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1750 Chestnut Street Tower II

June 26, 1981

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

Dear Mr. O'Reilly:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 1 - DOCKET NO. 50-327 - FACILITY OPERATING LICENSE DPR-77 - SPECIAL REPORT 81-4

The enclosed special report provides information concerning an emergency core cooling system injection to the reactor coolant system. This report is submitted in accordance with Sequoyah unit 1 Technical Specifications 6.9.2 and 3.5.3.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Coppey

H. J. Green
Director of Nuclear Power

Enclosure (3)
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IE22
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Special Report 81-4

Sequoyah Nuclear Plant

Unit 1

ECCS Injection to the Reactor Coolant System

Plant Status

Mode 1, 98% power operation
RCS Pressure - 2235 psig
RCS Temperature - 170°F

Event Description and Probable Consequences

On May 31, 1981, with the unit operating at 98% power, an inadvertent safety injection occurred. The signal which brought in the safety injection was caused by the use of a radio in the vicinity of the pressurizer pressure transmitters in the Unit 1 incore instrument room. This safety injection caused the centrifugal charging pumps to pump water from the boron injection tank into the reactor coolant system.

Sequoyah Technical Specification LCO 3.5.2 requires that the current value of the usage factor of safety injection nozzles be included in the Special Report if the value exceeds 0.7. Usage factors are not available for these nozzles because the primary piping was designed to the USAS B31.1 Power Piping Code which does not require fatigue analysis.

However, IE Circular 78-05 states that Westinghouse Electric Corporation informed the Public Service Electric and Gas Company that 50 safety injections using 40°F water would be acceptable for the Salem I Plant, which has a safety injection nozzle design similar to Sequoyah's.

It is our opinion, based on IE Circular 78-05, conversations with Westinghouse, and our own evaluation, that the usage factor for the affected nozzles will not exceed 0.7 if the ECCS occurrences are less than 35 cycles (0.7 x 50), and this is the sixth such event.

Cause Description and Corrective Actions

The automatic initiation occurred when a Health Physics technician used a radio near the pressurizer pressure transmitters in the incore instrument room. The use of the radio affected the transmitters' signals causing them to make up the trip and safety injection bistables. To prevent a future occurrence of this type, signs were placed in the area warning against the use of two-way radios.