

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

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January 18, 1984

WBRD-50-390/82-100

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:

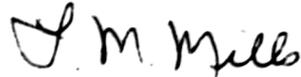
**WATTS BAR NUCLEAR PLANT UNIT 1 - DISCREPANCIES BETWEEN AS-BUILT AND
AS-ANALYZED PIPING CONFIGURATIONS (IEB 79-14) - WBRD-50-390/82-100 -
FINAL REPORT**

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on September 10, 1982 in accordance with 10 CFR 50.55(e) as NCR WBN SWP 8248. Interim reports were submitted on October 13, 1982 and March 24 and September 16, 1983. Enclosed is our final report.

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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IEB 1



ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
DISCREPANCIES BETWEEN AS-BUILT
AND AS-ANALYZED PIPING CONFIGURATIONS (IEB 79-14)
NCR WBN SWP 8248
WBRD-50-390/82-100
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

This NCR was generated as a result of NRC-OIE Bulletin 79-14, which states that the as-built configurations of various safety-related piping systems have revealed a number of discrepancies to design drawings. These discrepancies between as-built and as-designed piping and hangers could affect the validity of the seismic analyses. Design specifications and drawings are used to obtain input information for seismic analysis of safety-related systems. As a result, various safety-related systems may not be seismically qualified.

Inspections were performed by TVA in accordance with the Program Plan for NRC-OIE Bulletin 79-14, Special Engineering Procedure (SEP) EN DES-SEP 82-13 (Phase I), and by an independent third party in accordance with EN DES-SEP 82-25 (Phase II) to ensure that piping is installed as analyzed to satisfy the requirement of NRC-OIE Bulletin 79-14. Any discrepancies found during these inspections are covered by this NCR.

Safety Implications

Because some safety-related systems are not constructed properly as result of design or construction errors, the design requirements of the affected systems may not be met. This could result in failure of these piping systems under design basis accident conditions which could adversely affect the safe operation of the plant.

Corrective Action

In accordance with NRC-OIE Bulletin 79-14, TVA developed the 79-14 phase I and phase II programs. The phase I program was a detailed inspection performed by TVA of all category 1 safety-related piping 2-1/2 inches in diameter and greater and all category 1 piping, regardless of size, which was dynamically analyzed by computer. The inspection drawings utilized in the program were the piping analysis isometrics and the mechanical piping, support design, and valve drawings. The phase I program relied on previously established inspection procedures which TVA believes would identify any discrepancies. Pipe member lengths, support locations, and most support member sizes were not measured in phase I. The phase II program is an audit of the phase I program and TVA's QA program to satisfy the requirements of the NRC-OIE Bulletin 79-14. The phase II

program was a detailed inspection (performed by an independent audit team) of nine piping analysis isometrics of different systems chosen by EN DES's Civil Engineering Support Branch (CEB) and agreed upon by the NRC. The phase II program involved the inspection of those items previously inspected under phase I and those items not inspected under phase I (e.g., the measurements of pipe member lengths, support locations, and support member sizes).

The phase I inspections, in accordance with EN DES-SEP 82-13, have been completed. Isometric and support drawing revisions resulting from these inspections will be issued by January 31, 1984. All action, including CONST work, will be completed by February 29, 1984.

Phase II inspections, in accordance with EN DES-SEP 82-25, have been completed. A total of 67 discrepancies have been found. Of these discrepancies, 41 affected piping, clearances, valves, or supports were considered to potentially affect the piping analysis. Of these 41 discrepancies, 15 (13 were potential interferences and 2 were out of tolerance support gaps) were corrected by CONST. Following review by EN DES of the discrepancies, it was determined that no reanalysis was required; however, 7 isometrics were revised to reflect as-built dimensions. As a result, none of the 41 discrepancies were considered to be significant.

The remaining 26 discrepancies were support details of which 5 were corrected by CONST, and 21 support drawings were revised to reflect as-built conditions. Only one of the support discrepancies was considered significant, but it was not considered to result in a definite potential for loss of pressure boundary.

The remainder of the discrepancies did not result in rework or drawing revision. Since the phase II inspection did not disclose any serious problems, the piping, supports, and isometrics are considered adequate to meet the intent of NRC-OIE Bulletin 79-14.