TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

December 22, 1982

WBRD-50-390/82-75
WBRD-50-391/82-71

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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NRC REGION II

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - POSTACCIDENT READINGS FROM CONTAINMENT SUMP LEVEL TRANSMITTERS - WBRD-50-390/82-75, WBRD-50-391/82-71 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on July 8, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN SWP 8236. Our first interim report was submitted on August 11, 1982. Enclosed is our final report. We consider 10 CFR Part 21 applicable to this deficiency.

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 Licensing

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

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
POSTACCIDENT READINGS FROM CONTAINMENT SUMP LEVEL TRANSMITTERS
NCR WBN SWP 8236
WBRD-50-390/82-75, WBRD-50-391/82-71
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Containment sump level transmitters manufactured by ITT-Barton of City of Industry, California, and supplied by Westinghouse of Pittsburgh, Pennsylvania, are separated from their respective bellows sensors by approximately 18 feet of water-filled capillary tubing. This level instrumentation is used to provide input for automatic Emergency Core Cooling System (ECCS) suction switchover, aid in accident diagnosis, and to help monitor ECCS leaks. Postaccident conditions could cause the water in the capillary tubing to change state from liquid to steam which could damage the bellows sensor. The assignable cause of this condition is a deficiency in final design by Westinghouse. This condition was originally identified at the Sequoyah Nuclear Plant.

Safety Implications

An increase in temperature due to accident conditions could lead to rupture of the bellows sensor resulting in inaccurate readings, which could result in inappropriate operator action or lack of appropriate automatic safety functions. This condition could adversely affect the ability to safely shut down the reactor.

Corrective Action

TVA will arrange for Westinghouse to change the fill fluid in the capillaries from water to Dow Corning DL702 Silicone Oil. The calibrated span of the transmitters will be changed by Westinghouse to account for the change in fill fluid densities per Westinghouse recommendations. Work will be accomplished for units 1 and 2 by July 1, 1983.

To prevent recurrence, this deficiency has been reviewed within Westinghouse. For the Watts Bar NSSS System, containment sump level is the only measurement subject to this condition. Therefore, no further actions are required.