

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

July 31, 1981

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 and second interim reports were submitted on January 7 and April 6, 1981, respectively. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the third interim report on the subject deficiencies. TVA anticipates transmitting the next report on or before November 4, 1981. If you have any questions, please call Jim Domer at FTS 857-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills*

L. M. Mills, Manager  
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director  
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  
FOR SKEWED TEE JOINTS  
10CFR50.55(e)  
HTRD-50-518, -519, -520, -521/81-01  
PBRD-50-553, -554/81-01  
REPORT NO. 3 (INTERIM)

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

TVA is in the process of reviewing all TVA and vendor designs which are governed by the AISC specification and AWS structural welding code.

Violations of the angle limitations were found to occur on TVA drawings of pipe supports in the ESW pumping station. These supports had not yet been constructed. The nonconforming welds were redesigned to conform to the AISC and AWS requirements and the drawings revised and reissued.

Review of TVA and vendor drawings of other applicable civil, mechanical, and electrical features is complete except for beam seats, ladders, platforms, and other steel features governed by AISC and AWS codes and furnished to TVA under the containment vessel design contract. Fillet weld misspecification was identified on some of the STRIDE design drawings. These welds were checked as partial penetration connections and their structural adequacy verified to sustain the design loads as required by the AISC and AWS codes. No other violations of the angle limitations for skewed tee joints were found. We anticipate completion of our investigation in approximately 2 months.

Regarding the joints not yet reviewed, any nonconforming skewed tee joint designs will either be redesigned, have their adequacy established by structural analysis or other methods, or will be repaired.

Engineers and designers have been alerted to the AISC/AWS requirements for limiting angles for skewed tee joints.

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