

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

8 November 16, 1981

BLRD-50-438/81-24
BLRD-50-439/81-26

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 - ANALYSIS FOR LOSS OF FEEDWATER EVENT -
BLRD-50-438/81-24, BLRD-50-439/81-26 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector J. Crlenjak on March 16, 1981, in accordance with 10 CFR 50.55(e) as NCR BLN NEB 8102. This was followed by our first interim report dated April 13, 1981. Enclosed is our second interim report. We expect to submit our next report by March 4, 1982. We consider 10 CFR Part 21 applicable to this deficiency.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Jr., Director (Enclosure)
Office of Inspection and Enforcement
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ENCLOSURE
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
ANALYSIS FOR LOSS OF FEEDWATER EVENT
BLRD-50-438/81-24, BLRD-50-439/81-26
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Condition

The Bellefonte Final Safety Analysis Report (FSAR) analysis for the loss of normal feedwater event (section 15.2.7) may not be conservative. The Bellefonte FSAR analysis predicts that the ASME Section III Code limits for overpressurization of the Reactor Coolant System will not be exceeded following a loss of normal feedwater. The Babcock and Wilcox (B&W) Company has performed a more recent analysis for the Washington Public Power Supply System (WPPSS) which predicts that the ASME Code limits for overpressurization will be exceeded following a loss of feedwater.

A B&W representative stated during a March 12, 1981 meeting of the B&W Nonoperating Owners Group that B&W analysts had reason to suspect a nonconservatism in the B&W computer codes when the Bellefonte analyses were being performed. B&W has several computer codes, including "POWER TRAIN," "CADDs," and "TRAP2," which can be used to predict Reactor Coolant System pressure following a decrease in heat removal by the secondary system. The computer code "CADDs" was used by B&W for the Bellefonte loss of feedwater analyses. Apparently, "CADDs" predicts a lower Reactor Coolant System pressure than one or more of the other computer codes available to B&W. TVA notes that the NRC has also raised a concern about the adequacy of "CADDs" in NUREG-0560.

This nonconformance report (NCR) was deemed reportable because if a nonconservative computer analysis is used a potential exists for overpressurization of the Reactor Coolant System. This NCR also indicates a possible failure of B&W's Quality Assurance program to resolve a known discrepancy in the analyses used to calculate Reactor Coolant System pressure following a loss of feedwater.

Interim Progress

TVA is continuing to work with B&W toward resolution of the subject deficiency. The Bellefonte FSAR analysis is unique to B&W, and therefore no other TVA nuclear plants are affected.