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

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April 12, 1985

WBRD-50-390/82-36
WBRD-50-391/82-33

U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - AMBIGUOUS OUTPUTS FROM BARTON PRESSURE TRANSMITTERS IN THE REACTOR COOLANT SYSTEM - WBRD-50-390/82-36, WBRD-50-391/84-33 - SECOND REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on April 9, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN NEB 8208. Interim reports were submitted on May 13, July 19, and October 29, 1982 and March 7 and June 30, 1983. A final report was submitted on October 3, 1983 and a revised final report on April 3, 1984. Enclosed is our second revised 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

J. A. Domer

for J. W. Hufham, Manager
Licensing and Regulations

Enclosure
cc (Enclosure):
Mr. James Taylor, Director
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
AMBIGUOUS OUTPUTS FROM BARTON PRESSURE TRANSMITTERS
WBRD-50-390/82-36, WBRD-50-391/82-33
NCR WBN NEB 8208
10 CFR 50.55(e)
SECOND REVISED FINAL REPORT

Description of Deficiency

Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, recently completed a review of all requirements imposed on the reactor coolant system (RCS) wide-range pressure instrumentation. As a result of their review, it was determined that the existing hardware does not meet all requirements. Postaccident inaccuracy of the instrumentation is such that it could result in inappropriate operator actions, in particular with respect to termination of safety injection (SI). This condition was also reported in a letter dated April 21, 1982, by Westinghouse to NRC-OIE Washington (Richard C. DeYoung).

Safety Implications

For the case of the main steam line break, failure by the operator to terminate SI at the proper time could result in overpressurization of the reactor vessel at low temperatures with attendant challenge to vessel integrity. Further, this could lead to the possibility that the pressurizer power-operated relief valves (PORVs) may be opened before termination of SI. This could result in a greater number of valve challenges, thus, increasing the probability of a small loss-of-coolant accident (LOCA) due to the valve failing open. Conversely, early termination of safety injection could result in inadequate core cooling scenarios. Therefore, if left uncorrected, inaccurate indication of postaccident RCS pressure could have jeopardized the safe operation of the plant.

Corrective Action

TVA is currently installing two new RCS wide-range pressure transmitters outside containment in the reactor vessel level instrumentation system sense lines. Postaccident accuracy of the new transmitters will be sufficient for all uses of the RCS wide-range pressure indication. The transmitters have been installed for unit 1 and will be installed by fuel load for unit 2 (per engineering change notices 5512 and 5513, respectively).

TVA is currently reviewing the environmental qualification test reports for these transmitters. TVA will submit revised environmental qualification documentation to NRC-NRR as required by 10 CFR 50.49 to fully establish that the required accuracy of the transmitters will be maintained under all postulated accident conditions. This information will be submitted to NRC-NRR before initial criticality of unit 1.