

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

April 1, 1982

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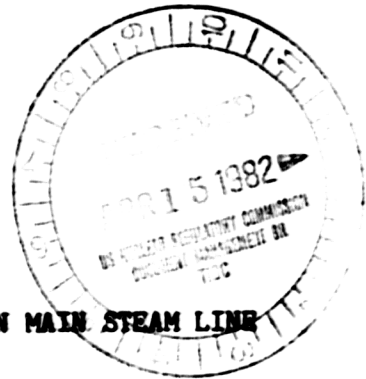
WBRD-50-390/81-79

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 - SOCKET WELD DEFECTS IN MAIN STEAM LINE
BOSSES - WBRD-50-390/81-79 - FINAL REPORT



The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on September 17, 1981 in accordance with 10 CFR 50.55(e) as NCR 3301R. Interim reports were submitted on October 19 and December 22, 1981 and February 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
L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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

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ENCLOSURE
WATTS BAR NUCLEAR PLANT UNIT 1
SOCKET WELD DEFECTS IN MAIN STEAM LINE BOSSES
NCR 3301R
WBRD-390/81-79
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

This deficiency was written because linear indications were discovered on one-inch socket weld bosses during routine liquid penetrant examination of the socket welds. From the liquid penetrant examination, it could not be determined if the indications resulted from machine tool marks made during original manufacture, from cracks due to defective bosses, or from scars created during handling. Also, the liquid penetrant examination did not reveal the depth of the indications. Light grinding was then performed on the bosses to determine if the indications were surface defects or if they penetrated through the boss. The grinding successfully eliminated the original linear indications; however, after grinding was completed, the remaining wall thickness was measured and found to be below the required minimum thickness. D-meter examination revealed that the grinding had reduced the wall thickness at the ground area by approximately 0.001 inch to 0.036 inch below the manufacturer's minimum wall of 0.196 inch as given in ANSI specifications.

Safety Implications

Failure of the boss could cause a one-inch diameter steam leak. This is not a main steam line break as defined in the design basis for WBN. The exact safety implication of the failure of several bosses in the main steam valve room has not been determined; therefore, TVA assumes this condition could potentially adversely affect safe operation of the plant.

Corrective Action

There are 25 one-inch socket weld bosses on the TVA class B main steam piping. Eight are inside containment and 17 are outside containment in the main steam valve rooms. Inspection is complete on all 25 bosses. Of these, three in the main steam valve rooms had linear indications. Repair of these three bosses was accomplished under process specification 4.M.5.1(b) of General Construction Specification G-29M.

The cause of the wall thickness being below minimum wall was craft activity (grinding) in support of nondestructive examination (NDE) of the linear indications as required by process specification 4.M.5.1(b). Since NDE examinations routinely involve grinding, no action to prevent recurrence is required.