



**Entergy
Operations**

Entergy Operations, Inc.
Box 1372
Birmingham, AL 35201
Tel: 205/963-2100

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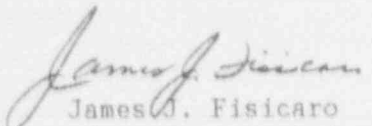
U. S. Nuclear Regulatory Commission
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SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Licensee Event Report 50-313/91-002-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(IV), attached is the subject report concerning the inadvertent actuations of the combined Control Room Emergency Ventilation System due to an invalid Unit Two radiation monitor trip which was initiated by a transient noise spike.

Very truly yours,


James J. Fisicaro
Director, Licensing

JJF/RHS/mmg
Attachment

cc: Regional Administrator
Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

INPO Records Center Suite 1500
1100 Circle, 75 Parkway
Atlanta, GA 30339-3064

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Arkansas Nuclear One, Unit One

DOCKET NUMBER (2) PAGE (3)
050003 1 31 OF 04

TITLE (4) Inadvertent Actuations Of The Combined Control Room Emergency Ventilation System Due To An Invalid Unit Two Radiation Monitor Trip Which Was Initiated By A Transient Noise Spike

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	4	1	0	9	1	--	0	0	2	--	0	0	0	5	1	0	9	1	ANO-2	050003 6 8

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	0	0	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text, NRC Form 366A)
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LICENSEE CONTACT FOR THIS LER (12)

Name

Richard H. Scheide, Nuclear Safety and Licensing Specialist

Telephone Number

Area Code 501 964-5000

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

Cause	System	Component	Manufacturer	Reportable to NERDS	Cause	System	Component	Manufacturer	Reportable to NERDS

SUPPLEMENT REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15) Month Day Year

☐ Yes (If yes, complete Expected Submission Date) ☒ No

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

On April 10, 1991 at approximately 0813, an automatic actuation of the Control Room Emergency Ventilation System (CREVS) occurred as a result of the tripping of the ANO-2 control room supply radiation monitor (2RE-8750-1). The radiation monitor was reset after the actuation and its indication returned to normal (approximately 60 CPM). The CREVS was then secured and the control room ventilation system was returned to its normal configuration. Another actuation was initiated by a noise spike on the same monitor at 2231 on May 9, 1991. The cause of these events was a transient noise spike which caused the radiation monitor indication to increase to its trip setpoint and initiate the CREVS actuation. However, the cause of the noise spike could not be determined. A modification will be completed by May 31, 1991 to install a time delay in the actuation circuitry of 2RE-8750-1 to aid in preventing inadvertent CREVS actuations due to spurious noise signals. The ANO-2 Technical Specifications require that 2RE-8750-1 be calibrated to trip at two times the background radiation level. 2RE-8750-1 is normally set to trip at approximately 120 CPM. Considering that this setpoint is very conservative, an evaluation was initiated to determine if a proposed Technical Specification change should be initiated to raise the setpoint of 2RE-8750-1.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)
Arkansas Nuclear One, Unit One		Year	Sequential Number	Revision Number				
	05000313	91--	002--	00				02OF04

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

A. Plant Status

At the time of the first event, Arkansas Nuclear One, Unit 1 (ANO-1) was in the cold shutdown condition with Reactor Coolant System (RCS) [AB] temperature at approximately 135 degrees and RCS pressure at 51 psig. Unit 2 (ANO-2) was in cold shutdown (Mode 5) with RCS temperature at 126 degrees and pressure at 80 psia. At the time of the second event, ANO-1 and ANO-2 were operating at approximately 100 percent of rated power.

B. Event Description

On April 10, 1991 at approximately 0813, and on May 9, 1991, at 2231, automatic actuations of the Control Room Emergency Ventilation System (CREVS) [IV] occurred as a result of the tripping of the ANO-2 control room supply radiation monitor (2RE-8750-1). The trip setpoint of the monitor at the time of the April 10 actuation was 120 counts per minute (CPM). At the time of the May 9 actuation, the setpoint was 100 CPM.

The CREVS for the ANO-1 and ANO-2 combined Control Room consists of two redundant filter trains, both of which are located outside the ANO-1 section of the Control Room. Each filter train includes a centrifugal fan, roughing filter, absolute filter, and charcoal absorbent. In addition to recirculation and filtration of Control Room air, filtered outside makeup air is also provided to pressurize the Control Room to minimize unfiltered air inleakage into the Control Rooms under isolated conditions. The CREVS trains are normally isolated from the Control Room by isolation dampers. In the event of detection of high radiation or high chlorine concentration, the normal Control Room air ventilation systems of both Unit-1 and Unit-2 are automatically isolated and the CREVS is automatically started.

Two quick acting chlorine detectors (2CLS-8760-2 and 2CLS-8761-1) are provided at the normal ventilation system supply duct for ANO-1 and two detectors (2CLS-8762-2 and 2CLS-8763-1) at the ANO-2 supply air duct. Any one of these detector signals will initiate operation of the CREVS. Additionally, radiation monitors RE-8001 (an area radiation monitor located in the ANO-1 Control Room area) and 2RE-8750-1 (a process radiation monitor located in the ANO-2 normal ventilation system outside air intake ductwork) are provided to automatically actuate CREVS upon detection of high radiation. If either one of these radiation monitors detects radiation levels above predetermined values the CREVS will be automatically actuated.

After the actuation on April 10, the radiation monitor was reset and its indication returned to normal (approximately 60 CPM). The CREVS was then secured and the control room ventilation system was returned to its normal configuration.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)
		Year	Sequential Number	Revision Number				
Arkansas Nuclear One, Unit One	05000313	91	--002--	00				03 OF 04

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

On May 9, 1991, the control room average background radiation level was determined to be 51.7 CPM. AT 1646, the setpoint of 2RE-8750-1 was lowered to 100 CPM to comply with Technical Specifications, which stipulates that the monitor be set to trip at two times background. At approximately 2231 on May 9, an inadvertent actuation of the CREVS was initiated by 2RE-8750-1 due to a transient noise spike.

C. Root Cause

An investigation was conducted which concluded that the cause of these events was a transient noise spike which caused the radiation monitor indication to increase to its trip setpoint and initiate the CREVS actuations. However, the root cause of the noise spikes could not be determined.

D. Corrective Actions

A modification is being implemented to install a time delay in the actuation circuitry of 2RE-8750-1 to aid in preventing inadvertent CREVS actuations due to spurious noise signals. This modification is expected to be completed by May 31, 1991.

The ANO-2 Technical Specifications require that 2RE-8750-1 be calibrated to trip at two times the background radiation level. Since normal background is approximately 60 CPM, 2RE-8750-1 is normally set to trip at 120 CPM. Considering that this setpoint is very conservative, an evaluation was initiated to determine if a proposed Technical Specifications change should be initiated to raise the setpoint of 2RE-8750-1. This evaluation is scheduled to be completed by June 3, 1991.

E. Safety Significance

During these events, the CREVS actuated as designed even though no actual high radiation condition existed. Therefore, there was no safety significance related to these events.

F. Basis For Reportability

These events are considered reportable pursuant to 10CFR50.73(a)(2)(IV) as an automatic actuation of an Engineered Safety Features system.

These events were also reported in accordance with 10CFR50.72 at 1115 on April 10, 1991 and at 2346 on May 9, 1991.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)
		Year		Sequential Number		Revision Number		
Arkansas Nuclear One, Unit One	05000313	91	--	00	2	--	00	04 OF 04

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

G. Additional Information

Previous inadvertent CREVS actuations which were initiated by the radiation monitor were reported in LERs 50-313/89-001-01, 50-313/89-011-00, 50-313/89-014-00, 50-313/89-025-00 and 50-313/90-014-00.

As a result of numerous previous inadvertent CREVS actuations, several system enhancements have been completed which have significantly reduced the frequency of inadvertent actuations (see LER 50-313/89-009-01).

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