

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

R.J. Adney
Site Vice President
Sequoyah Nuclear Plant

January 17, 1996

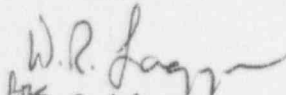
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT (SQN)
UNIT 1 - DOCKET NO. 50-327 - FACILITY OPERATING LICENSE DPR-77 -
LICENSEE EVENT REPORT (LER) 50-327/95018

The enclosed LER provides details concerning the inoperability of the fire protection carbon dioxide system for the plant computer room. This condition is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as an operation prohibited by technical specifications. This report also satisfies the reporting requirement for Technical Specification Limiting Condition for Operation 3.7.11.3 Action (a).

Sincerely,


for R. J. Adney

Enclosure
cc: See page 2

9601230025 960117
PDR ADOCK 05000327
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U.S. Nuclear Regulatory Commission

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Enclosure

cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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 (MNBB 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)
Sequoyah Nuclear Plant (SQN), Unit 1

DOCKET NUMBER (2)
05000327

PAGE (3)
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TITLE (4) Inoperability of the Carbon Dioxide System for the Computer Room Resulting from an Inadequate Design Change

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
0	0		95	018	00	01	17	96	SQN Unit 2	05000328
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)		
POWER LEVEL (10)	100	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)		X OTHER		
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)		
		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
J. W. Proffitt, Compliance Licensing Engineer

TELEPHONE NUMBER (Include Area Code)
(423) 843-6651

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

CAUSE	SYS TEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE). X NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

On December 18, 1995, it was determined that the design of the ventilation system to the computer room would not completely isolate the room on a carbon dioxide injection. The identified condition would not allow the carbon dioxide system in the computer room to function as required by Technical Specification 3.7.11.3. A modification to the ventilation system was made in May 1990 to provide additional air flow in the room. Additional supply and exhaust dampers (three each) were added to the system; but were not provided with the right dampers to isolate during a carbon dioxide injection. The root cause of the condition was determined to be personnel error by the designers. The plant will be modified to provide complete isolation of the computer room on a carbon dioxide system actuation. This report also satisfies the reporting requirement for Technical Specification Limiting Condition for Operation 3.7.11.3 Action (a).

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

I. PLANT CONDITIONS

Units 1 and 2 were operating at 100 percent power at the time of discovery.

II. DESCRIPTION OF EVENT

A. Event

On December 18, 1995, at 1528 Eastern standard time (EST), it was determined that the design of the ventilation system (EISS Code VI) to the computer room would not completely isolate the room on a carbon dioxide injection. The identified condition would not allow the carbon dioxide system (EISS Code KQ) in the computer room to function as required by Technical Specification 3.7.11.3. A modification to the ventilation system was made in May 1990 to provide additional air flow in the room. Additional supply and exhaust dampers (three each) were added to the system but were not provided with the right dampers to isolate during a carbon dioxide injection.

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

None.

C. Dates and Approximate Times of Major Occurrences

March 1988 A design change notice was initiated to add three supply and three exhaust dampers to the ventilation system for the computer room.

May 7, 1990 The modification to add the new dampers was completed.

December 18, 1995 The technical support organization identified that the design of the ventilation system for the computer room would not completely isolate on a carbon dioxide injection signal.

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December 18, 1995
at 1528 EST

The carbon dioxide system for the computer room was declared inoperable, and Action Statement (a) of Limiting Condition for Operation (LCO) 3.7.11.3 was entered. A fire watch was established as required by technical specifications. Subsequently, a hold order was placed on the carbon dioxide system in the computer room to prevent actuation of the system.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The Technical Support organization identified the design deficiency during evaluation of a temperature problem in a room adjacent to the computer room.

F. Operator Actions

The carbon dioxide system for the computer room was declared inoperable, and Action Statement (a) of LCO 3.7.11.3 was entered. A fire watch was established. Subsequently, a hold order was placed on the carbon dioxide system in the computer room to prevent initiation of the system.

G. Safety System Responses

No safety system response was required.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of this condition was the failure of the design of the ventilation system to provide complete isolation of the computer room upon actuation of the carbon dioxide system.

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B. Root Cause

The root cause of the condition was determined to be personnel error by the designers during the development of the design change that added the dampers. The designers failed to recognize the system interaction that affected the isolation of the computer room. The design change control process required a review for effects on fire protection, 10 CFR 50 Appendix R impacts, and compartmentation.

IV. ANALYSIS OF EVENT

The carbon dioxide system would not have performed its intended function in the event of a fire in the computer room. The ventilation system would have removed carbon dioxide from the room via the battery board room exhaust fans and discharged the carbon dioxide to the atmosphere.

The supply and exhaust ducts are equipped with fire dampers that would have closed, isolating a fire in the computer room. There is no safety-related or accident mitigation equipment located in the computer room. Therefore, there were no adverse consequences to plant personnel or to the general public as a result of this condition.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Action

A fire watch was established. A hold order was placed on the carbon dioxide system in the computer room to prevent initiation of the system.

B. Corrective Action to Prevent Recurrence

The design change control process had been previously enhanced to specifically address the affects a design change will have on the carbon dioxide system and the ventilation system. Additionally, the modification criteria and the safety assessment/safety evaluation requires an independent review by a design engineer, the 10 CFR 50 Appendix R engineer, and the fire protection engineer. Changes in management philosophy have provided increased emphasis and awareness to identify and document potential design and operational problems. The plant will be modified to provide complete

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isolation of the computer room on a carbon dioxide actuation. The fire watch will remain in effect until the modification has been completed.

VI. ADDITIONAL INFORMATION

A. Failed Components

None.

B. Previous Similar Events

A review of previous reportable events identified several events resulting from inadequate design. However, there were no previous reportable events that involved an inadequate design change pertaining to the carbon dioxide system.

VII. COMMITMENTS

The plant will be modified to provide complete isolation of the computer room on a carbon dioxide actuation. This action will be completed as part of the integrated computer upgrade project currently scheduled for the Unit 1 Cycle 8 refueling outage.