



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

Robert A. Fenech  
Vice President, Sequoyah Nuclear Plant

April 21, 1993

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

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 1 - DOCKET  
NO. 50-327 - FACILITY OPERATING LICENSE DPR-77 - LICENSEE EVENT REPORT  
(LER) 50-327/93007

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 1 DOCKET NUMBER (2) PAGE (3)  
050003 12 17 11 OF 01 5TITLE (4) Inadvertent Actuation of a Containment Isolation Valve as a Result of Removal of Fuses from the  
Wrong CircuitEVENT DAY (5) LER NUMBER (6) REPORT DATE (7) OTHER FACILITIES INVOLVED (8)  
MONTH DAY YEAR YEAR SEQUENTIAL REVISION FACILITY NAMES DOCKET NUMBER (5)  
0 3 2 4 9 3 9 3 0 0 7 0 0 0 4 2 1 9 3 050003OPERATING 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) 10 10 10 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  
AREA CODE  
J. Bajraszewski, Compliance Licensing 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 TO NPRDS CAUSE SYSTEM COMPONENT MANUFACTURER TO NPRDS  
REPORTABLE REPORTABLE

## SUPPLEMENTAL REPORT EXPECTED (14)

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

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

On March 24, 1993, at 0214 Eastern standard time, with Unit 1 in cold shutdown, a containment isolation valve was actuated when its control power fuses were mistakenly removed. The actuated valve is a containment radiation monitor isolation valve. The event occurred when an assistant shift operations supervisor (ASOS) and an auxiliary unit operator (AUO) were independently removing fuses from the vital battery boards for an approved clearance sheet. The AUO had correctly removed fuses from eleven circuits on one column of a board. While in a crouched position, he checked the fuse location for the next column, mistakenly believed that he was in the correct location, and removed the wrong fuses. The AUO realized that a mistake had been made when he questioned the ASOS on how many fuses were removed from a specific column location immediately after removal of the wrong fuses. The AUO immediately reinstalled the fuses. He then located and removed the correct fuses. The cause of the event is personnel error as a result of inadequate self-checking and improper use of verification. The involved individuals received appropriate counseling.

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

## I. PLANT CONDITIONS

Unit 1 was in Mode 5, cold shutdown, for a forced outage.

## II. DESCRIPTION OF EVENT

## A. Event

On March 24, 1993, at 0214 Eastern standard time (EST), a containment isolation valve (EIIIS Code JM) was actuated when its control power fuses were inadvertently removed. The actuated valve is a containment radiation monitor (EIIIS Code IL) isolation valve. The event occurred when an assistant shift operations supervisor (ASOS) and an assistant unit operator (AUO) were independently removing fuses from vital battery boards for an approved clearance sheet. The AUO had correctly removed fuses from eleven circuits on one column of a board. While in a crouched position, he checked the fuse location for the next column, mistakenly believed that he was in the correct location, and removed fuses on the wrong circuit. The AUO realized that a mistake had been made when he questioned the ASOS on how many fuses were removed from a specific column immediately after removal of the wrong fuses. The AUO immediately reinstalled the fuses. He then located and removed the correct fuses.

## B. Inoperable Structures, Components, or Systems That Contributed to the Event

None.

## C. Dates and Approximate Times of Major Occurrences

March 24, 1993 at approximately 0145 EST	An ASOS and an AUO divided up clearance tags with attached wooden blanks for implementation of an approved clearance sheet.
March 24, 1993 at 0214 EST	The AUO had completed removing fuses correctly for eleven circuits. He then turned to a different fuse column and removed fuses on the wrong circuit. The main control room shift operations supervisor (SOS) observed a valve position indicator light change without control room operator action. An operator was dispatched to investigate.
March 24, 1993 at 0217 EST	The affected radiation monitor was blocked.

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

March 24, 1993  
at 0218 EST

The containment isolation valve was opened, and the radiation monitor was unblocked.

March 24, 1993  
at 0459 EST

NRC was notified that an inadvertent engineered safety feature component actuation had occurred.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The AUO realized that a mistake had been made when he questioned the ASOS on how many fuses were removed from a specific fuse column immediately after removal of the wrong fuses. The ASOS and AUO reported to the main control room to inform control room operators of the event.

The main control room SOS observed a valve position indicator light change in the main control room without operator action.

F. Operator Actions

The AUO immediately reinstalled the fuses that were removed in error and removed the correct fuses as specified on the clearance tag.

An operator was dispatched to investigate the change in control room indication for a containment isolation valve.

G. Safety System Responses

The containment isolation valve responded as designed. The valve closed upon loss of control power. No other safety system responses were required.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of the event was determined to be a loss of control power as a result of removal of the wrong fuses.

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

B. Root Cause

The root cause of the event was determined to be personnel error as a result of inadequate self-checking.

C. Contributing Factors

A contributing factor was that the involved individuals did not follow procedures during installation of the clearance tags. The applicable administrative procedures required second-party verification such that a second individual was present and would verify identification of the correct component before pulling the fuse. In this event the ASOS and AVO had divided the clearance tags between them, by location, and proceeded to individually remove fuses with the intent of independently verifying the other person's work. They incorrectly believed that independent verification was of a higher quality level, did not realize that the procedure specifically required second-party verification for the work being performed, and did not recognize the intent for verification before the action was taken.

A second contributing factor was inadequate labeling. Upon examination of the fuse compartment, it was determined that although the existing embossing tape labels for both column and circuit locations were usable, they were inadequate. Review of design drawings indicated that column name plates were specified but had not been installed.

IV. ANALYSIS OF EVENT

In this event, the inadvertent actuation of a containment isolation valve resulted in the closure of the valve to its fail-safe, safety position. The closure of the valve did not affect the associated radiation monitor because the valve only isolated one of the two sample supply lines to the radiation monitor. Therefore, there were no adverse consequences to the health and safety of plant personnel or the general public as a result of this event.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

Operators evaluated the condition and restored affected equipment to service.

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

B. Actions to Prevent Recurrence

The involved individuals received appropriate counseling.

The Operations superintendent reemphasized Operations' policy on self-checking.

An Operations superintendent policy will be issued on second-party (concurrent) verification when systems and components are removed from service as required by the plant clearance process. Retraining will be provided to personnel that perform clearance process tagouts.

Column identification nameplates for 125-volt direct current Vital Battery Boards I, II, III, and IV were installed in accordance with the applicable design drawings.

VI. ADDITIONAL INFORMATION

A. Failed Components

None.

B. Previous Similar Events

A review of previous events identified other LERs that resulted from personnel error, failure to follow procedure, and improper performance of second-party verification techniques. Two events (LER 50-327/91025, "Main Steam Isolation Valve Jumpers," and 50-328/92010, "Residual Heat Removal Pump Miswired Flow Switch") are key examples. Actions taken for these two events have had a broad-based impact on site personnel, and personnel sensitivity is gradually being elevated; however, these types of events do continue to occur. Management has undertaken steps to continue to emphasize expectations relative to personnel errors, failure to follow procedures, and work verification requirements. These types of personnel performance issues are being and will continue to be addressed by management.

VII. COMMITMENTS

An Operations superintendent policy will be issued and training will be provided by May 7, 1993, on second-party (concurrent) verification when systems and components are removed from service as required by the plant clearance process. This training will be provided to personnel that perform clearance process tagouts.