

April 25, 1996

2CAN049602

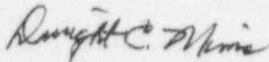
U. S. Nuclear Regulatory Commission  
Document Control Desk  
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Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
Licensee Event Report 50-368/96-001-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i)(B), enclosed is the subject report concerning Auxiliary Building ventilation monitoring.

Very truly yours,



Dwight C. Mims  
Director, Nuclear Safety

DCM/tfs

enclosure

300110

U. S. NRC  
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cc: Mr. Leonard J. Callan  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

Institute of Nuclear Power Operations  
700 Galleria Parkway  
Atlanta, GA 30339-5957

**LICENSEE EVENT REPORT (LER)**

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 (MNB 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) Arkansas Nuclear One - Unit 2	DOCKET NUMBER (2) 05000368	PAGE (3) 1 OF 4
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TITLE (4) FLOW RATE FOR AUXILIARY BUILDING VENTILATION GASEOUS EFFLUENT MONITORING INSTRUMENTATION WAS NOT ESTIMATED AS REQUIRED BY TECHNICAL SPECIFICATIONS DUE TO INADEQUATE TRAINING REGARDING VENTILATION FLOW ADJUSTMENT

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
03	30	96	96	001	00	04	25	96	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (Check one or more) (11)								
POWER LEV. (10)	98	20.402(b)			20.405(c)			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
		20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)		Specify in Abstract Below and in Text
		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 Thomas F. Scott, Nuclear Safety and Licensing Specialist	TELEPHONE NUMBER (Include Area Code) 501-858-4623
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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 SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

Estimates of the ventilation flow rate from the radwaste area of the ANO-2 Auxiliary Building were not performed as required by Technical Specifications while the radioactive gaseous effluent monitoring instrumentation flow channel was not operable during a period from approximately 0010 hours on March 30, 1996, to 2150 hours on March 31, 1996. Upon discovery of the condition, estimates were provided until the instrumentation was restored to an operable status. Upon detection of a low flow condition, an ANO-2 licensed Operator adjusted an instrument that caused a higher than actual indicated flow rate to be input to the ventilation effluent radiation monitor instead of adjusting the instrument controlling the ventilation flow. The two instruments have similar tag numbers, similar physical appearance, and are located in close proximity to each other. Also, the label was missing from one of the instruments. The cause of the reduction in actual flow, a partially shut suction damper, was found and corrected. The root cause of this event has been attributed to inadequate training for ANO-2 Operations personnel regarding ventilation system flow adjustments. Corrective actions include lessons learned information transmittals, training, and placard installations.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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Arkansas Nuclear One - Unit 2	005000368	96	001	00	2 OF 4

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

**A. Plant Status**

At the time of this event, Arkansas Nuclear One Unit 2 (ANO-2) was operating in steady-state conditions at approximately 98 percent power.

**B. Event Description**

Estimates of the ventilation flow rate from the radwaste area of the ANO-2 Auxiliary Building [NF] were not performed as required by Technical Specifications while the radioactive gaseous effluent monitoring instrumentation [IL] flow channel was not operable.

Two Radwaste Exhaust Fans (2VEF-8A and 2VEF-8B) [VF] remove air from the radwaste area spaces of the ANO-2 Auxiliary Building and exhaust it through a multifilter unit. The exhaust is monitored for radioactivity by a Super Particulate, Iodine, and Noble Gas (SPING) [IL] radiation detection system designated SPING-6. On March 28 and 29, 1996, the fan in service, 2VEF-8A, was being stopped and started to support troubleshooting of a problem with the fan discharge damper linkage. After completion of maintenance on the discharge damper, 2VEF-8A was started at approximately 0010 hours on March 30, 1996. Operations personnel observed that the flow rate was lower than normal. A licensed Operator was dispatched to increase flow by adjusting the vane pitch of the fan at flow controller 2FC-8408. The individual adjusted the output of instrument 2FY-8408 by mistake. This resulted in the indicated stack flow rate to both the flow recorder for 2VEF-8A discharge and flow rate input to SPING-6 to be greater than the actual flow rate causing SPING-6 flow rate to be inoperable at that time. The actual flow rate remaining low caused abnormal indications in the Auxiliary Building ventilation system. An investigation was conducted as a result of the abnormal indications, and at 2150 hours on March 31, 1996, the suction damper for 2VEF-8A was discovered partially closed. At that time, the suction damper was opened and the Technical Specification action was entered for SPING-6 flow rate being inoperable. Flow rate estimates were performed until SPING-6 was restored to an operable status at 0545 hours on April 1, 1996. The cause for the suction damper closing was determined to be a failed solenoid valve that was replaced by 1615 hours on April 1, 1996.

**C. Root Cause**

At ANO-2, there are seven ventilation systems. Some of these systems are designed to maintain flow rate automatically while others require manual adjustment. It has been the practice for Operations personnel to adjust flow as necessary to compensate for changes such as filter resistance increasing during use.

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

Operator general training and knowledge factors have been relied upon without specific training regarding flow adjustment having been provided. The ventilation pathway for which flow rate adjustment was attempted is designed to control flow rate automatically without a need for manual adjustment. The root cause of this event has been attributed to inadequate training of Operations personnel in ventilation systems flow adjustment. Other factors contributed to the error. In addition to the similarity in equipment tag numbers (2FY-8408 and 2FC-8408), the instruments are located approximately one foot apart, have a similar physical appearance, and one did not have a proper identification label. It was also noted that the individual attempting to adjust the flow rate did not utilize self-checking to verify the identification of the component being manipulated.

#### D. Corrective Actions

Auxiliary Building ventilation and effluent monitoring instrumentation were restored to an operable status as described above.

A "Lessons Learned" advisory concerning this condition was provided to ANO-2 Operations personnel on April 1, 1996. Also, a "Night Order" was issued by the Operations Manager to re-emphasize self-checking. It restricted ventilation flow adjustments until the root cause was determined and appropriate corrective actions were in place.

The missing instrument label was replaced.

For those ventilation systems that are designed for maintaining air flow automatically, placards were installed to direct personnel to initiate corrective maintenance activities if the flow rate is out of the specified range.

Training concerning ventilation flow rate adjustment will be developed and provided to appropriate ANO-2 Operations personnel by August 12, 1996. A requirement for demonstrating knowledge of adjustment of ventilation flow rate will also be added to qualification books for Auxiliary Operators and Shift Engineers by that date.

This event will be reviewed with each crew during the ANO-2 Operations requalification cycle. This activity will be completed by June 30, 1996.

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

**E. Safety Significance**

The system operating procedure directs using the most conservative estimate of flow rate, such as the maximum value specified on the log, when the normal indication is not in service. Since the flow rate sensed by SPING-6 was higher than actual, estimates of radioactivity released would have been conservative. No activities were performed during the period when the flow instrument was inoperable that resulted in an unusual generation of radioactive material in the ANO-2 Auxiliary Building, and there were no significant releases of radiation via the pathway monitored by SPING-6. For these reasons, this condition was judged to have had minimal safety significance.

**F. Basis for Reportability**

Technical Specification 3.3.3.9 requires radioactive gaseous effluent monitoring instrumentation channels to be operable. Item 4.c of Table 3.3-12 specifies action 26 when the effluent system flow monitor for the Auxiliary Building area ventilation system is not operable. Action 26 allows releases via the pathway provided the flow rate is estimated at least once per four hours. Not having estimated the flow rate from 0010 hours on March 30, 1996, to 2150 hours on March 31, 1996, while the flow instrument was not operable and releases were in progress constituted operation prohibited by Technical Specifications that is reportable per 10CFR50.73(a)(2)(i)(B).

**G. Additional Information**

There have been no previous similar events reported as Licensee Event Reports by Arkansas Nuclear One. Energy Industry Identification System (EIS) codes are identified in the text as [XX].