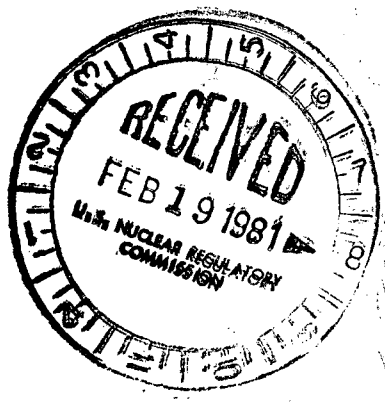
TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

February 12, 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 - LIQUID PENETRANT OR MAGNETIC PARTICLE INSPECTION NOT PERFORMED IN QUALIFICATION OF COLD FORMING PROCEDURES - NCR 2053R - SECOND REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector M. Thomas on February 7, 1980, in accordance with 10 CFR 50.55(e). A final report was submitted on March 10, 1980, and a revised final report was submitted on April 28, 1980. Enclosed is an additional revision reflecting completed corrective action.

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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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
LIQUID PENETRANT OR MAGNETIC PARTICLE INSPECTION
NOT PERFORMED IN QUALIFICATION OF COLD FORMING PROCEDURES
NCR 2053R
10 CFR 50.55(e)
SECOND REVISED FINAL REPORT

Description of Deficiency

During a documentation review of cold forming records, it was discovered that there was a failure to properly qualify cold forming procedures (WBNP-CF-101 through -105) with magnetic particle or liquid penetrant tests. This deficiency was reportable because of the possibility that defects may have resulted from one of the improperly qualified cold forming procedures. We have identified 23 bends which were made using the unqualified procedures. These bends involve small diameter piping in the Reactor Coolant and Waste Disposal Systems.

Safety Implications

If this deficiency had remained uncorrected, safety-related systems might have contained an undetected defect as a result of cold forming. This fact, together with an accident from other causes (e.g., severe earthquake), might have adversely affected a safety-related system and impaired the ability of the plant to reach and maintain a safe shutdown condition.

Corrective Action

The site's cold forming procedures have been requalified to the latest requirements. The requalification involved bending (cold forming) of representative pipe samples followed by the required inspection including a liquid penetrant examination. Procedures CF-101, CF-102, and CF-103 all involved 3/4-inch pipe and therefore only a requalification at the smallest allowed radius was performed. There was no problem with this requalification. The procedure CF-101 R2 was approved and has replaced procedures CF-101 through CF-103. All bends made using the original procedures CF-101 through CF-103 are acceptable.

Procedure CF-104 for 2-inch pipe did not qualify because the ovality requirement was not met. All pipe bent according to CF-104 was identified and inspected. Three bends were identified that did not meet the ovality requirements. These bends were further evaluated by TVA's Division of Engineering Design and were approved for use as is. Procedure CF-104 was voided and procedure CF-112 has since been qualified for only 2-inch pipe bends of 8-foot radius or larger.

Procedure CF-105 was qualified and all bends made using this procedure are acceptable.