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

October 2, 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 - REFUELING WATER STORAGE TANK OVERFLOW LINE NOT FABRICATED TO ASME CODE - NCR 1725R - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector M. Thomas on August 24, 1979, in accordance with 10 CFR 50.55(e). Interim reports were submitted on September 24 and November 29, 1979, and January 31, April 11, and June 18, 1980. Enclosed is our final report.

If you have any questions, 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

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

B019
S1/1

8010090407

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
RWST OVERFLOW LINE NOT FABRICATED TO ASME CODE
NCR 1725R
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

This deficiency was discovered by a TVA construction inspector who was inspecting a weld fitup of the Refueling Water Storage Tank (RWST) overflow line. This inspector noted lack of fusion and general poor quality of the weld. Subsequent review of the inspector's nonconformance report (NCR) by the Welding and Materials Section in TVA's Division of Engineering Design revealed that the RWST overflow line was not fabricated in accordance with the applicable subparagraphs of the ASME Code that would be compatible with the qualification of the RWST (i.e., Class II).

The actual deficiency is that the RWST overflow line fabrication welds were not full penetration welds, nor were they inspected by radiography in accordance with Section III of the ASME Code.

The cause of this deficiency appears to have been that the design personnel at Pittsburgh-Des Moines Steel Company (PDM) who designed and fabricated this tank did not properly specify that the fabrication welds and NDE for the RWST be in accordance with the ASME Code.

Safety Implications

If this deficiency had remained uncorrected, it is possible that the RWST overflow line could have developed a leak and by virtue of its design as internal to the tank, could drain the RWST. Thus, this situation could have adversely affected the safe operation of the plant because sufficient water for long term cooling of the reactor may not have been available.

Corrective Action

The RWST overflow lines will be repaired by PDM in order to bring them into compliance with the ASME Code. These repairs are scheduled to to be completed by November 1, 1980.

In addition to this problem with the welds, several minor discrepancies were found in the seismic supporting of the tanks internal piping. Minor support modifications will also be made on the 8-inch overflow line and the 6-inch containment spray line at this time.

TVA has also conducted a detailed review of all design drawings by PDM to determine if the proper weld and nondestructive examination were specified. No other nonconforming items were identified. The only other safety related tanks supplied by PDM for Watts Bar Nuclear Plant are the Primary Makeup Water Tanks. The design of these tanks was also examined and no problems were identified.