TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 14, 1981

BLRD-50-438/81-20
BLRD-50-439/81-21

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

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - CRANE VALVES - WELDING CONCERN - BLRD-50-438/81-20, BLRD-50-439/81-21 - REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector J. Crlenjak on February 20, 1981, in accordance with 10 CFR 50.55(e) as NCR 3-R1. This was followed by our final report dated March 20, 1981. As discussed with B. R. Crowley by telephone on July 20, 1981, enclosed is our revised final report.

If you have any questions concerning this matter, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc: Mr. Victor Stello, Jr., 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
CRANE VALVES - WELDING CONCERN
BLRD-50-438/81-20, BLRD-50-439/81-21
10 CFR 50.55(e)
REVISED FINAL REPORT

Description of Deficiency

The 8-inch main steam atmospheric dump valves (total of four) were manufactured by Crane Company, Warrington, Pennsylvania. These valves are ASME III Class 2 valves located outside containment. The valve bodies and support pads were welded without 200°F minimum required preheat as required by ASME III for safety-related valves. In addition, four lots of weld wire that were used during manufacturing had not been qualified. This deficiency was found at the vendor's facility and the valves have not been delivered to TVA. Crane Company did not follow approved procedures before welding the valves.

Safety Implications

The use of unqualified welding material and lack of preheat may have resulted in welds of indeterminate properties. Failure of the valves may compromise the integrity of the main steam system which would adversely affect plant safety.

Corrective Action

All four valves will be postweld heat treated. Postweld heat treatment is an acceptable method in lieu of the preheat treatment originally specified. Applicable Crane Company procedures have been revised to include requirements for postweld heat treatment of valves.

Material from two lots of weld wire are available for qualification. Material from a third lot of weld wire is not available. Therefore, a sample of this material was removed from the valve and will be qualified by impact testing. The removal area will be repaired before postweld heat treatment of that valve. The fourth lot of weld wire cannot be qualified. It was used in the circumferential weld of one valve only. This weld material will be removed and the seam will be rewelded before postweld heat treatment of the valve.

All repairs will be completed and inspected per applicable criteria before delivery to TVA. Crane Company has been instructed to follow the required preheat procedures in all future work.