

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

December 23, 1983

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BLRD-50-439/82-63

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:

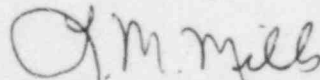
BELLEFONTE NUCLEAR PLANT UNIT 2 - LINEAR INDICATIONS IN NAVCO SPOOL PIECES -
BLRD-50-439/82-63 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
D. Quick on September 24, 1982 in accordance with 10 CFR 50.55(e) as NCR
1986. This was followed by our interim reports dated October 5, 1982 and
January 24, May 2, and August 5, 1983. Enclosed is our final report.
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 (Enclosure):

Mr. Richard C. DeYoung, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center
Institute of Nuclear Power Operations
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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNIT 2
LINEAR INDICATIONS IN NAVCO SPOOL PIECES
NCR 1986
BLRD-50-439/82-63
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

Several linear indications 1/32 to 1/4 inches in depth and 2-1/2 to 19 inches in length were found in the base material (outside surface) of six (6), 8-inch od Schedule 120, ASME SA 106, grade B piping spools. These indications were noticed by TVA personnel during installation and inspection. The spools are part of six (6) ASME III Class 2 piping subassemblies fabricated by National Valve and Manufacturing Company (NAVCO), Pittsburgh, Pennsylvania, using piping manufactured by the United States Steel Company. All six spools were manufactured from the same material heat log (i.e., Heat Code No. L 63687). The depth of some portions of the linear indications exceed the depth allowed by ASME Section II, Part A, Material Specification, ASME SA 106, paragraph 20.1, and are considered defects.

The cause of the deficiency is a breakdown of the piping manufacturer's quality control of the manufacturing process (i.e., responsibility for meeting ASME Material specifications was not met), and a breakdown in NAVCO's quality assurance program in that visual examination could have detected the defects. However, the subassemblies were accepted and shipped.

Safety Implications

The TVA calculated minimum design wall thickness for the subject subassemblies is 0.583 inches. The depth of the worst case defect reduces the wall below this minimum thickness. This condition, had it gone unnoticed, may have resulted in the failure of the spool piece to perform its designed function. Since the subject spool pieces are components in safety-related systems, and failure of a spool piece could degrade a safety-related system, the cited deficiency could adversely affect the safety of operations of the plant.

Corrective Action

All other subassemblies which utilize pipe from the identified material heat number L63687, have been identified, inspected, and repaired where necessary. Of the seventeen subassemblies inspected, one required no rework, four were ground only, and twelve were ground and repaired.

TVA has instructed its vendors and quality control personnel in giving closer inspection to meet requirements of the material specifications. This will help mitigate future recurrences.