

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

NSMRC REGION II
ATLANTA, GEORGIA

December 31, 1981 8:11

WBRD-50-390/81-47
WBRD-50-391/81-46

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 - ERCW FLOW CONTROL VALVE DEFICIENCY
- WBRD-50-390/81-47, WBRD-50-391/81-46 - FINAL REPORT

The subject condition was initially reported to NRC-OIE Inspector R. V. Crlenjak on May 6, 1981 in accordance with 10 CFR 50.55(e) as NCR 3080R. Interim reports were submitted on June 5 and September 23, 1981. Enclosed is our final report.

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. Victor Stello, 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
ERCW FLOW CONTROL VALVE DEFICIENCY
WBRD-50-390/81-47, WBRD-50-391/81-46
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Four essential raw cooling water (ERCW) flow control valves that were supplied as a part of ASME Section III water chiller packages are not available as ASME Section III code valves. At high ERCW temperatures, the valve functions normally. However, at low ERCW temperatures the valves throttle down to a low volumetric flow rate with a high flow velocity. Such a high velocity erodes the soft rubber seat seal of the globe. The estimated life of the seal is approximately six months.

Subsequent investigation since the initiation of the deficiency disclosed that these valves are not required to meet the ASME Section III Code. They must be qualified as Seismic Category I to maintain operability and pressure boundary during and after a design basis seismic event. These valves were purchased to the requirements of Watts Bar design criteria WB-DC-40-31.2 which contains this requirement. TVA has documentation which verifies that these conditions are met. These valves are therefore acceptable for use in this system. The deficiency described above would not prevent the ERCW System from providing adequate cooling water to essential components.

Safety Implications

Because these valves are acceptable for use and because this condition would not degrade the ability of the ERCW System to provide adequate cooling water to essential components, TVA concludes that this condition could not have adversely affected plant safety.

Corrective Action

Due to economic considerations, TVA has decided to replace the rubber seals with metal seat seals. These seals will be replaced before unit 1 fuel loading. The manufacturer is also submitting revised drawings to match the installed valves.