



IES Utilities Inc.
200 First Street S.E.
P.O. Box 351
Cedar Rapids, IA 52406-0351
Telephone 319 398 4411

August 25, 1995
NG-95-2668

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 #95-008.
File: A-118a

Gentlemen:

Please find attached a copy of the subject Licensee Event Report in accordance with 10CFR50.73. The following new commitment is made in this letter.

A plan will be developed to isolate the leaks into the Turbine Building equipment drain sump and repair the leaking valves. As part of this effort, the maintenance history of those valves will be reviewed and long term actions initiated as appropriate. These actions will be completed by September 29, 1995.

Sincerely,

Gary VanMiddlesworth
Plant Superintendent - 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

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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 INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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) Potential Loss of Both Trains of Standby Gas Treatment Due to Leaking Valves

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	
07	26	95	95	-- 008 --	00	08	25	95	FACILITY NAME	DOCKET NUMBER 05000	
									FACILITY NAME	DOCKET NUMBER 05000	

OPERATING MODE	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 6: (Check one or more) (11)								
POWER LEVEL	100	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)					
		20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)					
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER					
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366a)					
		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 Robert Murrell, Licensing Specialist TELEPHONE NUMBER (Include Area Code) (319) 851-7900

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

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

At 0400 on 7-25-95, the 'A' train of Standby Gas Treatment (SBGT) was removed from service for pre-scheduled maintenance. At 1516 on 7-25-95, the maintenance was completed, and operability testing (10 hour run) was completed at 0152 on 7-26-95. The 'B' train monthly operability testing was then commenced. When attempting to start the 'B' train of SBGT, the thermal overloads for the train exhaust fan tripped due to excessive moisture (10 gallons) in the fan housing. At 0204 on 7-26-95 the 'B' SBGT train was declared inoperable. After further engineering review, it was determined that the possibility existed that neither train was available during the just completed maintenance activities (approximately 10 hours.)

The root cause for this event has been determined to be leakage past various high energy steam valves in the Turbine Building. Leakage past the seats of these steam valves led to increased temperature in the Turbine Building equipment drain sump and high humidity in associated ventilation ducting that shares a common discharge path with SBGT. The high humidity air led to excessive condensation buildup in the SBGT fan housing.

The water in the 'B' SBGT fan housing was drained. The fan motor was meggered with satisfactory results. The 'B' SBGT train was inspected for moisture with nominal amounts found. Operability testing was re-commenced and the 'B' SBGT train was declared operable at 1604 on 7-27-95. The high humidity air has been re-directed away from the SBGT ducting and the leaking valves will be repaired.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)
Duane Arnold Energy Center	05000-331	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
		95	-- 008 --	00
				2 OF 3

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

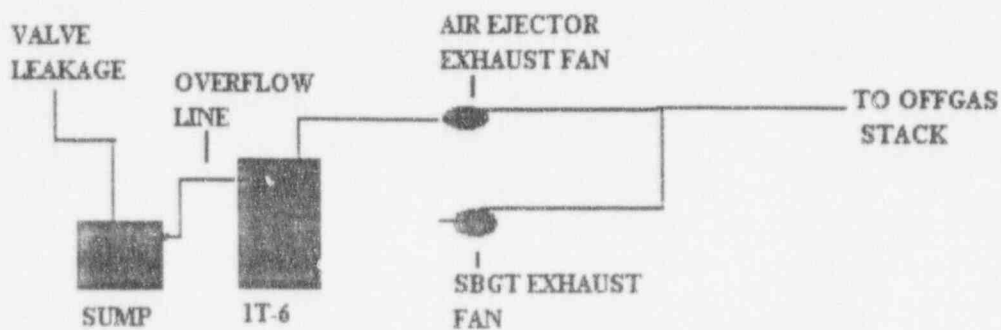
I. DESCRIPTION OF EVENT

At 0400 on 7-25-95, the 'A' train of Standby Gas Treatment (SBGT) was removed from service for pre-scheduled maintenance. At 1516 on 7-25-95, the maintenance was completed and subsequent operability testing (10 hour run) was completed at 0152 on 7-26-95. The 'B' train monthly operability testing was then commenced. While attempting to start the 'B' train of SBGT, the thermal overloads for the train exhaust fan tripped. At 0204 on 7-26-95 the 'B' SBGT train was declared inoperable. After further engineering review, it was determined that the possibility existed that neither train was available for approximately 10 hours on 7-25-95.

Investigation into the fan trip revealed that water had collected in the fan housing. The water was drained (approximately 10 gallons) and the motor was meggered with satisfactory results. The train was then successfully started and current readings on the motor of the fan revealed no abnormal readings. Operability testing was then commenced at 0855 on 7-26-95. At 1604 on 7-27-95 the 'B' train of SBGT was declared operable.

II. CAUSE OF EVENT

The cause of the 'B' SBGT exhaust fan trip was water in the fan housing resulting from leakage past various Turbine Building high energy steam valves. Leakage past these high energy steam valves is directed to the turbine building equipment drain sump (see diagram). This leakage led to elevated temperatures in the sump. The Turbine Building equipment drain sump is connected to the condensate demineralizer backwash receiving tank (1T-6) via the latter tank's overflow line. The elevated temperatures in the sump were transmitted to 1T-6, which led to an increase in 1T-6 humidity. 1T-6 is vented to the suction ducting of the air ejector exhaust fan. The air ejector exhaust fan discharges to a duct common with SBGT exhaust ducting. The increased humidity from 1T-6 condensed in this line and drained back to the SBGT exhaust fan housings.



III. ANALYSIS OF EVENT

For approximately 10 hours on 7-25-95, the potential existed that both trains of SBGT were unavailable. The impact on the safe operation of the plant was minimal in that the maintenance being performed on the 'A' SBGT train was simple in nature (motor pi/dar and adding a restraint to a component drawer in the control room) and could have been suspended in order to restore the train to service if necessary.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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Duane Arnold Energy Center	05000-331	95	-- 008 --	00	3 OF 3

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

IV. CORRECTIVE ACTIONS

The immediate corrective actions were to drain the water from the 'B' SBTG fan housing and ensure that there was no damage to the fan and its associated motor. Both trains were visually inspected for water. Minimal amounts (normal) were found in the 'B' train, there was no moisture in the 'A' train due to the fact that it had just been run for 10 hours. A daily drain frequency was established for both trains to monitor the condensation buildup and an investigation into the source of the water was begun.

Once it was determined that the source of the condensation was the high humidity air in the condensate demineralizer backwash receiving tank, the air from the tank was redirected to the turbine building exhaust ducts. Since this action, there has been no buildup of moisture in the SBTG fan housings.

Long term corrective actions include:

A plan will be developed to isolate the leaks into the turbine building equipment drain sump and repair the leaking valves. As part of this effort, the maintenance history of those valves will be reviewed and long term actions initiated as appropriate. These actions will be completed by September 29, 1995.

Additionally, the connections between IT6 and the Turbine Building equipment drain sump are being reviewed for design adequacy. Corrective actions will be taken as appropriate.

V. ADDITIONAL INFORMATION

A) PREVIOUS SIMILAR EVENTS

There were no similar events in the plant history.

B) EHS SYSTEM AND COMPONENT CODES

Emergency Standby Gas Treatment System-BH	
Fan	-FAN
Valve	-V