

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **Sequoyah, Unit 2** DOCKET NUMBER (2) **05000328** PAGE (3) **1 OF 05**

Complete Testing Of Unit 2 Containment Penetration Overcurrent Protective Devices Before Entry Into Mode 4 Caused By An Incorrect Interpretation Of The TS Bases

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)																																																													
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LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Tom Rogers	AREA CODE
K. E. Meade, Plant Operations Review Staff	615 870-6250

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

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 fifteen single-space typewritten lines) (16)

On May 4, 1988, at 1400 EDT with unit 2 in cold shutdown, it was discovered during a Quality Assurance review of the January 9, 1988 performance of SI-258.2, "Testing of Molded Case and Lower Voltage Containment Penetration Circuit Breakers," that its performance did not completely satisfy Technical Specification (TS) Surveillance Requirements (SR) 4.8.3.1.a.2. During this performance, three of the breakers selected for functional testing were unit 1 containment penetration circuit breakers in lieu of unit 2 breakers. A computer selected breakers for testing based on manufacturer, type, and previous functional test date. The computer program data base was, however, incorrect because it included some unit 1 breakers. This was caused by a footnote that references breakers that are "common to both unit 1 and unit 2" in SI-258.2 and SI-258.1. This footnote is not true with regard to meeting TS SR 4.8.3.1.a.2. The footnote was placed in the procedure because the breakers were identified as breakers that could affect the operability of both units since they were installed in common unit motor control centers. The computer program was developed with the instructions to include breakers referenced as "common to both units" in the unit 1 and unit 2 data base. At the time of discovery, unit 2 was in a mode in which the subject TS Limiting Condition for Operation did not apply, and therefore, no immediate compensatory actions were required. However, unit 2 had been in either mode 3 or mode 4 from February 6 to April 8, 1988, and relied on the January 1988 performance of SI-258.2 to comply with TS. As corrective actions to comply with TS, three unit 2 containment penetration circuit breakers of the required types were selected and tested on May 4, 1988, with satisfactory results. The root cause of this occurrence is attributed to an incorrect interpretation of the bases for TS 3.8.3.1. To prevent recurrence, the scheduling program will be revised to have unitized data bases, and the SI-258 procedure series will be revised to remove the footnote.

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

DESCRIPTION OF EVENT

On May 4, 1988, at approximately 1400 EDT while unit 2 was in mode 5 (0 percent power, 6 psig, 118 degrees F), it was discovered during a Quality Assurance review of the January 9, 1988 performance of Surveillance Instruction (SI)-258.2, "Testing of Molded Case and Lower Voltage Containment Penetration Circuit Breakers," that three additional unit 2 circuit breakers had to be tested to satisfy Technical Specification (TS) Surveillance Requirement (SR) 4.8.3.1.a.2. TS SR 4.8.3.1.a.2 requires functional testing to be performed on a representative sample of at least 10 percent of each type of lower voltage containment penetration circuit breakers (EIS Code EC) on a rotating basis in order to maintain containment penetration conductor overcurrent protective devices operable. This SR is implemented via the performance of SI-258.2 for unit 2. A similar procedure, SI-258.1, is used to implement the unit 1 containment penetration conductor overcurrent protective devices SR. Both SI-258.1 and SI-258.2 include a list of breakers that are subject to testing for meeting the SR. Some of the breakers in these listings are marked with an asterisk. The asterisk refers to a footnote stating "breakers common to both unit 1 and unit 2."

To support implementation of SR 4.8.3.1.a.2, the Sequoyah Maintenance and Surveillance Scheduling Section (M&SSS) developed a computer program and data base from the listings in SI-258.1 and SI-258.2. As part of the technical input for developing the program, M&SSS was instructed to place all the breakers marked by the asterisk in the listings of SI-258.1 and SI-258.2 in the unit 1 data base and in the unit 2 data base, since it was believed that they were common to both units. The scheduling program was then developed to select breakers from this data base for functional testing based on the manufacturer, the required percentage of breaker type, and the date of previous breaker testing. In this case, however, breakers providing protection from unit 1 containment load faults, which were identified as common to both units in SI-258.1, were also subject to selection when performing SI-258.2 and vice versa.

This computer program was used to select the breakers to be functionally tested for the January 9, 1988 performance of SI-258.2. Three of the breakers selected were breakers providing protection for unit 1 containment loads, 120V AC evacuation alarm power distribution panel B (breakers 5 and 6) and standby lighting cabinet LS-4 (breaker 12). The evacuation alarm power breakers are Westinghouse type EB breakers, and the standby lighting breaker is a General Electric type TE breaker.

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Implementation of SR 4.8.3.1.a.2, via SI-258.2, is required to comply with TS Limiting Condition for Operation (LCO) 3.8.3.1. LCO 3.8.3.1 provides the requirements applicable to the containment penetration conductor overcurrent protective devices and is applicable in operating modes 1, 2, 3, and 4. Since unit 2 was in mode 5 at the time the noncompliance with SR 4.8.3.1.a.2 was discovered, no compensatory actions were required by TS. The January 1988 performance of SI-258.2, however, was used to ensure compliance with LCO 3.8.3.1 while unit 2 was in either mode 3 or mode 4 during the period from February 6 to April 8, 1988.

CAUSE OF EVENT

The immediate cause of the noncompliance with SR 3.8.3.1 is the failure to test two additional Westinghouse type EB breakers and one General Electric type TE breaker that provides protection for unit 2 containment penetrations. This is the result of an incorrect computer data base used for selecting breakers to be functional tested, that included some circuit breakers that provide unit 1 containment penetration overcurrent protection.

The root cause of this event is attributed to an incorrect interpretation of the bases for TS LCO 3.8.3.1. In April of 1987, Electrical Maintenance personnel had pursued a clarification for electrical equipment that is considered common for both units. This was done in order to properly address common equipment in revisions being made to SI-258, SI-270, "Fuses for Containment Penetration Conductor Overcurrent Protection," and SI-275, "Testing of Non Class 1E Load Circuit Breakers Fed From Class 1E Buses," procedure series. The SI-258 and SI-270 series procedures are used to implement SR 4.8.3.1.a.2 and 4.8.3.1.a.3 to ensure proper conductor overcurrent protection is provided to containment penetrations and, therefore, should be unit specific. The SI-275 series, however, is used to implement SR 4.8.3.3 to ensure proper overcurrent protection is provided to protect 1E buses from nonqualified load faults. At Sequoyah, some motor control centers include breakers to nonqualified loads in each unit. It therefore is appropriate to consider unitized breakers as breakers common to both units when ensuring protection is provided to the class 1E buses that have a common junction with both units electrical loads. Operations identified the loads that should be considered as common to both units, and SI-258, SI-270, and SI-275 procedure series were revised accordingly. This information was then provided to the M&SSS for the development of the Maintenance and Scheduling computer data base.

ANALYSIS OF EVENT

This report is submitted pursuant to the requirements of 10 CFR 50.73, paragraph a.2.i, as a condition prohibited by TS.

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The bases for the operability of these circuit breakers is to ensure that the containment penetrations are adequately protected from an overcurrent condition to preclude an overcurrent condition damaging the penetration. A damaged penetration could result in breaching the containment boundary, resulting in a release path for radioactive materials. The operability of these breakers is demonstrated by implementing TS SR 4.8.3.1. This SR requires, in part, the selection of a representative sample of at least 10 percent of each type of breaker for functional testing on a rotating basis. This sampling method was maintained during the January 1988 performance of SI-258.2, but three of the breakers tested provided unit 1 containment penetration overcurrent protection. The lack of a unit 2 designator on these breakers, however, has no impact on the results of the functional test nor does it affect the statistical method of assuring breakers of a certain manufacturer type will perform as required. The improper selection of three unit 1 breakers for testing performed in January 1988 still demonstrated the reliability of the breaker by manufacturer and type, and it was somewhat conservative because the breakers selected were in service longer without a functional test than the other unit 2 containment penetration circuit breakers of their type. However, this method could have extended the in-service period of a nonfunctional unit 2 breaker. Testing of three additional unit 2 breakers of the required manufacturers type, however, did provide assurance of breaker reliability as required by SR 3.8.3.1. It is, therefore, concluded that this occurrence had no significant adverse affect on the health and safety of the public.

CORRECTIVE ACTION

No immediate operator action was required upon discovery of the incomplete performance of SI 258.2 dated January 9, 1988, because the unit was not in an operational mode in which TS LCO 3.8.3.1 applied.

As corrective action to meet SR 4.8.3.1, two Westinghouse type EB circuit breakers and one General Electric type TE that provide unit 2 containment penetration overcurrent protection were tested on May 4, 1988, with satisfactory results. The Westinghouse circuit breakers were the unit 2 containment 120V AC evacuation alarm, breaker Nos. 15 and 16, and the General Electric circuit breaker tests were the unit 2 standby lighting cabinet LS-2 Reactor Building lighting breaker No. 12.

To prevent recurrence of this event, the footnote in SI-258.1 and SI-258.2 will be deleted, and the M&SSS data base will be changed to remove the breakers listed in SI-258.1 from the unit 2 data base and to remove the breakers listed in SI-258.2 from the unit 1 data base. These corrective actions will be complete by July 15, 1988. SI-270.1 and SI-270.2 will also be reviewed and changed as required to ensure SR 4.8.3.1.a.3 is properly implemented by July 1, 1988.

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COMMITMENTS

Delete the asterisk footnote from Attachment 1 of SI-258.1 and SI-258.2 by July 1, 1988.

Remove circuit breakers listed in SI-258.2 from the unit 1 M&SSS data base and remove circuit breakers listed in SI-258.1 from the unit 2 data base by July 15, 1988.

Review SI-270.1 and SI-270.2 to ensure compliance with SR 4.8.3.1.a.3 by July 1, 1988.

ADDITIONAL INFORMATION

There has been one previously reported occurrences of a failure to meet the containment penetration overcurrent protective device surveillance requirement - SQRO-50-327/86015.

0965Q

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

May 26, 1988

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

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET NO.
50-328 - FACILITY OPERATING LICENSE DPR-79 - REPORTABLE OCCURRENCE REPORT
SQRO-50-328/88021

The enclosed licensee event report provides details concerning incomplete testing of unit 2 containment penetration overcurrent protective devices to demonstrate their operability before the unit entered mode 4. This event is reported in accordance with 10 CFR 50.73, paragraph a.2.i, as a condition prohibited by technical specifications.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


S. J. Smith
Plant Manager

Enclosure
cc (Enclosure):

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NRC Inspector, Sequoyah Nuclear Plant

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