

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

REGION II
ATLANTA, GEORGIA

May 6, 1983

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BLRD-50-438/83-09
BLRD-50-439/83-06

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - BACKFLOW NOT CONSIDERED FOR ERCW
BOOSTER PUMP SHUTOFF - BLRD-50-438/83-09, BLRD-50-439/83-06 - SECOND
INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
L. Watson on December 30, 1982 in accordance with 10 CFR 50.55(e) as
NCR BLN BLP 8233. This was followed by our first interim report dated
January 28, 1983. Enclosed is our second interim report. We expect to
submit our next report by July 19, 1984.

If you have any questions, 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 Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
BACKFLOW NOT CONSIDERED FOR ERCW BOOSTER PUMP SHUTOFF
BLRD-50-438/83-09, BLRD-50-439/83-06
10 CFR 50.55(e)
NCR BLN BLP 8233
SECOND INTERIM REPORT

Description of Deficiency

During design of the Essential Raw Cooling Water (ERCW) System, consideration was not given to booster pump shutdown and the prevention of backflow. Designers had considered that these pumps would operate continuously and would not require backflow prevention. During loss of offsite power or during routine maintenance the pumps would shut down thereby resulting in backflow. This deficiency was discovered during the design review process. A check valve should have been placed in the discharge line of the booster pumps to prevent backflow when the pump shuts down.

Interim Progress

TVA's Division of Engineering Design (EN DES) has issued engineering change notice (ECN) 1718. The ERCW design criteria diagram has been modified to include check valves in the discharge of the booster pumps. Check valve procurement documents have been issued. Piping drawings are being revised to include the check valves. Seismic analysis drawings will be revised to include the check valves. Seismic supports will be changed as necessary.

To prevent recurrence of this deficiency, EN DES will reinstruct the designers to consider pump shutdown as an operating mode in preparation of design criteria diagrams.