

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

830 Power Building

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Director of Nuclear Reactor Regulation
Attention: Mr. S. A. Varga, Chief
Light Water Reactors Branch No. 4
Division of Project Management
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Varga:

PWR REACTOR VESSEL SEAL RING MISSILE PROBLEM - SEQUOYAH AND WATTS BAR
NUCLEAR PLANTS

The following information is in response to your letter to N. B. Hughes dated March 23, 1978, concerning the cavity annulus seal ring at Sequoyah and Watts Bar Nuclear Plants. In your letter you requested that TVA provide a statement as to whether or not the seal ring is expected to be in place during normal operation. Also, information on whether or not the biological shielding is installed in the reactor cavity annulus was requested. If either of the above is the case, TVA was requested to determine whether the cavity annulus seal ring or biological shielding could become a missile in either facility.

At Watts Bar and Sequoyah Nuclear Plants, no biological shielding is installed in the reactor cavity annulus during normal operations. Hence, the biological shielding will not become a missile in the event of a LOCA pipe break inside the reactor vessel cavity.

The reactor cavity annulus seal ring is in a raised position during normal operation. This raised position is about eight inches above the sealing position used during refueling operations.

TVA has evaluated the effects of differential pressures resulting from LOCA pipe breaks inside the reactor vessel cavity on the reactor cavity annulus seal ring. The results of this evaluation indicate that the seal ring remains in its normal operation (raised) position and does not become a missile. This evaluation was conservatively based on the maximum differential pressure experienced across the cavity seal ring following a LOCA pipe break inside the vessel cavity being applied uniformly to the seal ring.

Very truly yours,

J. E. Gilleland
Assistant Manager of Power

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