

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

December 22, 1983

DEC 29 8:58

WBRD-50-390/82-89
WBRD-50-391/82-85

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 - INCORRECT INSULATION WEIGHTS USED
IN PIPING ANALYSIS - WBRD-50-390/82-89, WBRD-50-391/82-85 - FINAL REPORT
FOR UNIT 1 AND FOURTH INTERIM FOR UNIT 2

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on August 25, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN CEB 8223. Related NCR WBN SWP 8247 was subsequently determined to be reportable. Interim reports for both NCRs were submitted on September 24, 1982 and April 25, and September 16, 1983. Enclosed is our final report for unit 1 and fourth interim report for unit 2. We expect to submit our next report for unit 2 on or about December 31, 1984. TVA no longer considers 10 CFR 50.55(e) applicable to unit 1.

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
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INCORRECT INSULATION WEIGHTS USED IN PIPING ANALYSIS
NCRs WBN CEB 8223 AND WBN SWP 8247
WBRD-50-390/82-89, WBRD-50-391/82-85
10 CFR 50.55(e)

FINAL REPORT FOR UNIT 1 AND FOURTH INTERIM REPORT FOR UNIT 2

Description of Deficiency

TVA identified several piping analysis problems which had incorrect insulation weights or insulation requirements applied to them. Also, on some problems, the insulation data which was used had not been verified by QA documentation.

This deficiency occurred because there were no requirements for quality controlled insulation data at the time of occurrence. Design drawings detailing insulation requirements had not been issued for all rigorously analyzed piping systems. Therefore, insulation data was acquired from various uncontrolled sources.

Safety Implications

Investigation has shown that this deficiency could not have adversely affected the safe operation of the plant for unit 1 (see corrective actions below). Thus, TVA no longer considers 10 CFR 50.55(e) applicable for unit 1. However, the investigation of the problem for unit 2 is still in progress, and it is unknown if the problem would have posed a safety concern for unit 2. Therefore, TVA still considers 10 CFR 50.55(e) applicable for unit 2.

Corrective Action for Unit 1

TVA issued engineering change notice (ECN) 3620 for use in the preparation of insulation drawings (i.e., QA documents) to substantiate insulation data for use in rigorously analyzed piping problems. All insulation drawings have been issued and the insulation data has been compared to the data which was used in existing piping analyses. All rigorously analyzed piping, which was part of the evaluation program initiated in response to NRC-OIE Bulletin 79-14, has received insulation review. No reanalysis, support load changes, or field changes were required as a result of this review for unit 1.

To prevent recurrence of this type deficiency, TVA issued engineering procedure (EP) SWP-EP 43.18, "Insulation/Heat Tracing Drawings for Safety-Related Systems." This EP describes the program for reviewing and documenting the Insulation/Heat Tracing (I/HT) design requirements for all primary and secondary safety-related mechanical (piping and equipment) and instrumentation systems in Seismic Category I structures at Watts Bar Nuclear Plant. Existing design, procurement, and contract drawings for these safety-related systems have been reviewed to ensure that all the I/HT requirements of the system are incorporated.

Interim Progress for Unit 2

The investigation and scoping effort to determine if this problem poses a safety concern for unit 2 is being conducted. The actions to be taken for unit 2 will be similar to those taken for unit 1.