TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 29, 1981

BLRD-50-438/81-42
BLRD-50-439/81-44

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 - FAILURE TO IMPLEMENT ALTERNATE ANALYSIS DESIGN CRITERIA - BLRD-50-438/81-42, BLRD-50-439/81-44 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on May 29, 1981, in accordance with 10 CFR 50.55(e) as NCR BLN BLP 8112. This was followed by our first interim report dated June 29, 1981. 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, Manager
Nuclear Regulation and Safety

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

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ENCLOSURE
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
FAILURE TO IMPLEMENT ALTERNATE ANALYSIS
DESIGN CRITERIA
10 CFR 50.55(e)
BLRD-50-438/81-42, BLRD-50-439/81-44
FINAL REPORT

Description of Deficiency

Bellefonte design personnel have failed to conform to criteria as defined in CEB 76-11, "Alternate Criteria for Pipe Analysis and Supports." These engineers did not consistently apply the spacing requirements for the High Pressure Fire Protection System (HPFPS) axial pipe supports as defined in CEB 76-11. Further investigation of this problem showed no indication that this nonconformance is applicable to other TVA nuclear plants. The apparent cause is design oversight.

Safety Implications

The seismic pipe support systems that do not meet the axial requirements of CEB 76-11 are not essential for safe shutdown of the plant. However, failure of the pipe supports and the related failure of the piping system could result in physical damage to a system essential to the safe shutdown of the plant.

Corrective Action

TVA has identified the areas of the HPFPS piping that were affected by the subject deficieny. This piping was reanalyzed by rigorous analysis, checking the piping stresses and the support loads. Some supports were added to sections of the piping. These modifications were made to correct for overstress in the piping. In order to prevent recurrence, TVA has instructed those individuals involved in alternate analysis calculations that all the requirements of the alternate analysis criteria must be strictly followed.

TVA is continuing its routine review of piping and supports which were designed in accordance with CEB 76-11. Any deficiency discovered in the future will be processed in accordance with the requirements of 10 CFR 50.55(e).