

**TENNESSEE VALLEY AUTHORITY**

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 9, 1981

WBRD-50-390/81-25

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 - IMPROPER WELDS ON SURFACE MOUNTED  
PLATES - WBRD-50-390/81-25 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
R. V. Crlenjak on March 4, 1981 in accordance with 10 CFR 50.55(e)  
as NCR WBN YCP 8101. Interim reports were submitted on April 3 and  
June 11, 1981. Enclosed is our third interim report. We expect to submit  
our next report by December 30, 1981.

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  
IMPROPER WELDS ON SURFACE MOUNTED PLATES  
WBRD-50-390/81-25  
10 CFR 50.55(e)  
THIRD INTERIM REPORT

Description of Deficiency

A number of welds attaching safety-related component supports to surface mounted plates were found to be deficient in that the welds did not meet the minimum weld size described in AISC Section 1.17.5. The welds are identified in the following drawings:

47A0454-2-33	47A055-159
47A055-6	47A055-187
47A055-151	47A055-200
47A055-155	47A055-88
47A055-172	47A0450-4-36
47A055-188	47A464-2-13
47A055-189	

These drawings are for pipe and duct supports, and involve the Essential Raw Cooling Water (ERCW), Spent Fuel Pool Cooling (SFPC), Component Cooling (CCS), and Heating, Ventilating, and Air Conditioning (HVAC) Systems. The cause of this deficiency was a design error.

Interim Progress

Upon review of the weld descriptions in the listed drawings, it was determined that the weld sizes were designed to carry the appropriate loads and all weld stresses were under code allowable stresses with the exception of a weld on drawing 47A055-151. Drawing 47A055-151 sizing calculations required a 5/16-inch fillet weld but a 3/16-inch fillet weld was inadvertently specified by the drawing. In order to qualify the support with a 3/16-inch fillet weld, a reevaluation of actual loads was performed. A review of the drawing showed that the actual span of the support locations was less than the design span. In addition, this support was not used in the upper elevations. Based on these two facts, the design loads and seismic accelerations were reduced for the support calculations, and the 3/16-inch fillet weld was determined to be adequate for the support.

With respect to resolution of the Watts Bar welding problem, the welding task force formed to make recommendations on changes to the TVA welding program (as related to complying with AWS D1.1) has issued a tentative report on new welding criteria and is soliciting comments from affected branches. Also, an evaluation of the adequacy of work already performed is being done. Information on the results of this evaluation and the welding task force's new criteria will be supplied in our next report.