ATTACHED IS A PART 21 REPORT FROM IE TAIL UNIT - ROOM 559 E/W

PART 21 IDENTIFICATION NO. 81-398-000 COMPANY NAME TVA

DATE OF LETTER 4/2/81 DOCKET NO. 50-438-439

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ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

IE ☐ NRR ☐ NMSS ☐ OTHER ☐

EES

S 8104090217

REV. 8/1/80

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

81-398-000

400 Chestnut Street Tower II

April 2, 1981

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 - ATTACHED PIPING POTENTIAL SAFETY CONCERN - NCR BLN NEB 8008 - SECOND INTERIM REPORT

On November 21, 1980, R. W. Wright, NRC-OIE Region II, was informed that the subject nonconformance was determined to be reportable in accordance with 10 CFR 50.55(e). This was followed by our first interim report dated December 19, 1980. Enclosed is our second interim report. We consider 10 CFR Part 21 to be applicable to this nonconformance. We expect to submit our next report by July 22, 1981.

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

Mr. James McFarland (Enclosure)
Senior Project Manager
Babcock & Wilcox Company
P.O. Box 1260
Lynchburg, Virginia 24505

ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
ATTACHED PIPING POTENTIAL SAFETY CONCERN
NCR BLN NEB 8008
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

B&W has uncovered an apparent discrepancy between the assumptions relative to pipe breaks in the loss-of-coolant accident (LOCA) analyses and the structural analyses for certain connecting pipes in the affected or broken loop. The LOCA analysis does not assume a consequential failure of piping caused by a LOCA pipe break. Certain piping and instrumentation connections to the Reactor Coolant System may not be adequately designed to maintain function or to resist consequential failures as a result of the LOCA break in the Reactor Coolant System. Consequential failures of these piping connections could represent an inconsistency with the ECCS analysis performed for Bellefonte.

Interim Progress

B&W has performed an investigation on the 205 FA plants wherein the high energy lines which could be subjected to major displacements, jet impingement, and/or pipe whip from a spectrum of LOCA pipe breaks were listed. A comparison was made of the connecting lines which were designed for the appropriate displacements and loadings from LOCA breaks. The required instrumentation for safe shutdown and long term cooling will be identified and evaluated later.

This investigation significantly reduced the number of piping connections of concern. However, some potential areas were identified which will require further investigation and resolution.

Simplified calculations have been completed by B&W to show that the surge line has sufficient structural integrity considering postulated cold leg breaks. Specifically, the surge line can be eliminated from further study as B&W's investigation shows that the line meets allowable stress limits when subjected to nearby small or large LOCA's--static jet impingement, impact factor, end displacement, and pressure considered.

B&W is continuing to work on the concern.