

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

December 24, 1980

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

YELLOW CREEK NUCLEAR PLANT UNIT 1 - NONCONSERVATIVE APPLICATION OF "TPIPE"
COMPUTER PROGRAM - NCR YCN CEB 8007 - REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
M. Thomas on November 13, 1980, in accordance with 10 CFR 50.55(e).
Enclosed is a revision to our December 11, 1980, final report as dis-
cussed with R. W. Wright on December 15, 1980.

If you have any questions concerning this matter, please get in touch with
D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Jr., Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

801231322

S

3019
S
1/1

ENCLOSURE

YELLOW CREEK NUCLEAR PLANT UNIT 1
NONCONSERVATIVE APPLICATION OF "TPIPE" COMPUTER PROGRAM
NCR YCN CEB 8007
10 CFR 50.55(e)
REVISED FINAL REPORT

Description of Deficiency

Design criteria which described the loading combinations to be used in the design of a support were developed by TVA. Normalized support constraints and load combinations from the criteria were meant to be used as input to TVA's computer program, "TPIPE." The program did not have the capability to meet the design criteria and the user did not use conservative input factors. As a result, support load drawings, which may be nonconservative, have been issued internally in TVA for two piping analyses. The final designs were not approved nor released for construction.

Safety Implications

Had the nonconservative load drawings been used as a basis for support design, a final design may have been issued which incorporated specifications for deficient supports. The affected systems would have included those in the chemical volume and control system and the main feedwater system. Deficient supports in these systems would have affected the safe operation of the plant.

Corrective Action

TVA intends to resubmit for reanalysis the two piping analyses affected by the incapability to meet design criteria. Factors will be inserted to ensure that the output of the program is conservative in a safety context. Any load drawings that require reissue will be reissued by March 1, 1981. Users of "TPIPE" have been instructed to inform the engineer responsible for "TPIPE" of any design criteria in order that the engineer may evaluate the capability of the program.