

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

May 9, 1984

WBRD-50-390/84-20

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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 UNIT 1 - FILLET WELDS IN MAIN STEAM VALVE ROOMS LACK
SUFFICIENT CROSS SECTION - WBRD-50-390/84-20 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
A. K. Hardin on April 10, 1984 in accordance with 10 CFR 50.55(e) as
NCR 5561. 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

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
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
FILLET WELDS IN MAIN STEAM VALVE ROOMS LACK SUFFICIENT CROSS SECTION
NCR 5561
WBRD-50-390/84-20
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

In the final response to the NRC on nonconformance report (NCR) 4753R1 (WBRD-50-390,391/83-59,55), TVA committed to reinspecting 100 percent of the structural steel welds in the main steam valve rooms. All welds determined to be deficient in weld/joint configuration were to be reworked or repaired as necessary. This work was to be completed by March 30, 1984. Contrary to the above commitment, it was identified that some fillet welds (detailed on TVA 48W1707 and 48W1708 series drawings) in the main steam valve rooms were not reworked to an acceptable configuration per the disposition of NCR 4753R1.

The apparent cause of this deficiency was a failure by TVA personnel to transfer all necessary data from marked field drawings to a formal working punchlist. Also, a failure by Watts Bar Civil Quality Control Unit (CQCU) personnel to identify the difference between the acceptance criteria of the accepted disposition of NCR 4753R1 and the current rework criteria of TVA General Construction Specification G-29C contributed to this deficiency.

Safety Implications

A deficient structural steel weld in a seismic category I structure could fail during a design basis seismic event. This could subsequently lead to a failure of the structure. This could adversely affect the safe operation of the plant.

Corrective Action

TVA has reinspected 100 percent of all structural steel welds in the south valve room which was a low confidence area. Approximately 70 percent of the welds in the north valve room were reinspected. All deficient welds were referred to TVA's Division of Engineering Design (EN DES) for evaluation and disposition. Approximately 7 percent of the welds in the south valve room were deficient. To date, EN DES has dispositioned 75 percent of these to "use as is" and 25 percent to be reworked. Approximately 4 percent of the welds inspected in the north valve room were deficient. Only two of the welds in the north valve room required, and have been reworked. The remaining ones were dispositioned to "use as is."

TVA believes that the failure to transfer all necessary data from marked field drawings to a formal working punchlist is an isolated occurrence. Therefore, no action to prevent recurrence is necessary in this regard.

However, new punchlists were tabulated and compared to the original punchlist. An organized quality control and engineering review was held to ensure that all welds were documented on the punchlist and forwarded to EN DES for disposition.

On March 30, 1984, the CQCU was reinstructed on the acceptance criteria for G-29C, P.S.O. RO, section 8.6.1.7. Emphasis was placed on distinguishing the differences between the fillet weld size acceptance criteria of G-29C and that of the accepted disposition of NCR 4753R1. The CQCU was instructed that all areas of the cross section of fillets must meet or exceed drawing requirements with linear indications taken into account.

All corrective action for this item will be completed by May 15, 1984.