

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

April 7, 1983

BLRD-50-438/81-45  
BLRD-50-439/81-47

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:

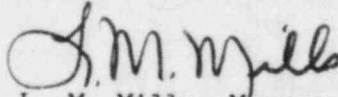
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - DRESSER SAFETY VALVES -  
BLRD-50-438/81-45, BLRD-50-439/81-47 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on July 9, 1981 in accordance with 10 CFR 50.55(e) as NCR BLN NEB 8109. This was followed by our interim reports dated August 7, 1981 and February 17, and October 14, 1982. Enclosed is our final report. TVA does not now consider the subject nonconforming condition adverse to the safe operation of the plant. Therefore, we will amend our records to delete the subject nonconformance as a 10 CFR 50.55(e) item.

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

cc: Continued on page 2

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U.S. Nuclear Regulatory Commission

April 7, 1983

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

Mr. R. J. Ansell, Manager, (Enclosure)  
Bellefonte Project Services  
Babcock & Wilcox Company  
P.O. Box 1260  
Lynchburg, Virginia 24505

ENCLOSURE  
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
DRESSER SAFETY VALVES  
NCR BLN NEB 8109  
BLRD-50-438/81-45, BLRD-50-439/81-47  
10 CFR 50.55(e)  
FINAL REPORT

Description of Deficiency

A Dresser safety valve, model 31709NA, tested in Electric Power Research Institute's (EPRI's) safety and relief valve test program apparently suffered unacceptable internal damage during a full pressure steam test. The configuration of piping associated with this valve is similar, but not identical, to that intended for use at Bellefonte; and at this time it is uncertain if the piping configuration or the valve is deficient. The Dresser valves are to be used at Bellefonte as pressurizer safety valves.

The valve was tested June 3, 1981 with the valve set to open at 2480 psia. The valve opened at 15 psi below this set point, chattered severely, and subsequently failed to close properly. Post test inspection of the valve indicated internal damage to components including galling of guide surfaces.

Safety Implications

In the Bellefonte design, the safety valve is bolted directly to the pressurizer vessel nozzle. When the Dresser safety valve model 31709NA was tested in a configuration more similar to the Bellefonte configuration (i.e., short inlet piping), the valve achieved stable flow for all full pressure steam tests. No chattering or unstable valve performance was demonstrated. (See Section 3.2 of EPRI/CE Safety Valve Test Report, Volume 4 of 10, Test Results for Dresser Safety Valve Model 31709NA.)

Therefore, it is concluded that the Dresser safety valves in the Bellefonte design configuration will not chatter or be unacceptably damaged under full pressure steam flow conditions. Therefore, there are no safety implications to Bellefonte, and TVA no longer considers this item to be reportable under 10 CFR 50.55(e). In addition, this item no longer has any Part 21 implications for TVA plants.