

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

April 13, 1982

APR 16 A 7:43

BLRD-50-438/82-06

BLRD-50-439/82-06

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:

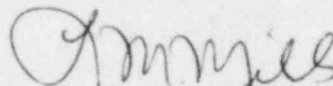
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - TAPES FOR HEAT TRACING DO
NOT MEET CHEMICAL SPECIFICATIONS - BLRD-50-438/82-06, BLRD-50-439/82-06 -
FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
D. Quick on December 24, 1981 in accordance with 10 CFR 50.55(e) as
NCR 1692. This was followed by our first interim report dated
January 25, 1982. Enclosed is our final report.

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 Regulation and Safety

Enclosure

cc: Mr. Richard C. DeYoung, 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
TAPES FOR HEAT TRACING DO NOT MEET CHEMICAL SPECIFICATIONS
NCR 1692
BLRD-50-438/82-06, BLRD-50-439/82-06
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Permacel PT-180 is a pressure sensitive tape supplied to TVA by the heat trace system vendor, Thermon Manufacturing Company, San Marcos, Texas (the vendor was incorrectly identified in the first report as Chemelex Division, Raychem Corporation). Upon receipt, TVA evaluated PT-180 per Purchase Specification PF-4121, "Purchase Specification for Pressure Sensitive Tapes for Use on Stainless Steels or Other Corrosion Resistant Alloys," which establishes the total halogen content and the leachable halide content acceptable in pressure sensitive tapes that may be used on stainless steel. TVA's Singleton Materials Engineering Laboratory Report B-198 establishes that the leachable halide content of PT-180 exceeds PF-4121 guidelines. In addition, the sulphur content of PT-180 exceeds PF-4121 guidelines, but this has been determined to be a nonsignificant condition in accordance with 10 CFR 50.55(e) guidelines because sulphur has no adverse effects on stainless steel pipe.

Safety Implications

If PT-180 were applied to stainless steel piping and ambient conditions were such that moisture was present and the temperature exceeded 150°F, stress corrosion cracking could result. PT-180 was scheduled for use on the Decay Heat Removal (DHR) System, the Chemical Addition and Boron Recovery (CA&BR) System, and the Essential Raw Cooling Water (ERCW) System. If stress corrosion cracking occurred in any of these systems, the safety of operations of the plant could be adversely affected.

Corrective Action

TVA has removed the existing stock of tape from use and has tagged the tape as nonconforming to prevent its use in the future.

TVA has specified the use of Thermon PF-1 as the replacement for the subject deficient tape. Thermon PF-1 is available for immediate use at the site.

To prevent recurrence of this deficiency, TVA's Division of Engineering Design will incorporate specification PF-4121 into the Standard Specifications for Heat Trace Materials (No. SS-E17.6.01). The draft revision to the standard specification has been prepared and is in the review process. The standard specification will be revised by June 18, 1982.