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

October 18, 1983

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WBRD-50-390/83-59
WBRD-50-391/83-55

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - WELDS ON STRUCTURAL STEEL IN MAIN STEAM VALVE ROOMS - WBRD-50-390/83-59 AND WBRD-50-391/83-55 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector P. E. Fredrickson on September 21, 1983 in accordance with 10 CFR 50.55(e) as NCR WBN 4753R1. 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, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
WELDS ON STRUCTURAL STEEL IN MAIN STEAM VALVE ROOMS
NCR 4753 R1
WBRD-50-390/83-59 AND WBRD-50-391/83-55
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The quality of welding on structural steel in the main steam valve rooms, shown on TVA's Division of Engineering Design (EN DES) drawing series 48W1707 and 48W1708 (excluding protective devices), is not in strict compliance with drawing and welding specification requirements. These welds have minor discrepancies which deal with joint and weld configuration and cosmetic indications such as arc strikes, weld spatter, surface contour, and general surface appearance.

TVA has determined the cause of this deficiency to be that before January 1, 1980, there was a lack of knowledge about commitments to drawing configuration by TVA's civil engineering and civil quality control personnel. There was also a failure to strictly adhere to weld inspection criteria by welding quality control personnel.

Safety Implications

Possible undersized or defective welds on seismic category I structural steel, which includes framing and support steel for protective devices such as whip restraints and pipe shielding (excluding the protective devices), could have led to the failure of the welds during a design-basis seismic event. This could have subsequently led to the failure of a seismic category I support or structure which could have adversely affected the safety of operations of the plant.

Corrective Action

TVA is in the process of visually reinspecting 100 percent of all of the structural steel welds in the main steam valve rooms. All full-penetration welds are also receiving a nondestructive (NDE) ultrasonic test (UT). This reinspection effort is approximately 66-percent complete. Each weld which is determined to be defective in either size, configuration, or depth of penetration is being dispositioned by EN DES on a construction field change request (FCR) on a case-by-case basis. Each weld which is determined to be unacceptable is being repaired or reworked, as necessary, to an acceptable configuraton. All cosmetic indications such as arc strikes, weld spatter, surface contour, and general surface appearance will be used as-is if proper weld/joint configuration is met. All corrective action for this deficiency will be completed by March 3, 1984, for unit 1 and by October 25, 1984, for unit 2.

Since January 1, 1980, the welding program at Watts Bar has undergone numerous procedural revisions; enhanced training and recertification of CONST engineering, inspection and craft personnel to the requirements of quality welding and inspection procedures has been accomplished; and the accountability program and the work package system were established. TVA believes that these actions have demonstrated their effectiveness in preventing recurrence of this type deficiency.