NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Sequoyah, Unit 2	0 5 0 0 0 3 2 8	1 OF 0 3

TITLE (4): Containment Penetration Did Not Have Redundant Overcurrent Protection Because Of A Personnel Error During Construction

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 NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
1 0	1 4	8 6	8 7	— 0 0 4	— 0 0	0 3	2 0	8 7		0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)				
5	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	
POWER LEVEL (10) 0 0 0	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)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)		
	20.405(a)(1)(iv)	XX 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	TELEPHONE NUMBER
J. L. Long, Plant Operations Review Staff	AREA CODE 6 1 5 — 8 7 0 - 7 2 5 4

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

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

On February 20, 1987, at 0830 EST with unit 2 in mode 5 (0 percent power, 250 psig, and 140 degrees F), it was discovered that one of the cables in electrical penetration 36 did not have redundant overcurrent protection. The deficiency, which was found during a walkdown for a fuse verification program, was that cable 2RM-80 was connected directly to circuit breaker 12. The cable which supplies area radiation monitor 2-RI-90-60B (non-safety related) should have been terminated on the load side of fuse 2-FU2-90-60B with a cable connecting the output of circuit breaker 12 to the supply side of the fuse. Therefore, the penetration did not have the required redundant overcurrent protection.

The root cause of this event was personnel error during plant construction. The electrician failed to connect the fuse into the circuit. Penetration protection fuses were added as a result of an Engineering Change Notice and were installed by Construction personnel before initial criticality of unit 2. However, the fuse was not connected in the circuit as required by the applicable drawings.

The wiring for the circuit breaker/fuse combination for penetration 36 has been corrected. Additionally, all of the other circuit breaker/fuse combinations for penetrations have been verified to be correct.

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

DESCRIPTION OF EVENT

On February 20, 1987, at 0830 EST with unit 2 in mode 5 (0 percent power, 250 psig, and 140 degrees F), it was discovered that one of the cables in electrical penetration 36 (EIIS Code BD) did not have redundant overcurrent protection. This penetration contains cables for radiation monitors.

The deficiency was found during a walkdown for a fuse verification program by Modifications personnel. Modifications personnel were removing covers on various panelboards and noticed that on Radiation Process And Area Monitor Power Distribution Panel 2 (EIIS Code ED) that cable 2RM-80 was connected directly to circuit breaker 12. The cable which supplies area radiation monitor 2-RI-90-60B (non-safety related) should have been terminated on the load side of fuse 2-FU2-90-60B with a cable connecting the output of circuit breaker 12 with the supply side of the fuse. Work Request (WR) Number B117832 was submitted to correct the problem on October 14, 1986. It was not noted that a potential Technical Specification (TS) discrepancy existed at this time.

Since unit 2 was in mode 5 on the event date and containment integrity is not required for mode 5, the WR was given "routine" priority. If unit 2 had been in a mode greater than mode 5 when this event was discovered, the WR would have indicated and received "immediate" attention to address the deficiency. On February 20, 1987, an Electrical Maintenance engineer was reviewing the WR and noted a potential TS decrepancy and initiated a Potential Reportable Occurrence Report for further evaluation.

Subsequent to being notified, Operations personnel verified that no immediate operability problems existed because primary containment integrity is not required for mode 5 operation in accordance with the TS.

CAUSE OF EVENT

The root cause of this event was personnel error during plant construction. The electrician failed to connect the fuse into the circuit. Penetration protection fuses were added as a result of Engineering Change Notice No. 1190, and were installed by construction personnel before initial criticality of unit 2. However, the fuse was not connected in the circuit as required by the applicable drawings.

The reason that this condition has gone undetected since initial criticality is that windows were in the covers of the panelboards to allow fuse checks and replacements without requiring the covers to be removed. The windows are large enough to replace fuses but are not large enough to see the wiring on the fuseblock terminals.

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

ANALYSIS OF EVENT

This event is reportable under 10 CFR 50.73, paragraph a.2.ii.

The redundant overcurrent protection for a low voltage penetration consists of a circuit breaker as the primary protective device and a fuse as the secondary protective device. Even though the fuse was not connected in the circuit, the circuit breaker was always available to interrupt current flow in the event of a fault on the cable inside containment. Therefore, the penetration was never unprotected, but it did not have the required redundant protection.

CORRECTIVE ACTION

The wiring for the circuit breaker/fuse combination for the inadequately protected cable in penetration 36 has been corrected. Additionally, the circuit breaker/fuse combinations for all penetrations have been verified to be correct. Since the construction of unit 2 is complete and this is an isolated case, no further corrective action is required.

ADDITIONAL INFORMATION

Previous occurrances - none

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TENNESSEE VALLEY AUTHORITY
Sequoyah Nuclear Plant
Post Office Box 2000
Soddy-Daisy, Tennessee 37379

March 20, 1987

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET NO. 20-328 - FACILITY OPERATING LICENSE DPR-79 - REPORTABLE OCCURRENCE REPORT SQRO-50-328/87004

The enclosed licensee event report provides details concerning the discovery of a containment penetration that did not have redundant overcurrent protection. This event is reported in accordance with 10 CFR 50.73, paragraph a.2.ii.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Nobles
Acting Plant Manager

Enclosure
cc (Enclosure):

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NRC Inspector, Sequoyah Nuclear Plant

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