TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
1630 Chestnut Street Tower II

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March 22, 1985

WBRD-50-391/83-05

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 2 - INCORRECT USE OF CATEGORY I(L) SUPPORTS ON PIPES NEAR WATER CHILLERS -WBRD-50-391/83-05 - SEVENTH INTERIM REPORT FOR UNIT 2

The subject deficiency was initially reported to NRC-OIE Inspector A. K. Hardin on January 17, 1983 in accordance with 10 CFR 50.55(e) as NCR WBN SWP 8265. Interim reports were submitted on February 16, May 9, September 21, and October 17, 1983. A final report and a revised final report for unit 1 were submitted on October 17, 1983 and January 11, 1984 respectively. Our fifth interim report for unit 2 was submitted on June 18, 1984. The sixth interim report for unit 2 which was due for submittal on September 28, 1984 was inadvertently omitted. Enclosed is our seventh interim report covering the interim progress to date for unit 2. We expect to submit our next report for unit 2 on or about July 17, 1985.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

for J. W. Hufham, Manager
Licensing and Regulations

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

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INCORRECT USE OF CATEGORY I(L) SUPPORTS ON PIPES
NEAR WATER CHILLERS
NCR WBN SWP 8265
WBRD-50-391/83-05
10 CFR 50.55(e)
SEVENTH INTERIM REPORT

Description of Deficiency

Piping for the primary water makeup, high pressure fire protection, and demineralized water systems, shown on TVA drawing 47W491-6, in the vicinity of main control room water chillers A-A and B-B and shutdown board room water chillers A-A and B-B have been supported by category I(L) supports for position retention only. The piping in the vicinity of this equipment should have been supported by category I(L) supports for pressure boundary integrity as well as position retention. These water chillers are safety-related equipment. TVA Electrical Design Standard DS-E1.3.1, "Protection of Electrical Equipment that is Susceptible from Fluid Spray and Condensation," requires that water lines not be routed over safety-related electrical equipment or that measures be taken to prevent damage to safety-related electrical equipment where water lines are routed above.

TVA has determined that the cause of this deficiency involves three areas:

1. Lack of Guidance - No procedures or guidelines were established to aid the piping system designer in properly identifying the noncritical piping systems' piping which must be supported for pressure boundary integrity to protect safety-related electrical equipment from water spray in the event of an earthquake.

2. Incorrect or Out-of-Date Drawings - The fire suppression study drawings (SK1200 series) and the 47W491 and 47W492 series physical piping drawings did not identify the noncritical piping around the chillers as requiring seismic supports or the equipment as requiring shielding from water spray. Also, the fire suppression study drawings were not updated for several years to reflect additional class 1E equipment.

3. Lack of Knowledge of Existing Design Criteria - Design project personnel were unfamiliar with the existence of the following design criteria: WB-DC-40-31.3, "Assignment of Responsibility for Analyses, Support, and Fabrication of Piping Systems," and WB-DC-40-31.7, "Design Criteria for Analysis of Category I and I(L) Piping Systems." Supplemental procedures do not exist for implementing the requirements of these criteria.

Interim Progress of Unit 2

TVA has completed a walkdown inspection of unit 2 equipment which may be affected by this deficiency. It has been determined that the corrective actions taken for unit 1 will also apply to unit 2. This work will be accomplished per engineering change notice (ECN) 5092.

In addition to the walkdown described above, TVA's water spray task force has reviewed the drawings for the fifth diesel generator building (DGB) (construction progress did not allow an onsite walkdown at this time). The task force has determined that all areas of the fifth DGB require seismic pressure boundary integrity piping analysis except on piping in the following areas: the air intake room on el. 760.5; the fire protection foam tank room on el 760.5; the corridor and stairwell on el 760.5; and the corridor and stairwell on el 742.0. Electrical penetrations and equipment will be sealed or shielded in these areas of exception.

TVA is still in the process of performing evaluation and redesign for affected unit 2 piping. All work is being done per ECN 5092.