

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

USNRC REGION II
ATLANTA, GEORGIA

June 23, 1983 83 JUN 27 P 1:11

WBRD-50-390/83-23
WBRD-50-391/83-22
BLRD-50-438/83-27
BLRD-50-439/83-22

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:

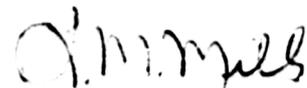
WATTS BAR AND BELLEFONTE NUCLEAR PLANTS UNITS 1 AND 2 - QA PROGRAM ON
TUBELINE MATERIALS SUPPLIED BY CAPITOL PIPE - WBRD-50-390/83-23, WBRD-50-
391/83-22, BLRD-50-438/83-27, BLRD-50-439/83-22 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
Linda Watson on March 29, 1983 in accordance with 10 CFR 50.55(e) as
NCR GEN MEB 8301. This was followed by our interim report dated April 28,
1983. Enclosed is our second interim report. We expect to submit our next
report by September 22, 1983.

If you have any questions, 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

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

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ENCLOSURE

WATTS BAR AND BELLEFONTE NUCLEAR PLANTS UNITS 1 AND 2 QA PROGRAM ON TUBELINE MATERIALS SUPPLIED BY CAPITOL PIPE

WBRD-50-390/83-23, WBRD-50-391/83-22

BLRD-50-438/83-27, BLRD-50-439/83-22

NCR GEN MEB 8301

10 CFR 50.55(e)

SECOND INTERIM REPORT

Description of Deficiency

Capitol Pipe and Steel Products Company, Bala-Cynwyd, Pennsylvania, supplied carbon steel (CS) and stainless steel (SS) flanges and butt welding fittings manufactured by Tubeline, Incorporated, Long Island, New York, to TVA during the period February 3, 1982, to January 27, 1983, which Capitol sold as ASME Section III material. However, it has now been determined that the material was not manufactured under a QA program. Recent experience with Tubeline by other companies has shown that Tubeline supplied material did not meet the material specification for heat treatment.

Interim Progress

TVA has completed its initial evaluation of the carbon steel fitting and flange portion of this nonconformance investigation. As a result, it is TVA's opinion that the problem is one of making sure that the material received is actually what the certified material test reports (CMTRs) and other documentation supplied by Tubeline says it is. Therefore, TVA has prepared a program plan to evaluate the quality assurance and product analysis for both the material manufacturers and the material actually furnished. It has been decided to concentrate on the evaluation of Watts Bar Nuclear Plant's (WBNP) material first. Attachment 1 to this report is TVA's program plan for the evaluation of the carbon steel material at WBNP. TVA has already begun the implementation of this program plan and anticipates completion of the WBNP effort by mid-July 1983. After receipt and evaluation of the results of the WBNP program plan, TVA will ascertain what program to follow for other affected TVA nuclear plants in order to qualify these fittings and flanges for use at those plants. Our program(s) for those plants will be submitted as soon as it is available. Attachment 2 is a copy of TVA's special requirements for steel produced in a foreign country.

You will be advised of our plan of action on the stainless steel issue in our next report after the plan becomes available.

ATTACHMENT 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
PROGRAM FOR RESOLUTION OF THE CARBON STEEL PORTION
OF THE TUBELINE FITTING AND FLANGE ISSUE

- I. Capitol Pipe and Steel Products Company will audit two of the 14 manufacturers who made the fittings and flange blanks for Tubeline which were audited post facto by Tubeline. These two manufacturers are foreign companies. The purpose of these audits is to independently verify the results of the Tubeline audits. The scope of these audits is to verify compliance with the requirements of ASME B&PV Code, Section III, 1971 edition, Summer 1973 Addenda, subarticle NB-2600. In particular, the auditors shall look at the manufacturer's documentation program, their calibration procedures, test coupon preparation control, and shall establish that no weld repair was performed and that no NDE was required so that the criteria of paragraphs 1 through 3 of Code Case N-242-1 can be met by TVA.

The audits shall be performed with checklists which will serve to verify that each of the foreign manufacturers have good material control practices to make sure that heat traceability can be maintained during all facets of the manufacturing process, and that these practices were in effect at the time the material in question was manufactured. The procedures for crating of the fittings and flange blanks and marking of heat numbers on the crates which are shipped to Tubeline will be reviewed and approved (during the audit), and the manufacturer's capability of implementing these procedures thoroughly evaluated.

Capitol's November 1982 audit of Tubeline will be used as the basis for acceptance of Tubeline's QA program for their portion of the manufacturing of these fittings or flanges.

The name(s) of Capitol's auditor(s) and their qualifications shall be submitted to TVA for review and approval before performing the audits. TVA may choose to accompany Capitol on these audits. Capitol will notify TVA when these audits are scheduled and again when they are completed, so that TVA can participate, if desired, and review the results when they are available.

If the audits do not result in approval of Tubeline's vendor qualification, all material supplied by Capitol from Tubeline shall be considered suspect. Additional audits may have to be scheduled and performed while the auditor(s) are overseas to permit acceptance of Tubeline's qualification of vendors.

- II. All steel manufactured for these fittings or flanges must be made to the requirements of TVA's Attachment FS "Special Requirements for Steel Produced in a Foreign Country" (Attachment 2) with the exception that the third paragraph of the attachment does not apply.

ATTACHMENT 1 (continued)

Tubeline shall transmit to TVA, for each heat involved in this problem a copy of the original mill test report (CMTR) issued by the base material manufacturer from which each of the fittings or flanges were manufactured; in addition, Tubeline shall furnish any other MTRs which are applicable to each of these heats (Tubeline has already furnished their own CMTRs for these items). All original mill test reports shall be on company letterhead, or equivalent. These reports shall be the basis for acceptance of the test(s) performed in accordance with section III below.

- III. TVA will either perform, or have Tubeline perform at a laboratory approved by TVA, a product analysis on one item per size, per product form (ell, tee, reducer, flanges, etc.), per heat. If an item of a given product type, size, and heat number which is tested fails to fully meet the product analysis for the original chemistry within ASTM tolerances, two more items of the same product type, size, and heat number shall be tested. If the second and third tests are acceptable, then that product type, size, and heat number is considered to meet the requirements of the Code. For material which is installed and no identical product is available with the same heat number, TVA will do an in-place product analysis for all elements determinable by TVA's test equipment and will do a hardness test to determine approximate tensile strengths. For those items for which a noninstalled fitting or flange is available, a full product analysis and hardness test will be done. Acceptance criteria for these tests will be to the appropriate ASTM standards. Any physical or chemical testing required by the material specification which was not documented by the mills or Tubeline will be done by TVA or Tubeline during this program.
- IV. On the basis of successful completion of sections I through III above, TVA will then perform the certification required by paragraph 4 of Code Case N-242-1. Certification by TVA to Code Case N-242-1 does not change our licensing commitment nor does it impact WBN's FSAR.
- V. All steel manufactured to Japanese Industrial Standards (JIS) is not acceptable at this time. Any fittings or flanges for which JIS steel is the base must be nonconformed by TVA until the JIS material specification can be evaluated by TVA. Noncompliance with the appropriate ASTM standard will be basis for rejection. Rejected material shall be replaced with material manufactured by a manufacturer acceptable to TVA.
- VI. All fittings or flanges meeting the requirements of section II above are acceptable for use in ANSI B31.1 systems.
- VII. Any fittings or flanges which cannot meet the requirements of section I through II above for ASME Section III class 2 or 3 systems will be cut out and replaced--if installed--or simply replaced if they have not been installed. All replacement fittings or flanges must be manufactured by a manufacturer approved by TVA.

ATTACHMENT 1 (continued)

VIII. Tubeline supplied material is not acceptable for TVA use at Watts Bar Nuclear Plant until their QA program is revised to correct vendor qualification and traceability procedures to meet section III of the ASME Code.

ATTACHMENT 2

TENNESSEE VALLEY AUTHORITY
ATTACHMENT FS

SPECIAL REQUIREMENTS FOR STEEL PRODUCED IN A FOREIGN COUNTRY

Material meeting the requirements of the specified ASTM/ASME specifications may be produced by steel mills in foreign countries and their location is not restricted by the ASTM/ASME specifications.

Foreign-produced steel is acceptable for meeting the requirements of this specification provided the steel is produced to ASTM/ASME specifications by an established and reputable steel mill. Steel produced to foreign standards which by virtue of overlapping chemical and mechanical properties is considered to be "identical" or "similar" to the ASTM/ASME specification and grade, shall not be supplied. Other requirements applicable to surface conditions, cleanliness, and when required, weldability shall be satisfied.

To ensure that foreign-produced steel meets the ASTM/ASME specifications, the Contractor shall provide, at its cost and for each heat of steel, results of product analyses and tension tests performed by a domestic independent commercial laboratory approved by TVA. Such analyses and tests are to be conducted in the presence of a TVA Inspector unless he waives the right to be present. The Contractor shall be responsible technically and financially for quality assurance audits of the product analyses and tension tests. These results shall be attached to the certified mill test reports submitted by the material manufacturer. The certified mill test reports and the results of the produce analyses and tension tests shall be submitted with the material at delivery. Subsequent product analyses and tension tests for the purpose of verification may be performed by TVA at its cost, and shall be a basis for rejection of any and all material if the results prove to be significantly different than the results of the supplier furnished product analyses, or if the requirements of the specification have not been met.

The Contractor shall perform sufficient dimensional checks to verify compliance with the tolerances tabulated in ASTM A 530 for pipe, ANSI B16.9 and B16.11 for fittings, ANSI B16.5 for flanges, and ASTM A 568 for sheet steel. TVA may perform subsequent receiving inspection dimensional checks at its cost. These inspections may be a basis for rejection if the results show that the material supplied does not meet the requirements of the specification.

All documents shall be written in the English language. All markings on the material shall meet the requirements of the applicable ASTM/ASME standard listed in the specifications/schedule of prices and shall be written in the English language.

All steel shall be protected during shipment to prevent damage or deterioration and shall meet the other conditions of this specification.