

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

October 19, 1983 13
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WBRD-50-390/83-06

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 - SUPPORTS NOT DESIGNED OR MODIFIED AS
REQUIRED BY ECN 2576 - WBRD-50-390/83-06 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
P. Fredrickson on January 18, 1983 in accordance with 10 CFR 50.55(e) as
NCR WBN SWP 8301 R1. Interim reports were submitted on February 10,
June 6, and August 19, 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

D S Kammer

for 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 UNIT 1
SUPPORTS NOT DESIGNED OR MODIFIED AS REQUIRED BY
ENGINEERING CHANGE NOTICE (ECN) 2576
NCR WBN SWP 8301 R1
WBRD-50-390/83-06
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

During the independent review of the auxiliary feedwater system performed by Black and Veatch, the reviewers identified twenty-one instances where approved design drawings did not agree with the revised piping analysis as required by engineering change notice (ECN) 2576. These discrepancies include: location plans on support drawings which do not agree with analysis isometrics; designed supports differing with the type supports required by the piping analysis; and new supports added by the analysis not being incorporated into the final design.

These discrepancies were caused by design personnel using informal methods and documentation for the "scoping" review of reanalysis results. ("Scoping" review is the method used to identify specific support designs which require revision due to a reanalysis.)

Safety Implications

Designing a support scheme for the auxiliary feedwater system which differs from the piping analysis for the system could allow various system piping to become overstressed causing subsequent piping failures which could hamper feedwater flow to the steam generators and adversely affect safe shutdown of the plant.

Corrective Action

Due to the general concern about the incorporation of the results of rigorous analysis into appropriate support designs, TVA has reviewed all support designs for rigorously analyzed piping against the requirements of current analysis documentation, and has identified all deficient supports. These supports are being revised under ECN 4080 and the design modifications will be completed by December 30, 1983. Subsequent construction work on the revised supports will be completed by February 1, 1984.

To prevent a recurrence of this deficiency, "scoping" reviews have been upgraded to formal calculation packages requiring appropriate documentation. This upgrading and the formal documentation requirements have been incorporated into Watts Bar Project (WBP) Engineering Procedure (EP) 43.14.