



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

September 21, 1994

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

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 - DOCKET
NOS. 50-327 AND 50-328 - FACILITY OPERATING LICENSES DPR-77 AND DPR-79 -
LICENSEE EVENT REPORT (LER) 50-327/94013

The enclosed LER provides details concerning the identification that
Surveillance Requirement 4.7.4.b.2, which verifies that each essential raw
cooling water pump starts automatically on a safety injection test signal,
was not being performed as required by technical specifications. The
procedure implementing the required surveillance was incorrect. This
report is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as an
operation prohibited by the plant's technical specifications.

Sincerely,

O. J. Zeringue
Acting Site Vice President

Enclosure

cc: See page 2

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cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah Nuclear Plant (SQN), Unit 1										DOCKET NUMBER (2) PAGE (3) 050003 27 1 OF 06														
TITLE (4) Missed Surveillance as a Result of Inadequate Procedures																								
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					Sequoyah, Unit 2					050003 28				
0 8 2 3 9 4 9 4					0 1 3 0 0 0 9 2 1 9 4										050003 11									
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) 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) 1 0 0										20.405(a)(1)(iii) XX 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. W. Proffitt, Compliance Licensing										AREA CODE 6 1 5 8 4 3 - 6 6 5 1														
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
CAUSE SYSTEM COMPONENT MANUFACTURER					REPORTABLE					CAUSE SYSTEM COMPONENT MANUFACTURER					REPORTABLE									
					TO NRPDS										TO NRPDS									
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 August 23, 1994, it was discovered that Surveillance Requirement (SR) 4.7.4.b.2, which verifies that each essential raw cooling water (ERCW) pump starts automatically on a safety injection (SI) test signal, was not being performed as required by technical specifications (TSs). The procedure implementing the required surveillance was incorrect. The procedure requires verifying that each ERCW pump starts automatically on a blackout (BO)/SI test signal. The BO/SI test signal will not ensure that the ERCW pumps start on an SI signal since the BO circuitry starts the pumps first. It was subsequently determined that the SR had not been performed correctly since the procedures implementing the SR were revised on October 3, 1991, for Unit 1 and February 28, 1992, for Unit 2. This condition has existed since that time. The cause of this event was an inadequate procedure revision and an inadequate review by the involved personnel. The Unit 1 procedure has been revised and was successfully performed to comply with TS requirements. The Unit 2 procedure will be revised and performed before entry into Mode 4.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)				
Sequoyah Nuclear Plant (SQN), Unit 1				SEQUENTIAL		REVISION				
			YEAR		NUMBER		NUMBER			
	050003 27	94	--	0	1	3	--	0	0	0

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

I. PLANT CONDITIONS

Unit 1 was operating in Mode 1 near 100 percent reactor power, and Unit 2 was in a refueling outage with the core offloaded.

II. DESCRIPTION OF EVENT

A. Event

On August 23, 1994, it was discovered that Surveillance Requirement 4.7.4.b.2, which verifies that each essential raw cooling water (ERCW) pump (EIS Code BI) starts automatically on a safety injection (SI) (EIS Code BP) test signal, was not being performed as required by technical specifications (TSs). The procedure implementing the required surveillance was incorrect. The procedure requires verifying that each ERCW pump starts automatically on a blackout (BO)/SI test signal. The BO/SI test signal will not ensure that the ERCW pumps start on an SI signal since the BO circuitry starts the pumps first. It was subsequently determined that the SR had not been performed correctly since the procedures implementing the SR were revised on October 3, 1991, for Unit 1 and February 28, 1992, for Unit 2. This condition has existed since that time.

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

None.

C. Dates and Approximate Times of Major Occurrences

March 16, 1991	The Unit 1 SI, which verifies that the ERCW pumps start on an SI test signal, was successfully performed.
September 5, 1991	The Unit 2 SI, which verifies that the ERCW pumps start on an SI test signal, was successfully performed.
October 3, 1991	The Unit 1 SI was revised. The revision included cancelling the existing procedure and incorporating the requirements into the loss of offsite power with an SI test. However, during the revision, it was not realized that the BO/SI test would not actually verify that the ERCW pumps would start on an SI signal.
October 4, 1991	The revised surveillance was used for the first time on Unit 1, improperly verifying the automatic start of the ERCW pumps on a BO/SI test signal.

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

February 28, 1992 The Unit 2 SI was revised.

March 14, 1992 The revised surveillance was used for the first time on Unit 2.

August 23, 1994 A Site Quality review of Operations' SIs, performed as corrective action to LER 50-327/94012, identified the deficient SI.

August 23, 1994
at 1015 Eastern
daylight time (EDT) Limiting Condition for Operation (LCO) 4.0.3 was entered.

August 23, 1994
at 2223 EDT LCO 4.0.3 was exited after successful performance of the surveillance requirement.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

A Site Quality review of Operations' SIs, performed as corrective action to LER 50-327/94-12, identified the deficient surveillance instruction.

F. Operator Actions

Upon discovery of the condition, Operations personnel were notified of the condition. The appropriate LCOs were subsequently entered.

G. Safety System Responses

Not applicable - No safety system responses were required.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of this condition was the failure to properly implement the SR as required by TSs.

B. Root Cause

The cause of this condition was an inadequate procedure revision and an inadequate review by the involved personnel.

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

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IV. ANALYSIS OF EVENT

TS 3.7.4 requires verifying that each ERCW pump starts automatically on an SI test signal. Subsequent to the identification, the circuitry was tested, and it was demonstrated that the ERCW pumps would have started on an SI signal. Additionally, ERCW pumps (two A train and one B train) are typically running during normal operation; thus, only one additional B train ERCW pump would have been required to start. Therefore, it is concluded that there was no danger to the health and safety of plant personnel or the public.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

Upon discovery of the condition, the Unit 1 surveillance was revised and performed to comply with TS requirements. The Unit 2 surveillance procedure will be revised and performed before entry into Mode 4.

B. Corrective Action to Prevent Recurrence

A review of all Operations department surveillances was performed by the Site Quality organization to ensure that TS-required surveillances are properly implemented in instructions; no additional examples were identified.

VI. ADDITIONAL INFORMATION

A. Failed Components

None.

B. Previous Similar Events

A review of previously-reported occurrences was conducted to identify similar events. There were 37 previously-reported events associated with missed surveillances. The corrective actions associated with LER 50-327/94012 resulted in the identification of this condition. Previous corrective actions included the training of personnel and should have minimized the chance for this condition. The current process and qualification of the appropriate personnel should reduce the chances for future procedural errors.

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

The previous corrective actions taken as a result of LERs 50-327/94003 and 50-327/93030 were determined to be inadequate to have identified this condition. The root cause for recurring procedure deficiencies is that management failed to provide proper guidance and expectations for the review of Operations' procedures. The expectation of the incident investigation (II) investigator, which was conveyed to Plant Operations Review Committee (PORC), was that Operations perform a technical review of their procedures. The details of the technical review were not defined, and Operations indicated that the review was expected to be performed within about one week. Operations only reviewed procedures to a level that verified that the SR was referenced and that the SI contained a section that was intended to fulfill the SR. Operations did not verify that the steps listed in the procedure fulfilled the SR. Operations considered this level of review appropriate based on the problems that had been identified up to that time.

A contributing factor is that verbal communication of the review that was performed by Operations did not clearly identify the depth of the review to PORC members. PORC members believed that a more in-depth review was performed to satisfy their request for a technical adequacy review.

Another contributing factor was the untimely corrective action dates specified in LER 50-327/94012. This II initiated reviews that identified the at-risk population but did not ensure that the procedures were reviewed and corrected in a timeframe appropriate for the risk involved.

A memorandum will be issued to the Site Vice President's direct reports to communicate the need for precise communication between individuals and organizations. The memorandum will identify the risk to the adequacy of management decisions that could occur if communication is not precise. The memo will also remind personnel that they should consider the significance of the issue involved as they choose corrective action dates to ensure timely completion. Cascading communication to site employees will subsequently occur.

The Plant Manager will issue a memorandum to all shift operating supervisors, senior reactor operators, and independent qualified reviewers (IQR) that will include guidance on their responsibilities as procedure reviewers and will document the problems that have been identified. This letter will also remind the reviewers that all intent changes must be reviewed by the Periodic Test Coordinator to ensure that the SI matrix is maintained accurate.

At this point, there is no indication that the current IQR process is not effective. The missed surveillances that have been identified resulted from enhancement revisions in the 1991 timeframe, with the exception of Surveillance Instruction 137.1, which resulted from a misinterpretation of TSs in 1987. IQR training was implemented after the enhancement project to strengthen the knowledge of the IQRs on what their responsibilities include.

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

C. Extent of Condition

As a result of the review of Operations' surveillances to date, no additional examples of surveillances not properly implementing TSs have been identified.

VII. COMMITMENTS

1. A memorandum will be issued to the Site Vice President's direct reports to communicate the need for precise communication between individuals and organizations. The memorandum will identify the risk to the adequacy of management decisions that could occur if communication is not precise. The memo will also remind personnel that they should consider the significance of the issue involved as they choose corrective action dates to ensure timely completion. Cascading communication to site employees will subsequently occur. This action will be completed by October 21, 1994.
2. The Plant Manager will issue a memo to all shift operations supervisors, senior reactor operators, and IQRs that will include guidance on their responsibilities as procedure reviewers and document the problems that have been identified. This letter will also remind the reviewers that all intent changes must be reviewed by the Periodic Test Coordinator to ensure that the SI matrix is maintained accurate. This action will be completed by October 21, 1994.