

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 22, 1980

80-038-03L -
80-035-03L -

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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:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - DEFICIENT FLANGE REPORT -
NCR BLN CEB 8006 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. W. Wright on September 22, 1980, in accordance with 10 CFR 50.55(e).
Enclosed is our final report.

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
L. M. Mills, Manager
Nuclear Regulation and Safety

*type
8010280400*

Enclosure

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

*1/19/81 - Telcon with D. Terrior (TVA)
they had borrowed the program
in draft form from ORNL then
and gave it back. Since then
ORNL has issued it formally.
Contact at ORNL is S. Moore
LS-624-0715
1/19/81 - Telcon with S. Moore (ORNL)
not aware of any problems with
draft except for formatting
He could NE-Num but would
be a problem. Only given
to small number of
outsiders
draft
COVER COPY*

OFFICIAL COPY

1/21/81 Telcon with M. Hartzman (MEBS)

They are not interested in following up, but he suggested verifying that ORNW had checked it with hand calculations prior to issuing. Also interested in knowing name of program.

1/21/81 Telcon to S. Moore (ORNW)

he believes that they ran the program against hand calculations also Argonne verified their documentation - program is called FRANGE-ORNW, NESC 689

1/22/81 Telcon from V. Bianco (TVA 856-4200), Bill Haggay (TVA 856-2365) and Janice Connell (TVA 856-6849) - she hand checked 16" 150#, 6" 150#, and 16" 300# and came up with bad results. - problem seemed to be in the factors used to multiply the moments to obtain stresses

1/22/81 Telcon to S. Moore (ORNW) and E. Rodabaugh (BMTI) the program does not use the erroneous Code formulas but uses a different approach - he will run the three flanges and check the values.

1/23/81 Telcon from E. Rodabaugh (BMTI) - he ran the flanges and got shape factors in accordance with the Code

ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
DEFICIENT FLANGE REPORT
NCR BLN CEB 8006
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

A computer program acquired from Oak Ridge National Laboratory (ORNL) was used to compute parameters based on the 1974 American Society of Mechanical Engineers (ASME) Code for data tables contained in Civil Engineering Branch (CEB) Flange Report CEB-ME1-77-5. While verifying the parameters contained in the data tables, using a hand method also based on the 1974 ASME Code, discrepancies were identified. Because the computer program is not now available and the individual developing CEB Flange Report CEB-ME1-77-5 is no longer employed by the Tennessee Valley Authority (TVA), it is not possible to determine if an error existed in the computer program or if the data was incorrectly entered into this program.

Safety Implications

The data tables contained in CEB Flange Report CEB-ME1-77-5 were used to qualify flanges for both nonsafety- and safety-related piping systems. While nozzle loads are generally the controlling parameter, in isolated instances flange stresses could control design of the piping system. Should this occur, it could result in a condition which would adversely affect the safety of the plant because of the potential failure of a safety-related piping system.

Corrective Action

CEB Flange Report CEB-ME1-77-5 will be revised and the parameters contained in the data tables will be recomputed based on the newer 1977 ASME Code. This revision is scheduled for completion by December 1, 1981. At that time, all flanges will be requalified by the revised CEB flange report.

ML

ITEM	FACILITY	CLASSIFICATION	ITEM OR EVENT	REGIONAL ACTION
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REACTOR CONSTRUCTION

Bellefonte 1 & 2
 DNS: 50-438
 50-439

Telecon
 9/22

CDR - Deficient Flange Computer Report Level II
 TVA discovered a documentation error in a computer program that TVA procured from Oak Ridge National Laboratory for the determination of stresses in pipe flanges. Backchecking of stresses by hand revealed lack of agreement with computer output. Program is not generic to other TVA plants. A written report is due 10/22/80.

Followup per MC 25
Region IV Not Recd
(O'Reilly)

NCR# BLN CEA 8006

Lia Barnes — *Sect Chief* —
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