

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

May 24, 1982

USNRC REGION II  
ATLANTA, GEORGIA

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BLRD-50-438/81-13

BLRD-50-439/81-13

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

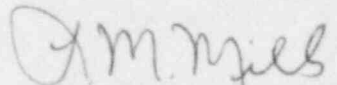
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - UNACCEPTABLE PIPE BREAK  
INTERACTIONS - BLRD-50-438/81-13, BLRD-50-439/81-13 - FOURTH INTERIM  
REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
R. W. Wright on January 27, 1981, in accordance with 10 CFR 50.55(e) as  
NCR BLN BLP 8003. This was followed by our interim reports dated  
February 24, April 27, and December 22, 1981. Enclosed is our fourth  
interim report. We expect to submit our next report by August 25, 1982.

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, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, 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  
UNACCEPTABLE PIPE BREAK INTERACTIONS  
NCR BLN BLP 8003  
BLRD-50-438/81-13, BLRD-50-439/81-13  
10 CFR 50.55(e)  
FOURTH INTERIM REPORT

### Description of Deficiency

Unacceptable pipe break interactions were discovered in the Auxiliary Building electrical equipment trained area (elevations 649 and 669) during postulated pipe break interactions. An inspection at the site confirmed the discovery of the design evaluation. Chilled water, demineralized water, and fire protection piping were not routed in accordance with Design Criteria for Auxiliary Building ESF Zone Environmental Control System, N4-VW-D740, which requires piping to be routed to prevent damage to electrical equipment unless spray shields are provided. This error is attributed to an incorrect assumption that the Class IE electrical equipment cabinets are qualified to withstand a water spray environment (NEMA 4 rating). These equipment cabinets have a NEMA rating of 1 which could allow water to enter and possibly damage the electrical equipment.

### Interim Progress

TVA has initiated several engineering change notices (ECNs), listed below, to alleviate the potential problem of unacceptable pipe break interactions from chilled water, demineralized water, and fire protection system piping with essential electrical equipment.

#### Chilled Water Piping

An ECN has been issued and design drawings revised to add spray shields and drain pans to piping to prevent spraying of Class IE equipment. The drain pan design for pipes was tested and found to be acceptable.

#### Demineralized Water Piping

An ECN has been issued and design drawings revised to remove and relocate piping to prevent spraying of Class IE equipment. Design drawings are being revised to show spray shields at selected locations to prevent spraying of Class IE equipment.

#### Fire Protection Piping

An ECN has been issued and design drawings revised to: 1) add deluge valves to standpipes to maintain dry standpipes above elevation 649 and 2) reroute some fire protection piping.