

August 8, 1996

2CAN089602

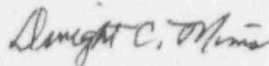
U. S. Nuclear Regulatory Commission  
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Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
Licensee Event Report 50-368/96-003-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i)(B), enclosed is the subject report concerning surveillance testing of a liquid radwaste effluent line flow monitor.

Very truly yours,



Dwight C. Mims  
Director, Nuclear Safety

DCM/tfs

enclosure

1/1  
1022

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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

TITLE (4) Channel Calibration Surveillance Test Not Performed For Liquid Radwaste Effluent Flow Monitor Due To Inadequate Change Management Of Regenerative Waste System Radioactive Status

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	15	96	96	003	00	08	08	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 LEVEL (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)(vi)	OTHER
			20.405(a)(1)(iii)		X	50.73(a)(2)(i)			50.73(a)(2)(viii)(A)	Specify in
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)	Abstract Below
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)	and in Text

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Thomas F. Scott, Nuclear Safety and Licensing Specialist

TELEPHONE NUMBER (Include Area Code)

501-858-4623

## 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	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
(If yes, complete EXPECTED SUBMISSION DATE)	X				

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

ANO-2 Operations personnel discovered that the 18-month channel calibration test had not been performed as required by Technical Specifications (TS) for the flow monitor in the Regenerative Waste System (RWS). At the time the TS became effective on January 1, 1985, the RWS was not being used to process radioactive liquids, and its operating procedure did not have provisions for radioactive releases. When the system operating procedure was changed in 1990 to allow release of radioactive liquids, the flow monitor became a radioactive liquid effluent monitoring instrument subject to TS 3.3.3.10 and associated surveillance requirements. The procedure change did not adequately consider impact upon the surveillance program. The root cause of this condition has been attributed to inadequate change management. Enhancements to the procedure change administration process implemented subsequent to this condition's origin have been judged to be adequate to minimize the probability of a similar future occurrence. The flow monitor was declared inoperable until a calibration procedure was prepared and the calibration successfully completed. This condition did not cause release of radioactive liquids in excess of any limit.

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

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Arkansas Nuclear One - Unit 2		005000368	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
			96	003	00	

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

**A. Plant Status**

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

**B. Event Description**

On July 15, 1996, it was determined that surveillance testing of the liquid radwaste effluent line flow monitor had not been performed as required by Technical Specifications (TS).

The ANO-2 Regenerative Waste System (RWS) [WD] is designed to receive, store, and discharge liquid regenerative waste from the Steam Generator Startup and Blowdown Demineralizers [WI], Neutralizer Tank, floor drains, emergency showers, and the Regenerative Room sump pump. It contains three Regenerative Waste Tanks and two Regenerative Waste Discharge Pumps. The system provides for monitoring and adjustment of pH and monitoring of radioactivity during discharge of tank effluent to the ANO-1 Circulating Water (CW) [KE] flume. A flow transmitter, identified as 2FT-4423, is provided to indicate the flow rate of pump discharge to the flume. The radiation monitor for this flow path is identified by tag number 2RE-4423.

ANO-2 TS Table 4.3-13 contains surveillance requirements for radioactive liquid effluent monitoring instrumentation. Item 2.a of that table requires that "flow monitor(s)" in the liquid radwaste effluent line receive a channel calibration at least once per 18 months. While investigating whether the instrument range for 2FT-4423 was insufficient to measure flow rate under certain conditions, ANO-2 Operations personnel discovered that this surveillance had never been performed. The transmitter was declared inoperable.

**C. Root Cause**

The surveillance requirement to perform channel calibration of the radioactive liquid effluent flow monitor was added to ANO-2 Technical Specifications as Amendment 60 to incorporate Radiological Effluent Technical Specifications (RETS). This amendment became effective on January 1, 1985. At that time, the Regenerative Waste System was not being used to process radioactive liquids. The system operating procedure provided for processing of radioactive liquid, if necessary, through the Regenerative Waste Evaporators for re-use only, not for release. The NRC Safety Evaluation for Amendment 60 indicates that the objective of the RETS with regard to effluent instrumentation is to ensure that significant liquid and gaseous effluents are monitored. At the time Amendment 60 was issued, the path monitored by 2FT-2330 in the Boron Management System (BMS) [CA] was considered to be the only significant liquid effluent path.

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As a result of steam generator tube leakage, the RWS became radioactive in 1990. The system operating procedure was changed to allow releases of radioactive liquids to the CW flume. The first radioactive release from the system occurred on August 27, 1990. The procedure revision involved a determination to comply with the requirements of TS 3.3.3.10 for subsequent radioactive liquid effluent releases; however, the impact of this decision on surveillance testing of the instrumentation was not properly considered. The surveillance program at ANO is administered by a Master Test Control List (MTCL). The MTCL is a cross reference of Technical Specification surveillance tests and appropriate procedures that implement the surveillance requirements. The procedure revision process at the time of the RWS status change did not include a trigger to specifically determine the impact of a revision on the MTCL. Since then, the MTCL has been upgraded and administrative measures for maintaining its quality have been put in place. One of these changes was an enhancement of administrative controls in the procedure change process to require a determination of the impact of a procedure change on the MTCL. The root cause of this condition is attributed to inadequate change management during the 1990 procedure change.

Consistent with Amendment 60 to the ANO-2 Technical Specifications, it was recognized in 1990 that the intent of the Technical Specification requirements was to ensure that significant effluent release paths were monitored. When the RWS became radioactive, an attempt was made to apply the Technical Specification liquid effluent requirements to the RWS. This attempt was incomplete in that the changes to surveillance procedures to include the RWS flow monitor were not made.

#### D. Corrective Actions

The controls currently in place to maintain the accuracy of the MTCL were evaluated to be adequate to minimize the probability for a future similar occurrence. The unique circumstances associated with the system status change indicate that no additional corrective actions with respect to the root cause are indicated.

Procedures for the Liquid Radioactive Waste [WD], Boron Management, and Gaseous Radwaste [WE] Systems were reviewed. The review determined that surveillance tests for instrumentation in these systems have been conducted. It was also determined that the radiation monitor in the RWS flow path has been calibrated as required by Technical Specifications.

Upon discovery that the RWS flow instrumentation had not been tested, it was declared inoperable and required actions taken during subsequent releases via that pathway.

A calibration procedure was prepared and performed to establish operability of the RWS flow monitoring instrumentation.



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A review will be performed to determine if other systems or components on either unit may have become radioactive liquid or gaseous effluent systems subject to requirements of Technical Specifications as a result of system status changes. This review is expected to be complete by December 23, 1996.

E. Safety Significance

The flow instrument for which the surveillance test was not performed does not provide any automatic function to isolate the release path on a high flow condition. Release permits have been calculated using an estimate of flow rate greater than the maximum that can be achieved by the system. Prior to releasing the contents of a tank, analysis results from a tank sample have been compared to limits contained in Technical Specifications to ensure that no limits will be exceeded. This condition did not cause release of radioactive material in excess of 10CFR20 limits. ANO has concluded that not having performed the channel calibration test had minimal safety significance.

F. Basis for Reportability

Technical Specification 4.0.3 states that failure to perform a surveillance requirement within the allowed surveillance interval constitutes noncompliance with the operability requirements of the Limiting Condition for Operation. The channel calibration of liquid radwaste effluent flow monitor 2FT-4423 was not performed within the required interval and the monitor was inoperable for greater than thirty days without its status being explained in the next Semiannual Radioactive Effluent Release Report as required by Action "c" of Technical Specification 3.3.3.10. This condition constitutes an operation prohibited by Technical Specifications that is reportable in accordance with 10CFR50.73(a)(2)(i)(B).

G. Additional Information

ANO-2 is evaluating relocation of RETS requirements from the Technical Specifications in accordance with NRC Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Off-site Dose Calculation Manual or to the Process Control Program."

There have been no similar events reported by ANO as Licensee Event Reports.

Energy Industry Identification System (EIIIS) codes are identified in the text as [XX].