

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

September 23, 1983 9:20

WBRD-50-390/82-48
WBRD-50-391/82-45

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:

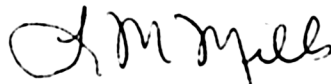
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - INCORRECT SUPPORTS IN ANALYSIS
OF 3-INCH CVCS LINE - WBRD-50-390/82-48, WBRD-50-391/82-45 - FINAL REPORT
FOR UNIT 1 AND FOURTH INTERIM REPORT FOR UNIT 2

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on May 5, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN CEB 8209. Interim reports were submitted on June 3, and December 15, 1982 and May 17, 1983. Enclosed is our final report for unit 1 and our fourth interim report for unit 2. We expect to submit our next report for unit 2 on or about August 31, 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, 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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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
INCORRECT SUPPORTS IN ANALYSIS OF 3-INCH CVCS LINE
NCR WBN CEB 8209
WBRD-50-390/82-48, WBRD-50-391/82-45
10 CFR 50.55(e)

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

Description of Deficiency

The 3-inch letdown line in the CVCS system from the crossover leg loop No. 3 to the regenerative heat exchanger has two inline isolation valves (node points 51 and 150 of EDS Nuclear, Incorporated's, analysis 0600200-08-10) which are analyzed with rigid supports on the valve operators in one direction. The as-designed supports for these locations are snubbers. This condition results in the analysis being invalid. Additional rigid support piping analysis problems recently identified, are also affected.

At TVA's request, EDS Nuclear performed the subject valve analysis with rigid valve operator supports. TVA subsequently decided to use snubbers in the design of the valve operator supports based upon the rigid supports loads. This decision was based upon the engineering judgment of a TVA design engineer and is documented in an EDS Record of Conversation (ROC) dated April 29, 1977. Guidelines concerning the design of valve operator supports had not been issued at the time this deficiency occurred.

Safety Implications

Had this condition remained uncorrected any valve whose operator was supported by a snubber, rather than an as-analyzed rigid support, could be rendered inoperable due to excessive or unanalyzed movement. This could adversely affect the safety of operations of the plant.

Corrective Action (Unit 1)

TVA has identified all rigorously analyzed valves with supports modeled on the operators. All of the identified support design problems have been reanalyzed, and 146 supports have been identified as requiring redesign. Engineering change notice (ECN) 3474 has been issued to accomplish this redesign for unit 1. All unit 1 redesign work and drawing revisions will be completed by September 30, 1983. All unit 1 field modifications will be completed by December 31, 1983.

Due to the unique nature of this deficiency, no additional actions to prevent recurrence are required. Watts Bar design criteria WB-DC-40-31.9 "Location and Design of Piping Supports and Supplemental Steel in Category I Structures" defines the requirements and specifies designer/analyst responsibilities in the design of piping supports in Category I structures.

Interim Progress (Unit 2)

Approximately 44 unit 2 analysis problems have been identified as requiring reanalysis, and ECN 3653 has been issued to perform the work for unit 2. Additional information will be provided in our next submittal on unit 2.