TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

August 27, 1982

WBRD-50-390/82-15

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNIT 1 - OVERPRESSURIZATION OF CVCS VOLUME CONTROL TANK - WBRD-50-390/82-15 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on January 20, 1982 in accordance with 10 CFR 50.55(e) as NCR 3877R. Interim reports were submitted on February 19 and May 17, 1982. 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 Licensing

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

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
OVERPRESSURIZATION OF CVCS VOLUME CONTROL TANK
NCR 3877R
WBRD-50-390/82-15
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The volume control tank (VCT) was overpressurized to a test pressure of 270 lb/in^2 during a hydrostatic test. This overpressurization occurred as a result of the system engineer misreading the design pressure of the tank as 450 lb/in^2 from the data plate on the tank without also verifying this pressure on the manufacturer's data report. Since the hydrostatic test pressure to which the tank was to be subjected was only 270 lb/in^2, the engineer determined that the tank could withstand the pressure. However, in reality, the design pressure for the tank was 75 lb/in^2 and had been tested by the manufacturer to 124 lb/in^2. The subsequent overpressurization caused a visual bulge in the VCT tank's side. The root cause of this deficiency has been identified as personnel error. The engineer misread the design pressure from the tank nameplate, specified the test pressure as 270 lb/in^2; and this error was not detected in the technical review of the test procedure.

Safety Implications

Since the VCT meets the original design specification, there are no safety implications in this deficiency.

Corrective Action

Westinghouse, the design organization for the tank, has performed a visual inspection of the VCT and has analyzed all of the data that they requested to be taken in the field with the exception of the effect of the stress on the corrosion resistance of the tank material. On May 27, 1982, in a meeting held in Knoxville to discuss recertification of the tank, Westinghouse stated that they would issue a new certificate of compliance stating that the VCT meets the design specification pending acceptable results from the stress corrosion tests. Singleton Laboratories completed the tests on July 20, 1982, and the results were acceptable. The test results have been forwarded to Westinghouse.

The hydrostatic testing procedures are being revised to require that nameplate information be compared to the manufacturer's data report. The procedures are also being revised to require a technical review of the critical parameters of the test by an individual different from the person who originated the test package. The test procedures are presently in the approval cycle and will be issued by August 30, 1982.