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IES UTILITIES

May 6, 1996
NG-96-0997

Mr. Hubert J. Miller
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 #96-02
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

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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NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)
PCIS Half Group III Isolation Due to Blown Fuse During Maintenance

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
										05000
04	08	96	96	-- 02 --	00	05	06	96	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10)	100	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
		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)
John Kerr, Principal Licensing Specialist	(319) 851-7492

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

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

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

On April 8, 1996, the plant was operating at 100% power when a Primary Containment Isolation System (PCIS) Group III ('B' side) isolation occurred along with the initiation of the 'B' Standby Gas Treatment System. Investigation of the isolation determined that a fuse in the Offgas Stack Vent Pipe B radiation monitor had blown, causing the monitor (Group III PCIS input) to fail downscale and default to the tripped condition. All automatic actions (primary and secondary containment isolations) were completed satisfactorily, and all systems functioned as required. The fuse was replaced, the radiation monitor was tested, and the isolation was reset.

The fuse blew during planned maintenance on the radiation monitor located directly above the Offgas Stack Vent Pipe B radiation monitor. While disconnecting the cables from the monitor being removed for maintenance, one of the cables dropped down onto electrical contacts in the Offgas Stack Vent Pipe B radiation monitor, causing the fuse to blow. This event has been reviewed with maintenance technicians to reinforce the need to secure loose cables during such maintenance activities. This event had no effect on the safe operation of the plant.

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

I. DESCRIPTION OF EVENT

On April 8, 1996 the plant was operating at 100% power. The plant was in day 1 of a 30 day Limiting Condition for Operation (LCO) in accordance with Technical Specification Table 3.2-D to perform planned maintenance on Offgas Pre-Treat Radiation Monitor RM4104 under Corrective Maintenance Action Request (CMAR) A31330. RM4104 was being removed from control room back panel 1C-10 to perform the maintenance elsewhere and the cables connecting it to the cabinet interior were being disconnected from it.

At 1332 hours, while disconnecting the fourth cable from the monitor, one of the already disconnected cables that was hanging loose outside the cabinet, fell back inside the cabinet and dropped down onto the top of Offgas Stack Vent Pipe B Radiation Monitor RM4116B, located directly below RM4104. The connector at the end of the cable touched an electrical contact and a ground in RM4116B. This resulted in a blown fuse which caused RM4116B to fail downscale and default to the tripped condition. Since RM4116B is an input to the Group III Primary Containment Isolation System (PCIS) 'B' logic, the Group III isolation ('B' side) occurred along with the initiation of the 'B' Standby Gas Treatment (SBGT) System as designed.

II. CAUSE OF EVENT

The 'B' side Half Group III isolation was caused by a blown fuse in RM4116B during the maintenance on RM4104 as described above. The fuse blew because the metal connector at the end of one of the loose cables that had been disconnected from RM4104 touched a contact and a ground in RM4116B as described above. The RM4104 cable connector fell onto RM4116B because the cable was loose and had not been tied off or otherwise secured after being disconnected. The other disconnected cables were also not secured. The technicians did not recognize the potential for the disconnected cables to be pulled back inside the cabinet either by the springloaded arm to which the cables are attached and/or by the repositioning of cables during disconnection.

III. ANALYSIS OF EVENT

This event had no effect on the safe operation of the plant. The Group III isolation functioned as designed in response to the trip signal received from the Offgas Stack Vent Pipe B Radiation Monitor. This isolation includes the closure of certain PCIS valves and the cycling of secondary containment fans and dampers to isolate reactor building ventilation and initiate SBGT. The Group III isolation is designed to ensure that no untreated gaseous effluent releases to the environment occur. Its actuation does not negatively affect safe operation. Had this event occurred under different plant conditions, the effect on safe operation would have been the same.

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

IV. CORRECTIVE ACTION

Immediate operator actions were to verify that all Group III automatic actions occurred as designed and determine the cause for the isolation. Following determination that the Group III isolation was caused by a blown fuse and not an actual radiation release, the fuse was replaced in RM4116B and a sensor check of RM4116B was performed. At 1505 hours on April 8, 1996 the isolation was reset. The maintenance on RM4104 was completed and the LCO was exited on April 9, 1996.

The expectation is that technicians will ensure that loose cables will not contact or interact with other equipment. This may include physically securing the cables if necessary. On April 12, 1996, this expectation and the circumstances surrounding this event and its causes were reviewed at an Instrumentation and Control Maintenance Department meeting to reinforce the need to secure loose cables during such maintenance activities. Additionally, Training Management Action Request (TMAR) TM96-0993 has been submitted to the Training Department to have this event reviewed for broader, more formal training, as determined to be appropriate.

V. ADDITIONAL INFORMATION

A) PREVIOUS SIMILAR EVENTS

A review of DAEC LERs since 1984 identified 25 Group III isolations. Although some of them occurred during maintenance activities, none of them were caused by unsecured cables.

B) EIIS SYSTEM AND COMPONENT CODES

Primary Containment Isolation System--JM
Reactor Building Ventilation System--VA
Standby Gas Treatment System--BH
Radiation Monitor--MON
Fuse--FU
Cable--CBL
Connector--CON

THIS REPORT IS BEING SUBMITTED PURSUANT TO 10CFR50.73(A)(2)(iv).