

PCIS-----JM
Reactor Water Cleanup-----CE
Instrument AC-----EC
Reactor Building Rad Monitor----RE

This report is being submitted pursuant to 10CFR50.73(a)(2)(iv).