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 MILLS, L.M. Tennessee Valley Authority
 RECIP. NAME RECIPIENT AFFILIATION
 O'REILLY, J.P. Region 2, Atlanta, Office of the Director

SUBJECT: Interim deficiency rept re seismic response for primary branch lines. Found not conservative for all pipe sizes under 1/2 of SSE loadings per Revisions 1 & 2 of B&W Spec 1391. Util awaiting Revision 3 to verify response spectra.

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 TITLE: Construction Deficiency Report (10CFR50.55E)

NOTES:

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JUL 30 1980

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

July 23, 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:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - SEISMIC RESPONSE FOR PRIMARY
BRANCH LINES MAY NOT BE CONSERVATIVE - NCR CEB 79-18 - FOURTH INTERIM
REPORT

On May 7, 1979, Milton Hunt, 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 interim reports dated June 7 and July 26, 1979, and March 18, 1980. Enclosed is our fourth interim report. We expect to submit our next report by October 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

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
SEISMIC RESPONSE FOR PRIMARY BRANCH

LINES MAY NOT BE CONSERVATIVE
NCR CEB 79-18 10 CFR 50.55(e)

FOURTH INTERIM REPORT

Description of Deficiency

Babcock & Wilcox (B&W) specification 1391 provides TVA with response spectra for use in TVA primary system branch line analyses. Revisions 1 and 2 of this specification provided SSE spectra at a single damping value with instructions for TVA to use one half of the SSE data as the one half SSE (OBE) response spectra. The damping value used to generate the response spectra was a composite modal damping value. Although B&W stated the composite value was in accordance with applicable regulatory guides, the value was conservative only for all pipe sizes under one half SSE loadings. TVA interpreted the spectra as being in accordance with the applicable criteria for all pipe sizes under all loadings and performed system analyses accordingly.

A proposed revision 3 reflected refinement of spring rates along with other design changes and provided new SSE and one half SSE response spectra for several damping values. TVA review of the proposed revision 3 data indicates the revision 1 and 2 one half SSE spectra may not be conservative for branch piping less than 12 inches in diameter.

Interim Progress

The primary system branch lines affected by the B&W 1391 response spectra have been reanalyzed. TVA is awaiting official submittal of revision 3 of the 1391 specification from B&W; however, no spectra changes from the second draft of revision 3 have been identified. Upon receipt of revision 3, TVA will verify the response spectra and if required make appropriate corrections to TVA analysis.