

400 Chestnut Street Tower II

April 30, 1981

SQRD-50-328/31



Mr. James R. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

SEQUOYAH NUCLEAR PLANT UNIT 2 - ENVIRONMENTAL QUALIFICATION OF 480-VOLT AND
CONTROL CABLES IN EGTS FILTER ROOM - SQRD-50-328/81-31 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on April 9, 1981, in accordance with 10 CFR 50.55(e)
as NCR SQN NEB 8119. Enclosed is our final report.

If you have any questions, please get in touch with D. L. Lambert at
FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE
SEQUOYAH NUCLEAR PLANT UNIT 2
ENVIRONMENTAL QUALIFICATION OF 480-VOLT AND CONTROL
CABLES IN EGTS FILTER ROOM
SQRD-50-328/81-31
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The NUREG-0588 analysis has not considered radiation effects on 480V and control cables passing through the EGTS filter room. The 480-volt and control level cables serve various safety-related functions including containment isolation, control of pressurizer relief valves, CVCS letdown and charging lines, and containment cooling. Because these cables were not included in the NUREG-0588 analysis, it is not known under what environmental conditions these cables might fail; therefore, this condition is assumed to be a degradation in safety.

Safety Implications

If this deficiency had remained uncorrected, it is possible that in the event of a one-year duration design basis LOCA, the high density polyethylene insulated low voltage power and control cables could not have continued to operate after absorbing the high radiation dose in the EGTS filter room. Therefore, the failure of the polyethylene insulated cable could have possibly caused the malfunction or failure of many safety-related devices and systems. This condition therefore could have jeopardized the safe operation of the plant had it remained uncorrected.

Interim Progress

TVA has reviewed the available qualification documentation for the subject cables against the calculated accident radiation dose in the EGTS filter rooms and has concluded that the cables are qualified for the harsh environment in this area. Therefore, no further action is required for Sequoyah unit 2. However, it should be noted that actual test data for this equipment is being developed as part of our NUREG-0588 qualification program.

The analysis of the subject cables at Watts Bar Nuclear Plant will be included in the NUREG-0588 analysis for environmental qualification of electrical equipment for Watts Bar. The results of this analysis are currently scheduled for submittal to the NRC by September 30, 1981. Therefore, this condition at Watts Bar (as defined by NCR WBN NEB 8111) has been determined to be nonreportable.