Entergy Operations

Entergy Operations, Inc.
Route 3 Box 137G
Russellville AR 72801
Tel 501-964-3100

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U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station PO-137
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SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. D?R-51
Licensee Event Report 50-313/90-014-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(iv) attached is the subject report concerning an inadvertent actuation of the Control Room Emergency Ventilation System initiated by a trip of a radiation monitor caused by a personnel error.

Very truly yours,

James J. Fisicaro by RJK

James J. Fisicaro
Manager, Licensing

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

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

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PDR ADOCK 05000313
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NRC Form 366 U.S. Nuclear Regulatory Commission
(6-89)

Approved OMB No. 3150-0104
Expires: 4/30/92

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	Arkansas Nuclear One, Unit One	DOCKET NUMBER (2)	PAGE (3)
		0|5|0|0|0| 3| 1| 3	1 OF 0|4

TITLE (4) Inadvertent Actuation of the Control Room Emergency Ventilation System Initiated By a Trip of a Radiation Monitor Caused By Personnel Error.

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)
									ANO Unit 2	0|5|0|0|0| 3| 6| 8
1| 0	3| 0	9| 0	9| 0	-- 0| 1| 4 --	0 | 0	1| 1	2| 9	9| 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\|0\|0

__ 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 (Area Code)
Mike Cooper, Nuclear Safety and Licensing Specialist	5|0|1|9|6|4|-|5|0|0|0

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

SUPPLEMENT 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)

On October 30, 1990, at approximately 0535 hours, an inadvertent actuation of the control room emergency ventilation system (CREVS) occurred. The CREVS actuation was caused by the tripping of a radiation monitor. During the performance of preventive maintenance, a vital electrical bus was de-energized which in turn de-energized the radiation monitors' trip circuit causing the radiation monitor to trip and initiate the actuation of the CREVS. The system actuated as designed. The radiation monitor was repowered, reset and the ventilation system was returned to normal at approximately 1215 hours on October 30, 1990. The root cause of this event was failure to fully investigate the consequences of the de-energization of this vital power electrical bus. Additionally, the procedure used to determine loads supplied from this vital bus was not clear that this radiation monitors' trip circuit was powered from this vital source. This Electrical System Operating procedure will be revised. Additionally, operators will be counseled about the importance of investigating all consequences of de-energizing vital buses.

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

A. Plant Status

At the time of this event, Arkansas Nuclear One, Unit (ANO-1) was in Refueling Shutdown with the reactor vessel defueled, and Arkansas Nuclear One, Unit 2 (ANO-2) was in Mode 1 (Power Operation) at approximately 100% of rated power.

B. Event Description

On October 30, 1990, at approximately 0535, an inadvertent actuation of the Control Room Emergency Ventilation System (CREVS) [VI] occurred.

The CREVS is designed to maintain habitability of the ANO-1 and ANO-2 control rooms by automatically isolating the normal control room ventilation systems and starting upon receipt of an indication of high radiation or high chlorine concentration. The system 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, a high efficiency particulate absorber filter and charcoal absorbent. The CREVS trains are normally isolated from the control room by isolation dampers. System actuation instrumentation consists of two quick acting chlorine detectors located in the normal ventilation supply duct for ANO-1 and two additional detectors at the ANO-2 supply air duct. Also, there is an area radiation monitor located in the ANO-1 control room area and a process radiation monitor located in the ANO-2 normal ventilation system outside air intake ductwork. An actuation signal from any of these instruments will initiate operation of the CREVS.

During the performance of preventive maintenance, a vital electrical 480 volt AC bus was de-energized which in turn de-energized the ANO-1 radiation monitors' trip circuit causing the radiation monitor to inadvertently trip and initiate the actuation of the CREVS. The system actuated as designed.

After determination that the actuation was caused by a personnel error during a maintenance action, the radiation monitor trip circuit was defeated, allowing the control room isolation to be returned to normal. This placed ANO-2 in a seven (7) day Technical Specification Action Statement. Technical Specification 3.7.6.1 requires that two independent control room emergency air conditioning and air filtration systems be operable and with the radiation monitors' trip circuit defeated, one of the required two trains was inoperable. ANO-1 was not in a Technical Specification Action Statement as the reactor was defueled and the Control Room Emergency Air Conditioning and Isolation Technical Specifications were not applicable.

The power to the radiation monitors' trip circuit was restored, the radiation monitor was reset and the CREVS was returned to service at approximately 1215 hours on October 30, 1990. The ANO-2 Action Statement was then exited.

C. Safety Significance

Since no actual high radiation levels existed, and the CREVS actuated as designed, there was no safety significance related to this event.

D. Root Cause

The root cause of the CREVS actuation was a personnel error. An operator failed to satisfactorily investigate all possible consequences that the de-energization of this vital bus would cause. Additionally, the procedure that lists the components powered by this bus did not specifically note that this specific radiation monitors' trip power was supplied by this bus. It was assumed by the operations department that "trip power" was internal to the radiation monitor and not external, as designed.

E. Basis for Reportability

This event is being reported pursuant to 10CFR50.73(a)(2)(iv), as an event that resulted in an automatic actuation of an Engineered Safety Features system. The non-emergency event was also reported pursuant to 10CFR50.72(b)(2)(ii) to the NRC Operations Center on October 30, 1990 at 0619 hours.

F. Corrective Action

After determination that the actuation was caused by a personnel error, the radiation monitor trip circuit was defeated, allowing the CREVS to be returned to normal.

A caution card will be installed on radiation monitor RI-8001 power supply that states, "Deenergizing RI-8001 will cause actuation of the control room isolation circuit". This will be completed by January 30, 1991.

The CREVS actuation event will be discussed with operations personnel during operations crew briefs. They will be cautioned to be aware of the consequences that inadequate planning can cause. This will be completed by March 15, 1991.

The applicable Electrical System Operating Procedure will be revised to include a caution statement concerning the actuation of the CREVS when de-energizing RI-8001. This will be completed by March 15, 1991.

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

G. Additional Information

There have been no similar events of this nature reported.

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