

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

34 JAN 16 A 9:35 January 11, 1984

WBRD-50-390/84-02

WBRD-50-391/84-02

U.S. Nuclear Regulatory Commission
Region II

Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

**WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - LIVE LOADS NOT CONSIDERED IN DESIGN OF
CONCRETE PARTITION WALLS - WBRD-50-390/84-02, WBRD-50-391/84-02 - FINAL REPORT**

The subject deficiency was initially reported to NRC-OIE Inspector
C. Julian on December 13, 1983 in accordance with 10 CFR 50.55(e) as NCR
WBN WBP 8338. Enclosed is our first interim report. We expect to submit our
next report on or about March 1, 1984.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
L. M. Mills, Manager
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, 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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1983-TVA 50TH ANNIVERSARY

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
LIVE LOADS NOT CONSIDERED IN DESIGN OF CONCRETE PARTITION WALLS
NCR WBN WBP 8338
WBRD-50-390/84-02, WBRD-50-391/84-02
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

There are several 8-inch thick reinforced concrete partition walls in the Auxiliary and Control Buildings at Watts Bar, most of which are on the elevation 757 and 777 floors in the Auxiliary Building. Originally, these walls were seismically designed only for the dead weight of the concrete and did not include any live loads. It has been identified that attachments have been made to these partition walls which could add considerable weight and change the design requirements for these walls. These attachments include hanger supports for cable trays, HVAC, fire protection, demineralized water, and control air piping, and various conduits. These partition walls are cantilevered, nonload bearing walls that were never intended to be used as supports for live load attachments.

Interim Progress

TVA has established the following program to determine which, if any, concrete partition walls will require structural restraints due to attachments to the walls.

1. Using the original design calculations, the additional load that each partition wall can withstand, over and above the controlling design basis of a seismic or tornado depressurization event, will be determined.
2. A field survey will be conducted to identify systems which have attachments to the concrete partition walls. Loads from these attachments will be reviewed to ensure that the walls have sufficient load carrying capacity.
3. The attachment loads will be reviewed to determine if any are of such nature and/or magnitude as to make installation of structural restraints impractical or inadequate. In this case, the attachment will be modified or relocated.

From this program to date, TVA has determined that some partition walls may not have the capacity to support any additional seismic load greater than the load which was used in the original design calculations. If attachments have been made to these walls, structural restraints will be required. It has also been determined that some partition walls do not have the capacity to seismically support the various system components which are presently attached to them. These walls will require structural restraint.

Additionally, TVA has determined that the situation does exist in which attachment loads will have to be reevaluated or structurally redistributed in order to remove an unacceptable load or to make installation of structural restraints possible.