

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

November 4, 1981 81 NOV 9 A 8:46

HTRD-50-518, -519, -520, -521/81-01
PBRD-50-553, -554/81-01

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:

HARTSVILLE AND PHIPPS BEND NUCLEAR PLANTS - REPORTABLE DEFICIENCY -
FILLET WELD MISSPECIFICATION FOR SKEWED TEE JOINTS - HTRD-50-518,
-519, -520, -521/81-01 - PBRD-50-553, -554/81-01

The subject deficiencies were initially reported to NRC-OIE, Region II, Inspector R. W. Wright on December 8, 1980 as NCR's HTA HPP 8003, HTB HPP 8003, and PBN HPP 8003. The first, second, and third interim reports were submitted on January 7, April 6, and July 31, 1981, respectively. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the fourth interim report on the subject deficiencies. TVA anticipates transmitting the next report on or before February 19, 1982. If you have any questions, please call Jim Domer at FTS 858-2725.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

A handwritten signature in cursive script, appearing to read "L. M. Mills".

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
HARTSVILLE AND PHIPPS BEND NUCLEAR PLANTS
FILLET WELD MISSPECIFICATION
SKEWED TEE JOINTS
10 CFR PART 50.55(e) REPORT NO. 4
(INTERIM)
HTRD-50-518, -519, -520, -521/81-01
PBRD-50-553, -554/81-01

Description of Deficiency

Our investigation has identified violations of the 135 degree maximum, 60 degree minimum angle permitted for intersecting members of prequalified fillet-welded skewed tee joints. For the Hartsville and Phipps Bend Nuclear Plants, this requirement is imposed by the American Institute of Steel Construction (AISC) specification* and the American Welding Society (AWS) D1.1 structural welding code.

Interim Progress

1. TVA has completed a review of all TVA and vendor designs which are governed by the AISC specification and AWS structural welding code.
2. Violations of the angle limitations were found to occur on TVA balance of plant (BOP) drawings of pipe supports in the ESW pumping station. These supports had not yet been constructed. The non-conforming welds were redesigned to conform to the AISC and AWS requirements. The drawings were revised and reissued on February 25, 1981 for Hartsville Plant A and Phipps Bend units 1 and 2 and on April 20, 1981 for Hartsville Plant B.
3. Fillet weld misspecification was identified on some of the STRIDE design drawings. The nonconforming STRIDE weld designs have been checked by GE/Braun as partial penetration connections by considering only a portion of the weld throat as structurally effective. GE/Braun has verified the joint's structural adequacy to sustain the design loads as required by the AISC and AWS codes. GE/Braun issued specification revisions on August 20, 1981 to clarify the requirements for fillet welded skewed members. These documents are currently being reviewed by TVA. We anticipate completion of our review in approximately three months.
4. Engineers and designers have been alerted to the AISC/AWS requirements for limiting angles for skewed tee joints.
5. Generic implications for other plants have been investigated and are being resolved with the disposition of NCR's SQNSWP8025, WBNSWP8008, WBN2807R, BLNBLP8007, and YCNYCP8006, which were previously reported under the requirements of 10 CFR 50.55(e).

*AISC specification for the Design Fabrication and Erection of Structural Steel for Buildings.