

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 3, 1985

WBRD-50-390/85-35
WBRD-50-391/85-34

U.S. Nuclear Regulatory Commission
Region II

Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - INSTRUMENTATION BRANCH LINES MAY NOT BE QUALIFIED - WBRD-50-390/85-35, WBRD-50-391/85-34 - FINAL REPORT FOR UNIT 1 AND FIRST INTERIM REPORT FOR UNIT 2

The subject deficiency was initially reported to NRC-OIE Inspector Al Ignatonis on September 3, 1985 in accordance with 10 CFR 50.55(e) as NCRs WBN 6218 and 6219. Enclosed is our final report for unit 1 and our first interim report for unit 2. We expect to submit our next report for unit 2 on or about November 21, 1986.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Damer
R. W. Hufham, Manager
Licensing and Risk Protection

Enclosure

cc: Mr. James Taylor, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INSTRUMENTATION BRANCH LINE CONNECTIONS MAY NOT BE QUALIFIED
WBRD-50-390/85-35, WBRD-50-391/85-34
NCRs WBN 6218 AND WBN 6219
10 CFR 50.55(e)
FINAL REPORT FOR UNIT 1 AND
FIRST INTERIM REPORT FOR UNIT 2

Description of Deficiency

TVA's Office of Engineering (OE) design guidance which is used by the Office of Construction (OC) to install seismic supports on instrument branch lines in some cases was misinterpreted. This has resulted in some instrument branch lines being installed in a configuration which is not seismically qualified. The portion of some instrument lines between the process root valve connection and its associated field routed instrument line and/or flexible hose assembly (1/2- to 3/4-inch pipe) have been installed with 6 inches to 2 feet more pipe than OE intended (per design drawings 47A051, -52 and 47B001).

The apparent cause of this deficiency is that OE failed to provide the level of detail on the design drawings necessary for OC to correctly interpret and implement the seismic support requirements intended by the design drawings.

Safety Implications

After a detailed evaluation, instrument branch line connections to steam generator taps have been identified as not being seismically qualified. Failure of these instrument lines during a safe shutdown earthquake could cause a loss of safety-related steam generator instrumentation (necessary for proper reactor protection system operation and auxiliary feedwater level control) that could adversely affect the safe operation of the plant.

Corrective Action - NCR 6218 - Unit 1

All instrument line connections affected or potentially affected by this deficiency have been evaluated and it has been determined that only a portion of the instrument lines attached to the steam generator are inadequate as installed. This evaluation, which was conducted on 166 lines, has identified approximately 9 instrument lines and 10 hangers which will require rework. The affected lines and hangers are scheduled to be reworked by fuel load.

To prevent recurrence, the design drawing series 47B001 was revised effective September 24, 1985 to clarify design requirements and control future work.

Interim Progress - NCR 6219 - Unit 2

TVA has determined that approximately 108 instrument lines on unit 2 will require a similar evaluation. Additional information on the results of this evaluation will be provided on or about November 21, 1986.