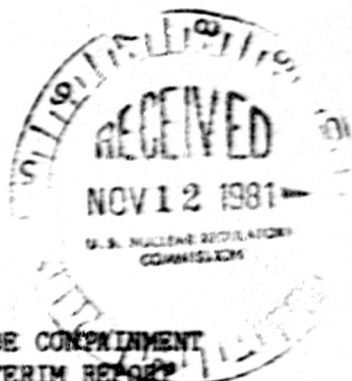


TENNESSEE VALLEY AUTHORITY REGION II
CHATTANOOGA, TENNESSEE 37401
ATLANTA, GEORGIA

400 Chestnut Street Tower II

81 NOV 9 A 8:43
November 3, 1981

Mr. James P. 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:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - RADIATION DOSE INSIDE CONFINEMENT
EXCEEDS CABLE QUALIFICATION - NCR WBN QEB 800' - SEVENTH INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector M. Thomas on March 31, 1980, in accordance with 10 CFR 50.55(e). Interim reports were submitted on April 24, July 1, and September 19, 1980 and April 13, June 18, and August 18, 1981. Enclosed is our seventh interim report. We expect to provide additional information by January 6, 1982. The submittal date of this report was discussed with Inspector R. V. Crlinjak on October 26, 1981.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
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
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
RADIATION DOSE INSIDE CONTAINMENT EXCEEDS CABLE QUALIFICATION
NCR WBN QEB 8001
10 CFR 50.55(e)
SEVENTH INTERIM REPORT

Description of Deficiency

This deficiency was discovered during a QA review of ECNs by the Quality Engineering Branch in TVA's Division of Engineering Design. The higher radiation levels inside containment following a loss-of-coolant-accident (LOCA) were determined as a result of a verification of radiation levels inside containment for an FSAR table. The new radiation dose recently calculated is principally beta (4.0×10^8 RADS of a total dose of 4.7×10^8 RADS).

This deficiency was that exposed portions of cables supplying control or power to safety-related equipment (i.e., equipment that must function during or after an accident) inside containment may not be environmentally qualified for the higher radiation dose levels recently calculated to exist inside containment. The only cables that fall into this category at Watts Bar Nuclear Plant are the RTD cables between the detectors and their respective terminal boxes.

Interim Progress

TVA has installed all subject cables in flexible stainless steel conduits to provide shielding. Also, TVA has conservatively calculated the beta dose to cable insulation inside containment at Watts Bar Nuclear Plant using the Monte Carlo Electron Photon Code CYLTRAN. The qualification of the cable insulation material for all types of cables in conduits will exceed the exposure of the calculated operating environment plus a 1-year integrated radiation dose (following a LOCA).

TVA is still in the process of investigating the cause of this deficiency and actions to prevent recurrence.