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Jack L. Wilson
Vice President, Sequoyah Nuclear Plant

July 31, 1991

U.S. Nuclear Regulatory Commission
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Gentlemen:

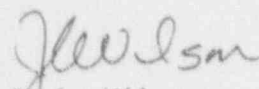
TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 1 - DOCKET
NO. 50-327 - FACILITY OPERATING LICENSE DPR-77 - LICENSEE EVENT REPORT
(LER) 50-327/91008, REVISION 2

The enclosed LER is being revised to provide an updated schedule for
corrective actions associated with inoperable penetration seals and
failure to perform visual inspections for fire barrier penetrations.
This event was initially reported in accordance with
10 CFR 50.73(a)(2)(i)(B) as an operation prohibited by technical
specifications on May 29, 1991.

The changes from TVA's original report are designated by vertical bars in
the right-hand margin.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


J. L. Wilson

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

July 31, 1991

cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah Nuclear Plant, Unit 1 DOCKET NUMBER (2) 0501003271 PAGE (3) 04TITLE (4) Inoperable penetration seals that were not inspected or identified as a result of a deficient procedure

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				
0	4	2	9	0	0	0	0	0	Sequoyah, Unit 2		050100328	
0	4	2	9	0	0	0	0	0			050100328	

OPERATING MODE (9) 1 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5:
(Check one or more of the following) (11)

POWER	<u>1</u>	20.402(b)	<u>1</u>	20.405(c)	<u>1</u>	50.73(a)(2)(iv)	<u>1</u>	73.71(b)
LEVEL	<u>1</u>	20.405(a)(1)(i)	<u>1</u>	50.36(c)(1)	<u>1</u>	50.73(a)(2)(v)	<u>1</u>	73.71(c)
(10)	<u>1</u>	20.405(a)(1)(ii)	<u>1</u>	50.36(c)(2)	<u>1</u>	50.73(a)(2)(vii)	<u>1</u>	OTH: Specify in
	<u>1</u>	20.405(a)(1)(iii)	<u>XX</u>	50.73(a)(2)(i)	<u>1</u>	50.73(a)(2)(viii)(A)	<u>1</u>	Abstract below and in
	<u>1</u>	20.405(a)(1)(iv)	<u>1</u>	50.73(a)(2)(ii)	<u>1</u>	50.73(a)(2)(viii)(B)	<u>1</u>	Text, NRC Form 366A
	<u>1</u>	20.405(a)(1)(v)	<u>1</u>	50.73(a)(2)(iii)	<u>1</u>	50.73(a)(2)(x)	<u>1</u>	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
<u>Melissa D. Meade, Compliance Licensing Engineer</u>	<u>615843-7766</u>

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

SUPPLEMENTAL REPORT EXPECTED (14)	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<u>YES (If yes, complete EXPECTED SUBMISSION DATE)</u>	<u>XX</u> NO			

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

This LER is being revised to provide an updated schedule for corrective actions. On April 29, 1991, with Units 1 and 2 operating in Mode 1, it was determined that fire barrier penetration seals had not been visually inspected as required by Technical Specification (TS) 4.7.12. Technical inadequacies in Surveillance Instruction (SI) 233.1E, "Mechanical Penetration Fire Barrier Visual Inspection," including inadequate acceptance criteria, were discovered during an investigation of fire barrier discrepancies. The SI inadequacies contributed to not identifying inoperable penetration seals during the Technical Specification 4.7.12 surveillance. The nonfunctional seals were identified during a walkdown in the area on May 31, 1990. A breaching permit was issued and closed within 7 days of identification based on a performance of a portion of SI-233.1E utilizing the deficient acceptance criteria to determine operability. The penetrations were sealed on June 8, 1990. The procedures implementing the TS SR will be revised and additional surveillance performed as deemed appropriate.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
Sequoyah Nuclear Plant Unit 1		SEQUENTIAL	REVISION
		YEAR NUMBER	NUMBER
	050003 12 17 19 11	-- 0 0 8 --	0 2 0 210F 0 4

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

DESCRIPTION OF EVENT

On April 29, 1991 with Units 1 and 2 operating in Mode 1 (100 percent power, 2235 psig and Tav_g of 578 degrees Fahrenheit) a condition was discovered involving previously nonfunctional fire barrier penetration seals. The nonfunctional penetration seals were identified during a walkdown on May 31, 1990. The nonfunctional seals were located in the wall containing door C23, separating the computer room from the corridor, above the dropped corridor ceiling. The penetrations were sealed as required on the computer room side and not sealed on the corridor side. This condition appeared to have existed since initial construction. Upon discovery, a breaching permit was issued and the associated fire watch was established. The breaching permit was closed within 7 days of identification based on a performance of a portion of SI-233.1E utilizing erroneous acceptance criteria to determine operability which indicated that proper sealing on both sides was not required. The breach of the seals was repaired on June 8, 1990. This breach and other identified fire barrier discrepancies were documented on a corrective action program document; a Condition Adverse to Quality Report (CAQR). The reportability determination for the CAQR concluded that the other discrepancies were reportable in accordance with License Condition 2.H of the Unit 2 Facility Operating License and they were subsequently reported in Special Report 90-11, dated June 13, 1990. The nonfunctional seal condition was determined to not be reportable on May 31, 1990, because it would be corrected within 7 days of discovery. Additionally, it was later incorrectly considered that the penetration was functional despite the deficiencies. The duration of the condition before identification was apparently not considered.

During an investigation of additional fire barrier discrepancies, reported in Special Report 91-03 dated May 7, 1991, the CAQR documenting this condition was reviewed. The investigation team questioned why SI-233.1E, which verifies operability of control building fire barrier penetrations as required by TS SR 4.7.12, did not identify the nonfunctional seals. Interviews of the SI performers indicated that this section of the wall had not been inspected for an extended length of time, possibly because of the penetration being concealed by its location above the dropped ceiling. The SI was reviewed by the plant fire protection engineer and determined to be deficient. The procedure provided inadequate guidance and conflicting inspection requirements. Additionally, the criteria provided in the SI to determine operability of the penetration seals was determined to be technically inadequate. The SI states that penetrations found unacceptable can still remain functional provided no air movement or light through the penetration is detected. This criteria was met for the penetrations sealed on one side without maintaining the required fire rating of the wall. This condition applies to the entire SI-233.1 series, which implements TS SR 4.7.12, and has existed since the initial issue of the procedure.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)			
Sequoyah Nuclear Plant Unit 1			SEQUENTIAL		REVISION				
		YEAR	NUMBER		NUMBER				
	0151010131217	911	--	008	--	020	310F	014	

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

CAUSE OF THE EVENT

Not identifying the nonfunctional penetration seals and failing to properly inspect the seals during performance of the surveillance required by TS 4.7.12 resulted from a deficient procedure. Because of the extended duration of these inadequacies, conclusively determining the cause was not possible, but the deficiencies appear to have resulted from the procedure writer having an inadequate understanding of fire protection requirements. A lack of familiarity of the SI performers with fire compartmentation requirements, which are the bases for the SI, is also evidenced by this condition.

The seal deficiencies appear to have existed since initial construction. The cause of the inadequate seals also could not be determined because of the duration of the condition. The failure to report the deficient condition resulted from erroneous judgements; the basis for these judgements could not be determined.

ANALYSIS OF EVENT

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as an operation prohibited by TS.

The functional integrity of the fire barrier penetrations ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. Although the nonfunctional penetrations in this wall could not maintain their required fire rating, they were sealed on one side, impeding direct communication with the adjacent room. Roving fire watches have been maintained in this area since the breach was identified as a result of other deficiencies reported in Special Report 90-11. Additionally, the automatic detection in both the computer room and corridor and the automatic suppression in the computer room, provide assurance that appropriate response actions in the event of a fire in the area would have been initiated.

CORRECTIVE ACTIONS

Upon discovery of the deficient penetration seals in May of 1990 a breaching permit was issued and the associated fire watch was established. Additionally, fire watches have been established in plant areas containing penetrations, as a prudent measure, to generically address the potential for unqualified seals. The subject penetrations were sealed restoring their fire rating on June 8, 1990. The proper installation of these seals has been verified during the investigation resulting in this report. The SI-233.1 series will be reviewed, and appropriate revisions will be made to clarify inspection requirements and correct acceptance criteria deficiencies. Performance of these surveillances will follow the revisions to ensure the penetrations are inspected and functional.

Training will be conducted with performers of the SI to familiarize them with fire compartmentation requirements before the next SI performance. Additionally, as part of a separate effort involving the SQN fire protection program, responsibilities are being clearly defined and delegated only with assignment of the appropriate expertise to ensure fire protection requirements are understood and implemented.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)	
Sequoyah Nuclear Plant Unit 1		SEQUENTIAL	REVISION		
		YEAR	NUMBER	NUMBER	
		050003	27	19	11
		0	0	8	--
		0	2	0	4
		0	1	0	4

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

ADDITIONAL INFORMATION

Three LERs (50-328/85003, 50-327/85018, and 50-327/86032) were discovered that involved unsealed conduit. LER 50-328/85003 contained a corrective action that "further efforts to find unsealed conduit and to seal the conduit found will be completed by June 30, 1987." This corrective action resulted in the reporting of LER 50-327/85018. Although the commitment does not specifically state penetration sleeve seals will be inspected, it appears that this review could have identified the discrepancies reported here. LER 50-327/86032 involved an unsealed cable tray penetration that was considered an isolated instance; therefore, no further reviews were performed. Had a broader review been considered warranted, this discrepancy may have been identified.

COMMITMENTS

1. The SI-233.1 series will be reviewed and appropriate revisions will be made to clarify inspection requirements and correct acceptance criteria deficiencies before the next performance.
2. Performance of the SI-233.1 series, to ensure the penetrations are inspected and functional, will be completed by December 1, 1991, with the exception of SI-233.1B, which will be performed during the Unit 2 Cycle 5 refueling outage.
3. Training will be conducted with performers of SI-233.1 to familiarize them with fire compartmentation requirements before August 3, 1991.

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