PART 21 IDENTIFICATION NO. 81-409-000 COMPANY NAME TVA

DATE OF LETTER _____ DOCKET NO. 50-439

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ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

IE [ ] NRR [ ] NMSS [ ] OTHER [ ]

EES

5 8104280049

REV. 8/1/8

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

81-409-000

April 13, 1981

BLRD-50-~~349~~439/81-04

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 UNIT 2 - ATWOOD AND MORRILL VALVE DEFICIENCY - BLRD-50-439/81-04 - FINAL REPORT

The subject nonconformance was initially reported to NRC-OIE Inspector M. Thomas on December 12, 1980, in accordance with 10 CFR 50.55(e) as NCR 1312. This was followed by our first interim report dated January 12, 1981. Enclosed is our final report. We consider 10 CFR Part 21 to be applicable to this nonconformance.

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, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ENCLOSURE
BELLEFONTE NUCLEAR PLANT UNIT 2
ATWOOD AND MORRILL VALVE DEFICIENCY
10 CFR 50.55(e)
BLRD-50-439/81-04
FINAL REPORT

Description of Deficiency

Decay heat removal valve Mark No. 3RW0413-ND-3D (12" check valve) S/N 142-13894 (ASME III-2), which was manufactured by Atwood and Morrill (A&M) has a surface crack approximately two inches long. The crack is located in the upper body of the valve. In addition, an area approximately 2-5/8" by 3-5/8" has been ground to an approximate depth of 1/4". The grinding activity was performed without engineering authorization. The site's welding unit was unable to determine minimum wall thickness because of different contours in the valve's inner and outer diameters.

Safety Implications

The subject valve is intended for use in emergency core flooding piping. Failure of this valve could result in an escape of the heat transfer medium and, consequently, in a degraded ability to remove decay heat.

Corrective Action

The valve in question was returned to A&M for examination. A&M's preliminary examination indicated a surface discontinuity. Therefore, A&M ground out the affected area and performed a liquid penetrant test. A&M verified minimum wall thickness for pressure boundary and also verified minimum wall thickness used in the seismic analysis and found it to be acceptable. A&M blended out the affected area to the proper contour per the ASME B&PV Code. TVA will visually inspect the valve at A&M before it is released to be returned to the site.

During the inspection of the valve surface discontinuity by A&M, it was discovered that the incorrect material was used for the pressure seal cover locking plate. The drawings and specifications of the valve designate that it must be made of stainless steel; the finished plate was made of carbon steel. A&M replaced the locking plate with the correct material and submitted a Supplier's Nonconformance Report to TVA. The locking plate is used to guide the pressure seal cover into place during pressurization and is not a "pressure retaining" component of the valve.

In order to prevent recurrence, TVA inspectors shall witness MT and PT when required and do a complete visual inspection on all ASME Section III castings whenever possible. Primary emphasis shall be placed on Class I castings.

TVA Division of Construction personnel have been cautioned to alert Division of Engineering Design (EN DES) personnel of questionable or unacceptable surface discontinuities before repairs are initiated.