

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

R.J. Adney
Site Vice President
Sequoyah Nuclear Plant

January 6, 1997

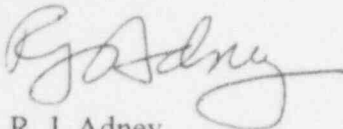
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT (SQN)
UNIT 2 - DOCKET NO. 50-328 - FACILITY OPERATING LICENSES DPR-79 -
LICENSEE EVENT REPORT (LER) 50-328/96007

The enclosed report provides details concerning a start of the auxiliary feedwater system. This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv) as a condition that resulted in a manual or automatic actuation of engineered safety features.

Sincerely,



R. J. Adney

Enclosure
cc: See page 2

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

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Atlanta, Georgia 30339-5957

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Region II
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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 MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK

FACILITY NAME (1)

Sequoyah Nuclear Plant (SQN), Unit 2

DOCKET NUMBER (2)

05000328

PAGE (3)

1 OF 4

TITLE (4)

Engineered Safety Feature (ESF) Actuation, Start of the Auxiliary Feedwater System, As a Result of an Inadequate Return of Equipment to Service.

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
12	07	96	96	007	00	01	06	97	NA	05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
3			20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
00			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		<input checked="" type="checkbox"/> 50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

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	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES
(If yes, complete EXPECTED SUBMISSION DATE).

NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

On December 7, 1996, at 1620 Eastern standard time, an auxiliary feedwater system start occurred. Earlier, maintenance activities had been performed on the 2B2 feedwater heater channel relief valve, requiring the heater to be drained and isolated. When the heater was being returned to service a pressure drop in the condensate system occurred. The drop in condensate pressure resulted in a low seal injection pressure to the main feedwater pumps, below the pump trip setpoint. A signal to trip both main feedwater pumps and start the auxiliary feedwater system was initiated. The motor-driven feedwater pumps were in service and the turbine-driven auxiliary feedwater pump started as designed. The root cause of the event was determined to be that Operations personnel restoring the feedwater heater to service did not exercise basic operations knowledge to minimize system perturbations. This event has been discussed with the involved personnel. A training letter will be issued to licensed operators summarizing this event as an interim action. Refresher training on filling and venting fundamentals will be included in this years training cycle.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

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Sequoyah Nuclear Plant (SQN), Unit 2	05000328	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		96 --	007 --	00	

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

I. PLANT CONDITIONS

Unit 2 was in Mode 3 preparing for entry into Mode 2.

II. DESCRIPTION OF EVENT**A. Event**

On December 7, 1996, at 1620 Eastern standard time (EST), an auxiliary feedwater system (EIS Code BA) start occurred. Earlier, maintenance activities had been performed on the 2B2 feedwater heater channel relief valve, requiring the heater to be drained and isolated. When the heater was being returned to service a pressure drop in the condensate system (EIS Code SD) occurred. The drop in condensate pressure resulted in a low seal injection pressure to the main feedwater pumps (EIS Code SJ), below the pump trip setpoint. A signal to trip both main feedwater pumps and start the auxiliary feedwater system was initiated. The motor-driven auxiliary feedwater pumps were in service and the turbine-driven auxiliary feedwater pump started as designed.

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

None.

C. Dates and Approximate Times of Major Occurrences

December 7, 1996 Following maintenance activities on the 2B2 feedwater heater relief at 1556 EST valve, the heater was being returned to service. A pressure drop in the condensate system occurred resulting in initiation of an auxiliary feedwater start signal.

December 7, 1996 The turbine-driven auxiliary feedwater pump was removed from service at 1608 EST in accordance with plant procedures.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The auxiliary feedwater system start was annunciated in the main control room.

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

F. Operator Actions

Control room operators responded as prescribed by procedures. Operators diagnosed the condition. The turbine driven auxiliary feedwater pump was shut down and placed in standby in accordance with plant procedures.

G. Safety System Responses

The plant responded as expected; the auxiliary feedwater system started as designed.

III. CAUSE OF EVENT**A. Immediate Cause**

The immediate cause of the event was a drop in condensate pressure resulting in a low seal injection pressure to the main feedwater pumps, initiating a trip signal to both main feedwater pumps. This condition initiated an auxiliary feedwater system start.

B. Root Cause

The root cause of the event was determined to be that Operations personnel restoring the 2B2 feedwater heater to service following the maintenance activity performed the actions too quickly for plant conditions. This was an error by the personnel involved. Filling systems following maintenance activities is a commonly performed task. Fundamental training stresses slowly filling of components (such as empty pipes, heat exchangers, and pump casings) to preclude system perturbations. Contrary to this training, an electrically powered motor operated valve was bumped open to perform the filling operation.

C. Contributing Factors

The pre-job briefing did not stress the additional cautions that should have been exercised to maintain condensate pressure.

IV. ANALYSIS OF EVENT

The plant response to the event was consistent with responses described in the Final Safety Analysis Report, and, accordingly, the event did not adversely affect the health and safety of plant personnel or the general public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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		96 --	007	-- 00	

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

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

Control room operators responded as prescribed by procedures. The condition was promptly diagnosed, the start signal was reset, and turbine-driven auxiliary feedwater pump was shutdown and placed in stand-by.

B. Corrective Actions to Prevent Recurrence

The event was reviewed with the involved personnel. A training letter will be issued to licensed operators summarizing this event as an interim action. Refresher training on filling and venting fundamentals will be conducted in this years training cycle.

VI. ADDITIONAL INFORMATION

A. Failed Components

None.

B. Previous Similar Events

A review of previous events identified one previous event (LER 50-328/88014) pertaining to an auxiliary feedwater system start as a result of filling and venting of the condensate system. The corrective action included revising the system operation procedure and the general operating procedure to ensure that at least one main feedwater pump trip bus was deenergized during filling and venting of the condensate feedwater system during normal start-up operations. These corrective actions would not have prevented this occurrence.

VII. COMMITMENTS

- 1) A training letter will be issued to licensed operators summarizing this event as an interim action. This action will be completed by January 17, 1997.
- 2) Refresher training on filling and venting fundamentals will be conducted in this years training cycle. This action will be completed by May 30, 1997.