TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

November 24, 1982

WBRD-50-390/82-02, -391/82-02
WBRD-50-390/82-57, -391/82-54
WBRD-50-390/82-59, -391/82-56
WBRD-50-390/82-73, -391/82-68
WBRD-50-390/82-74, -391/82-69
WBRD-50-390/82-78, -391/82-74

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - PROGRAM DEFICIENCY: ALTERNATELY ANALYZED PIPING - FIRST COMBINED INTERIM REPORT

The subject deficiency is a result of our investigation in six other related 50.55(e) items already submitted to NRC. TVA has determined that there is an overall program deficiency in the Watts Bar alternate analysis program. This report combines those previous 50.55(e) items (see listed WBRD numbers above) under one program deficiency report. Enclosed is our first combined interim report. We expect to submit our next report on or about April 26, 1983.

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

OFFICIAL COPY
IE 27

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
PROGRAM DEFICIENCY: ALTERNATELY ANALYZED PIPING
WBRD-50-390/82-02, -391/82-02; WBRD-50-390/82-57, -391/82-54;
WBRD-50-390/82-59, -391/82-56; WBRD-50-390/82-73, -391/82-68;
WBRD-50-390/82-74, -391/82-69; WBRD-50-390/82-78, -391/82-74
10 CFR 50.55(e)
FIRST COMBINED INTERIM REPORT

Description of Deficiency

Recently a number of 10 CFR 50.55(e) items have been written against various aspects of alternately analyzed piping. This report consolidates the above items plus any other nonconforming items found during TVA's program to verify qualification/requalification of Watts Bar Nuclear Plant (WBN) piping supported in accordance with the WBN Alternate Analysis Criteria Civil Engineering Branch (CEB) 76-5. The following is a brief description of the major type of discrepancies which have led TVA to determine this overall problem to be a breakdown in the alternately analyzed piping program.

- Alternate analysis not documented properly. No engineering procedure to control alternate analysis (previously identified as 50.55(e) report WBRD-50-390/82-57, WBRD-50-391/82-54)

- Technical deficiencies in analysis (WBRD-50-390/82-74, WBRD-50-391/82-69)

- Flanged joints not analyzed (WBRD-50-390/82-59, WBRD-50-391/82-56)

- Axial restraint not provided by supports (WBRD-50-390/82-78, WBRD-50-391/82-74)

- Interface between alternately analyzed piping and deadweight supported piping not correctly analyzed (WBRD-50-390/82-02, WBRD-50-391/82-02)

- Spacing requirements on Seismic Pipe Support (WBRD-50-390/82-73, WBRD-50-391/82-68)

Safety Implications

Because this item is considered a programatic deficiency in alternate analyzed safety-related piping systems, TVA assumes that some safety-related piping systems could be seismically unqualified and that a seismic event could cause the failure of some of these systems. Therefore, this condition has the potential to adversely affect the safe operation of the plant.

Interim Progress

Due to the deficiencies identified by the TVA design review team, TVA has concluded that a significant breakdown in the WBN alternate analysis program has occurred which will require a reverification of the alternate analyses performed for WBN. TVA is proceeding with a 100 percent reverification of the WBN alternate analysis.

The full review program will also evaluate the qualification of the piping system against code requirements if compliance with the WBN alternate analysis criteria cannot be achieved. This program will utilize hand calculations as well as computer anaysis to qualify piping analyses which do not meet the specific rules of the alternate analysis methods.