cc: Mr. Vic[redacted] Stello, Jr., Director

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

June 20, 1980

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 - STEAM GENERATOR WATER LEVEL REFERENCE COLUMN ERROR - NCR MEB 79-33 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector M. Thomas on July 6, 1979, in accordance with 10 CFR 50.55(e). Interim reports were submitted on July 30, 1979, and September 27, 1979.

Two potential solutions to the reference leg heatup problem were originally foreseen: (1) insulate the transmitter sensing lines, or (2) provide temperature compensation of the level output signal. Insulation of the lines is the quicker solution and was planned to be installed initially. However, because of operational restrictions of this solution, it was envisioned that temperature compensation could be installed later and that the insulation could be removed.

Because of the high cost of insulation for the Sequoyah unit 1 narrow range level instrumentation sensing lines, TVA is now investigating the feasibility of initially installing the temperature compensation and not utilizing the insulation for Sequoyah unit 2 and Watts Bar units 1 and 2. The temperature compensation solution would utilize electronic instrumentation to compensate for the density changes in the reference column and in the steam generator vessel. The temperatures of the water in the column and in the vessel would be measured and be fed into a microprocessor or an analog summation unit which would develop an output level signal corrected for density changes caused by temperature. TVA has been in touch with two prospective vendors of the proposed instrumentation, and Westinghouse has been asked to review the proposed systems. Potential problems

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associated with the systems, such as environmental qualification, accuracy, and interfacing with existing equipment, are being evaluated. We expect to supply additional information by August 22, 1980.

If you have any questions concerning this matter, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

cc: Mr. Victor Stello, Jr., Director ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555