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	1 OF 0 3

TITLE (4)
Standby Filter Unit Actuation on Low Inlet Air Temperature

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 1	2 2	8 6	8 6	—	0 0 1	—	0 0	0 2	2 1	8 6	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 6 6	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
James R. Probst, Technical Support Engineer	AREA CODE 3 1 9 — 8 5 1 - 7 3 0 8

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 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)

At 0603 hours on January 22, 1986, with the reactor in run mode, an auto-isolation of the Control Building ventilation system and initiation of the 'A' Standby Filter Unit (SFU) occurred as a result of low inlet air temperature in the normal main air intake plenum. This constitutes an unplanned actuation of an Engineering Safety Feature and is reportable per 10 CFR 50.73(a)(2)(iv). The root cause of this event was personnel error. An inoperable inlet air preheat coil had been covered with plastic to prevent cold air flow into the plenum. The repair crew which had completed repairs on the coil the afternoon of 1/21/86 did not put the temporary plastic cover back in place and their immediate supervisor did not notify his supervisor or the control room personnel that the preheat coil was ready to be placed in service. Cold outside air therefore traveled by the coil without being heated, resulting in the SFU initiation. As a corrective action the immediate supervisor was counseled. The SFU was reset and the preheat coil returned to service later the same day. The SFU initiated and functioned as designed. Low inlet air temperature is a nonsafety grade actuation.

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

At 0603 hours on January 22, 1986, with the reactor in run mode at 66% power, an auto-isolation of the Control Building ventilation system and initiation of the 'A' Standby Filter Unit (SFU, EIIS System VI) occurred as a result of low inlet air temperature in the normal main air intake plenum. This auto-initiation of a Standby Filter Unit constitutes an unplanned actuation of an Engineered Safety Feature and, as such, is reportable per 10 CFR 50.73(a)(2)(iv). See LER's 84-003, 84-004, 84-011, 84-043 for similar events.

The Control Building ventilation system will isolate the building from normal outside air intake and recirculate the ventilation air through the essential switchgear rooms, battery rooms, and the control room on inlet air high radiation or low temperature. In addition, the system supplies treated make-up air through the Standby Filter Units to balance the exhaust of the battery rooms. The safety-related functions of the SFU's and Control Building isolation is to minimize operator radiation exposure by filtration of the make-up outside air being provided in place of full flow makeup. The nonsafety related function of the SFU's is to auto-initiate on low inlet temperature in order to provide more heat for the comfort of the control room personnel and to protect equipment from eventual cold temperatures.

The Control Building air intake plenum has three hot water preheat coils, each approximately 3.5 feet square, piped in parallel and vertically stacked within the plenum so that intake air must pass through a coil under normal conditions. On 1/07/86, the lower heating coil was discovered to have a rupture in its tubing. It was therefore isolated, and then covered with plastic to prevent outside air from passing through the coil unheated. When being repaired the coil is removed and a baffle placed in its space to prevent air flow. On 1/22/86, control room personnel investigating immediately after the SFU initiation at 0603 hours found the lower preheat coil in place without the temporary plastic cover. Further investigation revealed the root cause of the SFU initiation to be personnel error. Repairs to the coil had been completed and it had been reinstalled late on the day shift of 1/21/86 with the plastic cover left off. However, neither the supervisor or the control room personnel were informed that day by the immediate supervisor of the repair crew that the heater repair was now completed. Therefore, unheated air passed through the lower coil throughout the evening of 1/21/86 and early morning of 1/22/86, until the low inlet temperature switch (VI-TS-6124A), whose element is located immediately downstream of the heaters, tripped at its forty degree Fahrenheit setpoint resulting in the SFU initiation. The outside temperature at the time of the initiation was approximately 16 degrees Fahrenheit. The SFU was reset at 1425 hours on 1/22/86. The plastic over the heaters was replaced until the heaters were returned to service at 1625 hours on 1/22/86.

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

As a corrective action the immediate supervisor was counseled by his supervisor. Plant personnel have been reminded of the importance of keeping Operations personnel informed of the progress of plant activities in the weekly plant newsletter and a weekly meeting. The Standby Filter Unit initiated and functioned as per design. In addition, the SFU initiated on a nonsafety parameter and was not required for operator or plant safety.

Iowa Electric Light and Power Company

February 21, 1986
DAEC-86-0132

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. 86-001

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/JRP/kp

Attachment - LER 86-001

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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