

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

WBRD-50-391/85-34

NOV 20 1986

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U.S. Nuclear Regulatory Commission
Region II
Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 2 - INSTRUMENTATION BRANCH LINES MAY NOT BE
QUALIFIED - WBRD-50-391/85-34 - FINAL REPORT FOR UNIT 2

The subject deficiency was initially reported to NRC-Region II Inspector
Al Ignatonis on September 3, 1985, in accordance with 10 CFR 50.55(e)
as NCRs WBN 6218 and 6219. Our final report for unit 1 and our interim report
for unit 2 was submitted on October 3, 1985. Enclosed is our final report for
unit 2.

If there are any questions, please get in touch with J. A. McDonald at
(615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



R. Gridley, Director
Nuclear Safety and Licensing

Enclosure

cc (Enclosure):

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

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

Mr. G. G. Zech
Director, TVA Projects
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNIT 2
INSTRUMENTATION BRANCH LINE CONNECTIONS MAY NOT BE QUALIFIED
WBRD-50-391/85-34
NCR WBN 6219
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

TVA's Division of Nuclear Engineering (DNE) design guidance, which is used by the Division of Nuclear Construction (DNC) to install seismic supports on instrument branch lines, in some cases was misinterpreted. This has resulted in some instruments 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 six inches to two feet more pipe than DNE intended (per design drawings 47A051, -52, and 47B001).

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

Safety Implications

Failure of these instrument lines during a safe shutdown earthquake could cause a loss of safety-related instrumentation that could adversely affect the safety of operations of the plant.

Corrective Action

A detailed evaluation of existing unit 2 installations was not made because TVA's decision to implement a program change. Previously, interface connections were installed by DNC using guidelines established by DNE. The interface connections that could not be installed in accordance with those guidelines were individually qualified by DNE.

The interface program has been revised to require that all of the interface connections be under DNE configuration control. This program encompasses all instrument branch line interface connections to process lines that are safety-related or are located in Category I structures and are seismically supported. (This includes all of the unit 2 interfaces which had been installed under the previous program.) Configuration control of the interfaces is being controlled by design issued documents. The appropriate design drawings have been revised to implement this program change.

In order to prevent recurrence, the implementation of this program, which requires 100 percent design approval and configuration control, has been put into effect for all interface connections on unit 2.