TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 18, 1980

50-390

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 - DEFICIENT KEROTEST Y-TYPE GLOBE VALVES - NCR 2501R - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector F. Cantrell on August 20, 1980, in accordance with 10 CFR 50.55(e). Enclosed is our first interim report. We expect to provide additional information by November 7, 1980.

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

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WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
DEFICIENT KEROTEST Y-TYPE GLOBE VALVES
10CFR50.55(e)
NCR 2501R
FIRST INTERIM REPORT

Description of Deficiency

Four Kerotest Manufacturing Corporation (Kerotest) Y-type globe valves (two 3/4" valves and two 1" valves) were disassembled and inspected for internal damage or deterioration by Tennessee Valley Authority (TVA) personnel at the Watts Bar Nuclear Plant site. While numerous Kerotest valves have been installed in essential safety-related systems throughout the plant, the four valves that were disassembled and inspected had been in dry warehouse storage since their receipt from Kerotest. The valves had been handled only as necessary to place into proper storage with the exception of the handling required to remove the vendor's heat-sealed plastic bags from the valves.

Upon disassembly and inspection of these "never used" valves, the following was observed:

1. Mild to extreme corrosion and pitting of the bearing assemblies was found in all four valves.

2. Bearing assemblies were found with varying degrees of rotational freedom caused by the corrosion and pitting of the bearing assemblies. Three of the four valves were found to be extreme cases of absolute zero rotation.

3. Varying amounts of moisture were present throughout the valve interior, including moisture-saturated packing. Water dripped from parts located above the diaphragm of all four valves.

4. Mild to extreme corrosion and pitting of the interior wall of the valve yokes of all four valves.

5. Three of four valves evidenced pitting and corrosion of the back seat and packing areas of the stems.

6. Nicks and scratches were present on the seating area of the globe of one valve.

7. Two of the four valves had diaphragms which had failed to flex back to their normal positions.

8. There was a machining burr, approximately 1/4" long by 1/32" wide, present in the process line portion of one valve.

9. A black caked deposit of a foreign material (possibly dried neolube) was found in the inlet process line of two valves.

10. The inlet process line of one valve showed a ferrous deposition caused by a carbon steel item contacting the stainless steel body.

11. Excessive neolube was present in a caked condition in all four valves.

Corrective Action

TVA is presently coordinating with Kerotest concerning the problems identified during disassembly and inspection of the valves. A meeting is scheduled between TVA and Kerotest to discuss both the short and long term corrective actions.