



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379-2000

Robert A. Fenech
Vice President, Sequoyah Nuclear Plant

April 20, 1993

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET
NO. 50-328 - FACILITY OPERATING LICENSE DPR-79 - LICENSEE EVENT REPORT
(LER) 50-328/93003

The enclosed LER provides details concerning an inadvertent actuation of a containment isolation valve. This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv) as a condition that resulted in the actuation of an engineered safety feature.

Sincerely,

Robert A. Fenech

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission
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cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah Nuclear Plant, Unit 2										DOCKET NUMBER (2) PAGE (3) 050003 2 8 1 OF 0 5									
TITLE (4) Inadvertent Actuation of Engineered Safety Feature Component as a Result of Equipment Failure																			
EVENT DAY (5)					LER NUMBER (6)					REPORT DATE (7)					OTHER FACILITIES INVOLVED (8)				
					SEQUENTIAL REVISION					FACILITY NAMES					DOCKET NUMBER(S)				
MONTH DAY YEAR YEAR					NUMBER NUMBER					MONTH DAY YEAR					050003				
0 3 2 1 9 3 9 3					0 0 3					0 0 0 4 2 0 9 3					050003				
OPERATING MODE (9) THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following)(11)																			
20.402(b) 20.405(c) XX 50.73(a)(2)(iv) 73.71(b)																			
POWER 20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)																			
LEVEL 20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vii) OTHER (Specify in																			
(10) 0 0 0 20.405(a)(1)(iii) 50.73(a)(2)(i) 50.73(a)(2)(viii)(A) Abstract below and in																			
20.405(a)(1)(iv) 50.73(a)(2)(ii) 50.73(a)(2)(viii)(B) Text, NRC Form 366A)																			
20.405(a)(1)(v) 50.73(a)(2)(iii) 50.73(a)(2)(x)																			
LICENSEE CONTACT FOR THIS LER (12)																			
NAME										TELEPHONE NUMBER									
J. Bajraszewski, Compliance Licensing										AREA CODE									
										6 1 5 8 4 3 - 7 7 4 9									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																			
CAUSE SYSTEM COMPONENT MANUFACTURER					REPORTABLE					CAUSE SYSTEM COMPONENT MANUFACTURER					REPORTABLE				
X 1 L D E T G 0 6 3					NO														
SUPPLEMENTAL REPORT EXPECTED (14)																			
YES (If yes, complete EXPECTED SUBMISSION DATE) X NO										EXPECTED MONTH DAY YEAR									
										SUBMISSION									
										DATE (15)									
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																			

On March 21, 1993, at 1512 Eastern standard time, with Unit 2 in cold shutdown, a containment isolation valve was spuriously actuated as a result of equipment failure. The actuated containment isolation valve is a system process valve for the reactor coolant drain tank pump discharge line. Valve actuation was initiated by an invalid high radiation signal from a radiation monitor (RM) that does not provide an engineered safety feature (ESF) function. Investigation determined that the RM began spiking and closing the valve on November 13, 1992. Operations personnel had immediately initiated a work document on November 13, 1992, to repair the RM; the valve closure was not considered reportable. The RM spiked routinely and closed the valve between November 13, 1992, and March 21, 1993. The work document was not escalated by Operations because of the lack of sensitivity to the repetitive equipment failure. On March 21, 1993, actuation of the valve was conservatively determined to be reportable; subsequently, the work document priority was raised. Troubleshooting identified the cause of the RM failure to be a failed detector; the detector was replaced.

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		YEAR	NUMBER		NUMBER				
	050003 28	93	--	003	--	000	03	OF	05

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

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The spiking RM was annunciated on the main control room panels.

F. Operator Actions

The operators verified equipment actuation, determined that the actuation was invalid, and reset the affected equipment.

G. Safety System Responses

The containment isolation valve responded as designed; the valve closed when the non-ESF RM alarmed (spiked) above the setpoint.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of the event was spurious spiking of a non-ESF RM. This resulted in a non-ESF closure signal to a containment isolation valve.

B. Root Cause

The root cause was determined to be an isolated failure of the RM's radiation detector.

C. Contributing Factors

Although not related to the event cause, factors contributing to the duration of the equipment condition were lack of operator sensitivity to repeat equipment alarms. Operations had quickly identified the problem and initiated a work document on November 13, 1992. The RM continued to spike and cycle the valve routinely over the following months. The RM was not declared inoperable or removed from service because of a lack of sensitivity to the need to escalate the resolution of repeat equipment failure. Operators tolerated the condition instead of actively following-up on the work document to ensure timely resolution.

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IV. ANALYSIS OF EVENT

In this event, the alarm signal of a process non-ESF RM actuated a containment isolation valve and resulted in closure of the valve. If a containment isolation (ESF) signal had been initiated, the valve would have already been in its required position. The valve receives parallel signals from both the process non-ESF RM and Phase A containment ventilation isolation ESF actuation. The process non-ESF RM performed its design function when it actuated the valve because of an alarm from an invalid signal (spike) above the RM alarm setpoint.

There was no adverse consequence to the health and safety of the plant personnel or the general public as a result of this event.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

Operators evaluated the condition and returned the valve to its normally open position. Maintenance personnel investigated the RM problem and replaced the failed component.

B. Action to Prevent Recurrence

Management expectations have been communicated to Operations personnel relative to this event with emphasis on escalation and resolution of repeat alarms from plant equipment. Reinforcement of these expectations will increase operator sensitivity to appropriately escalate faulty equipment conditions.

VI. ADDITIONAL INFORMATION

A. Failed Components

The failed component in this event was a Model RD-1 radiation detector manufactured by General Atomics.

B. Previous Similar Events

None.

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

C. Discussion of Reportability

Before the event, an NRC rule change was issued in the September 10, 1992, Federal Register, with an effective date of October 13, 1992, addressing reportability of ESF events. This rule change allowed events associated with an invalid ESF signal, coupled with specific conditions, to be not reportable and resulted in various interpretations of the reportability requirement. When the RM first began alarming and closing the valve (November 13, 1992), Operations reviewed the condition and determined that the event was not reportable.

This initial reportability decision was based on the fact that a non-ESF signal from a process non-ESF RM had actuated a process valve and that this signal was invalid. On March 20, 1993, Operations was informed that actuation of an ESF component could conservatively be considered a reportable condition. Therefore, on March 21, 1993, when the RM spiked and alarmed, it was determined that the alarming of the process non-ESF RM actuated a containment isolation valve that is an ESF component. Hence, the event was conservatively determined to be reportable.

VII. COMMITMENTS

None.