

400 Chestnut Street Tower II

June 2, 1981

HTRD-50-518/91-10

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 NUCLEAR PLANT UNIT A1 - REPORTABLE DEFICIENCY - UNFUSED  
MATERIAL IN DRYWELL VENT STRUCTURE FRAME NO. 7 CLOSURE PLATE WELD -  
HTRD-50-518/81-10

The subject deficiency was initially reported to NRC-OIE, Region II, Inspector P. A. Taylor on March 30, 1981, as NCR HNPA-136. The first interim report was submitted on April 27, 1981. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the final report on the subject deficiency. If you have any questions, please call Jim Damer at FTS 857-2014.

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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HARTSVILLE NUCLEAR PLANT A UNIT 1  
UNFUSED MATERIAL IN DRYWELL VENT STRUCTURE FRAME  
NO. 7 CLOSURE PLATE WELD  
10CFR50.55(e) REPORT NO. 2 (FINAL)  
HTRD-50-518/81-10

Description of Deficiency

On March 25, 1981, the Quality Control Welding Unit (QCW) was notified by the ironworkers that unfused material had been discovered in the inner closure plates for the Frame No. 7 in the unit A-1 Drywell Vent Structure. Investigation by QCW personnel identified a triangular piece of metal which appeared to be a "slug" in the end of two, six-inch inner closure plates. This was the deficiency as originally reported to OIE Region II. However, further investigation into this matter has revealed that the unfused material was not caused by the vendor, Atlas Machine and Iron Works. The apparent unfused material was formed during thermal cutting by TVA to prepare base plate sections for welding. The unfused material was a plug between kerfs which had extended through the material intended to be cut and into the intersecting closure plates that were welded to the base plate.

Metallurgical analysis indicates that the vendor weld was partially severed by the thermal cutting operation. The presence of unfused material has been determined to be an attempt to conceal this error. A seal weld was applied over the accidental cuts to conceal the damage.

Safety Implications

Presence of unfused material degrades the strength of the weld and reduces the safety margin for the Drywell Vent Structure frames. This condition might cause a structural failure during a design basis earthquake and, thereby, jeopardize plant safety had it remained uncorrected.

Corrective Action

A patch plate will be fabricated from A-36 steel, welded by approved procedure, and radiographed as required. Because of the nature of the error which resulted in this condition, TVA believes this to be an isolated instance. Recurrence control will be the identification of those responsible for the attempted coverup. Disciplinary measures commensurate with the involvement will be taken. The repair and all disciplinary action will be complete by July 1, 1981.