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

REGION II
ATLANTA, GEORGIA

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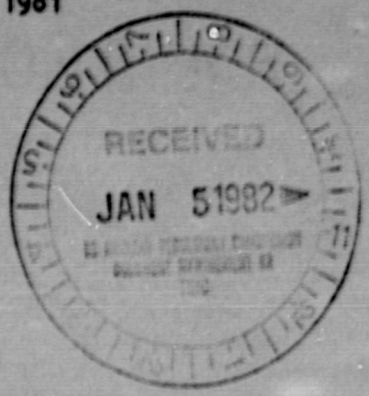
December 29, 1981



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 - IMPROPER MATERIALS USED IN AUXILIARY BOARD ROOM AIR CONDITIONING SYSTEM - NCR 2597R - REVISED FINAL REPORT, FINAL SUPPLEMENT

The subject deficiency was initially reported to NRC-OIE Inspector R. W. Wright on September 15, 1980 in accordance with 10 CFR 50.55(e). A final report was submitted on October 14, 1980. That report stated that TVA would replace all type M copper tubing with type K copper tubing. Subsequent to that report, TVA reevaluated this deficiency and plans to take alternate corrective actions. Revised final reports, supplements 1 and 2 were submitted on August 6 and September 4, 1981, respectively. Enclosed is our revised final report, final supplement.

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, Manager
Nuclear Regulation and Safety

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

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
IMPROPER MATERIAL USED IN AUXILIARY BOARD ROOM
AIR CONDITIONING SYSTEM
NCR 2597R
10 CFR 50.55(e)
REVISED FINAL REPORT, FINAL SUPPLEMENT

Description of Deficiency

A portion of the copper tubing installed in the 480 V Board room HVAC system cannot be identified or is identifiable as ASTM B-88 type "M" tubing. Type "M" copper tubing was used instead of the specified type "K" copper tubing. The reason for the subject deficiency was that the QA program for HVAC system was not well defined at the time this tubing was fabricated and installed in the system.

Safety Implications

Because the subject tubing has been determined to be acceptable for use in the auxiliary board room air conditioning system, the safe operations of the plant could not have been adversely affected.

Corrective Actions

TVA has reevaluated the subject deficiency. Calculations based on ANSI B31.5 section 504.1.2 chapter II, shows that only ASTM B-88 type "M" tubing in the "annealed" condition will not meet the internal pressure requirements of ANSI B31.5 for this system. However, ASTM B-88 type "M" hard drawn tubing does meet the pressure requirements. A survey of major manufacturers and distributors of copper tubing revealed that ASTM B-88 type "M" copper tubing is only available in the hard temper except for special orders. Furthermore, if type "M" annealed tubing is ordered, there is a considerable surcharge and a large quantity must be special ordered. Therefore, because no type "M" annealed tubing was special ordered, it is concluded that no type "M" annealed tubing was used in the construction of the HVAC system. The tubing now installed meets all requirements of ANSI B31.5. Other tubing identified on this system, ASTM B-88 type "L" and "K" and ASTM B-280, meet the pressure requirements in either "annealed" or "hard drawn" temper.

To prevent recurrence, TVA has issued and is implementing quality control procedure WBNP-QCP-4.24, "Inspection of non-ASME Code Piping System."