

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

January 28, 1983

BLRD-50-438/82-64

BLRD-50-439/82-57

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:

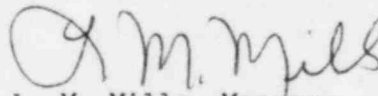
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - DESIGN PROBLEMS WITH STEAM  
GENERATORS - BLRD-50-438/82-64, BLRD-50-439/82-57 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on August 30, 1982 in accordance with 10 CFR 50.55(e) as NCR BLN NEB 8210. This was followed by our interim reports dated September 28 and November 29, 1982. Enclosed is our third interim report. We expect to submit our next report by October 24, 1983. We consider 10 CFR Part 21 applicable to this deficiency.

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, D.C. 20555

Mr. James McFarland (Enclosure)  
Senior Project Manager  
Babcock & Wilcox Company  
P.O. Box 1260  
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## ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
DESIGN PROBLEMS WITH STEAM GENERATORS  
NCR BLN NEB 8210  
BLRD-50-438/82-64, BLRD-50-439/82-57  
10 CFR 50.55(e)  
THIRD INTERIM REPORT

### Description of Deficiency

At the July 27, 1982 Babcock & Wilcox (B&W) Owner's Group Meeting, B&W (Lynchburg, Virginia) indicated that recent inspections of steam generators (SGs) at 177FA B&W operating plants revealed deformation of the auxiliary feedwater (AFW) header and damage to the header supports. There was also evidence of contact between the header and some adjacent SG tubes. The Bellefonte header design is similar to the 177FA plant design except that AFW is introduced to header in the lower portion of the SG (beneath the steam outlet nozzles) whereas the 177FA plant headers are toward the top of the SG (in the superheat region). Investigations are in progress to determine the cause of these conditions. The postulated cause of the deficiency was a sudden drop of the header internal pressure resulting from the injection of a cold slug of AFW into the header while the header was dry.

Bellefonte is the only TVA nuclear plant with a B&W-supplied NSSS.

### Interim Progress

B&W has decided to install an external AFW header at the top of the steam generators. This location will have the least impact on the balance of the plant. B&W will submit two field change packages (FCPs) documenting the design and installation of the header. The first FCP is for drilling holes in the SGs. The second FCP is for installing the header. B&W estimates that these FCPs will be submitted to TVA by April 1, 1983, and July 1, 1983, respectively. TVA will provide further input after reviewing the FCPs.