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 O'REILLY, J.P. Region 2, Atlanta, Office of the Director

SUBJECT: Provides first interim rept re seismic response for primary branch lines which may not be conservative. Expects to submit next rept by 790727.

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 TITLE: CONSTRUCTION DEFICIENCY REPORT (10CFR50.55E).

NOTES: -----

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TENNESSEE VALLEY AUTHORITY

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JUN 07 1979

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

REGULATORY DOCKET FILE COPY

Dear Mr. O'Reilly:

BELLEFONTIE NUCLEAR PLANT UNITS 1 AND 2 - SEISMIC RESPONSE FOR PRIMARY
BRANCH LINES MAY NOT BE CONSERVATIVE - NCR CEB 79-18 - FIRST 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). Enclosed is our first interim report. We expect
to submit our next report by July 27, 1979.

If you have any questions concerning this matter, please get in touch
with D. L. Lambert at FTS 854-2561.

Very truly yours,

J. E. Gilleland
Assistant Manager of Power

Enclosure

cc: Mr. John G. Davis, Acting Director (Enclosure) ✓
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT
SEISMIC RESPONSE FOR PRIMARY BRANCH LINES MAY NOT BE CONSERVATIVE
NCR CEB 79-18
FIRST INTERIM REPORT (50.55(e))

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 SSE loadings. It was not conservative for all piping 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 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

B&W has withdrawn revision 3 of specification 1391 for correction of errors and updating. Spectra will be developed which will allow comparison of the new one-half SSE data with data used in TVA analyses. TVA will review the analysis to each primary system branch line to ensure one-half SSE design limits are met. Piping will be reanalyzed as necessary.