

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

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October 30, 1985

WBRD-50-391/82-47

U.S. Nuclear Regulatory Commission
Region II

Attention: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 2 - INCOMPLETE OR UNDOCUMENTED CHECKING OF
ANALYSES - WBRD-50-391/82-47 - SIXTH INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on May 13, 1982 in accordance with 10 CFR 50.55(e) as NCR CEB
8211. Enclosed is our sixth interim report. We expect to submit our next
report on or about August 4, 1986.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Damer

J. W. Hufham, Manager
Licensing and Risk Protection

Enclosure

cc: Mr. James Taylor, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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Institute of Nuclear Power Operations
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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 2
INCOMPLETE OR UNDOCUMENTED CHECKING OF ANALYSES
WBRD-50-391/82-47
ECR WBN CEB 8211
10 CFR 50.55(e)
SIXTH INTERIM REPORT

Description of Deficiency

During a routine analysis review, the following deficiencies were discovered within TVA's Office of Engineering (OE), Civil Engineering Branch (CEB).

OE Procedure OEP-07, "Calculations," which supersedes EN DES Engineering Procedure (EP) 3.03, "Design Calculations," section 2.3, states "Safety-related design calculations shall be checked for adequacy by a qualified person or group other than the preparer."

The following piping stress analysis problems do not meet the requirements set forth in OEP-07 for independent checking: N3-62-7A, NE-62-8A, N3-62-9A, N3-70-9A, N3-70-10A, N3-26-5A, and N3-63-2A. The preparer also performed the checking for these problems.

In addition, an evaluation of analysis problems N3-72-2A and -5A indicates that incomplete checking was performed. The checklist on file for N3-72-2A and -5A is identified as "preliminary" and only a cursory check was performed. A "final" checklist was not completed which requires a detailed check of the input and output to the computer analysis.

Other analysis problems (N3-63-4A, N3-70-8A, and N3-72-A) reflect an independent check on the issued isometrics but do not have on file a signed off checklist.

The above situations are only representative examples and during an independent check of all pipe stress analysis problems other deficient examples were found. Approximately 30 problems are involved in this deficiency.

Safety Implications

This condition could result in piping for safety-related systems not being adequately checked and thereby contain design errors which would prevent the piping from being adequately supported. Should the piping for these systems fail during a seismic event, there could be adverse affects to the safe operations of the plant.

Interim Progress for Unit 2

TVA is in the process of reviewing the qualification of all unit 2 rigorous analysis problems and reanalyzing where required. At this time, an independent review is being performed on all problems where it is lacking. The unit 2 work is covered under engineering change notice (ECN) 4770. The completion date of the unit 2 work required has been revised to June 23, 1986, to agree with the recently revised unit 2 system transfer dates. A final report for this deficiency will be provided to the NRC by August 4, 1986.

To prevent recurrence, OE is following the verification and independent review requirements as outlined in OEP-07. Analysts have received OEP training on the usage of OEP-07.