

**TENNESSEE VALLEY AUTHORITY**

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

August 13, 1985 AUG 16 9:02

WBRD-50-390/85-24

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Dr. J. Nelson Grace, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 1 - DEFICIENCIES IN CONTAINMENT SPRAY SUPPORT  
47A437-1-1 - WBRD-50-390/85-24 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Al Ignatonis on July 23, 1985 in accordance with 10 CFR 50.55(e) as Significant Condition Report (SCR) WBN CEB 8516. Enclosed is our final report.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*J. A. Damer*  
J. W. Hufham, Manager  
Licensing and Risk Protection

Enclosure

cc: Mr. James Taylor, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
DEFICIENCIES IN CONTAINMENT SPRAY SUPPORT 47A437-1-1  
WBRD-50-390/85-24  
SCR WBN CEB 8516  
10 CFR 50.55(e)  
FINAL REPORT

Description of Deficiency

During an analysis of support pads for unit 2 containment spray piping supports, TVA identified deficiencies concerning unit 1 containment spray support 47A437-1-1. The as-constructed configuration of this pipe support overstresses (with regards to seismic qualification) the pads that attach the support to the steel containment vessel (SCV). Also, it was found that the U-bolts specified in the support design and used to attach the containment spray pipe to the support are seismically overloaded.

TVA has determined that these mistakes were isolated cases which occurred several years apart and resulted from human error.

Safety Implications

The failure of either the support U-bolts or the SCV pad during a safe shutdown earthquake (SSE) could allow the unrestrained containment spray piping to break which could cause a loss of water to one of the two containment spray headers at the top of containment. This could render the containment spray system inoperable due to a postulated single active failure in the redundant train.

Corrective Action

TVA has reanalyzed the piping system without support 47A437-1-1 and has determined that the additional loads on the adjacent supports are acceptable and no modification of these adjacent supports is required. As such, engineering change notice (ECN) 5803 was issued to remove the support and this removal has been completed at the site.

Because these problems were caused by unrelated and isolated errors, no specific actions to prevent recurrence are required. The current design process requires that design changes are verified by a qualified checker to ensure correctness.