U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 99900314/81-01 Program No. 51300

Company: Colt Industries
Trent Tube Division of Crucible, Inc.
141 Hammonds Street
Carrollton, Georgia 30117

Inspection Conducted: February 9-12, 1981

Inspector: I. Barnes 3-9-81
for R. E. Oller, Contractor Inspector (Reactor Components) Date
Components Section
Vendor Inspection Branch

Approved by: I. Barnes 3-9-81
I. Barnes, Chief Date
Reactive Inspection Section
Vendor Inspection Branch

Summary

Inspection on February 9-12, 1981 (99900314/81-01)

Areas Inspected: Implementation of 10 CFR Part 50, Appendix B criteria and other applicable requirements including equipment calibration, welding control and radiographic examination.

The inspection involved 25 inspector hours on site.

Results: In the three areas inspected, no nonconformances were identified in one area, with the following identified in the remaining areas:

Nonconformances

Equipment Calibration: The calibrated optical pyrometer, SN R-22428, did not have a calibration sticker attached to it or its container. (Notice of Nonconformance, Item A.1).

The calibration sticker on Hardness Tester SN 8748 contained an improper Trent Tube calibration date of April 25, 1980, and due date of February 25, 1981, instead of the subcontractor's correct calibration date of June 2, 1980, and due date of June 1, 1981. (Notice of Nonconformance, Item A.2).

Welding Control: The welding procedure revision numbers were not shown on two in-process mill orders. Nos. M.O. 5-C5-35067-1-0 and M.O. 4-C3-01563-0-0, and on two completed mill orders Nos. M.O. 2-C5-50514-0-0 and M.O. 3-C5-50469-0-0. (Notice of Nonconformance, Item B).

During welding of ASME code, SA-312, T-304L piping for M.O. 5-C5-35067-1-0 and ASTM A312, T-304 stock piping for M.O. 4-C3-01563-0-0, the latest revisions of welding procedures TWP-22A and TWP-8A were not at the welding stations for the above M.O.s, respectively. (Notice of Nonconformance, Item C).

DETAILS SECTION

A. Persons Contacted

*D. Coppock, Plant Manager
*J. Leaque, Welding Technician
*R. McDowell, Laboratory Technician
*M. Newson, Records Coordinator
J. Simpson, Radiographer
H. Thomas, Tooling Technician
*J. Wehrle, Quality Assurance Manager

*Attended the exit interview.

B. Equipment Calibration

1. Objectives

The objectives of this area of the inspection were to verify that the following items were controlled in accordance with applicable NRC and ASME Code Requirements:

a. A written system has been established to assure that equipment calibration is performed and controlled in accordance with applicable codes.

b. A written procedure has been developed and approved which contains provisions to assure that tools, gages, instruments and other inspection, measuring and testing equipment and devices used in activities affecting quality, are of the proper range, type and accuracy, and are calibrated and properly adjusted at specified periods or use intervals.

c. The devices are identified in the documented system and/or procedure and are calibrated in accordance with the system and procedure.

d. The calibration is performed against certified measurement standards which have known relationship to National Standards, where such standards exist.

e. The control measures include provisions for test equipment identification and calibration status by marking, or on records traceable to the equipment.

f. The Manufacturer provides corrective action for materials and items checked using measurement or testing equipment later found to be out of calibration.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual Section 17.0, "Calibration".

b. Observation of the calibration status of the following measuring and testing devices, to verify that they were calibrated and identified as required by the calibration program.

(1) Welding Gas Flowmeters.

(2) Ammeters and voltmeters on automatic welders.

(3) Stop Watches.

(4) Hydrogen Analyzer.

(5) Temperature Recorder-Controllers located on the Continuous Batch Furnace and on the 36" Continuous Furnace used in postweld heat treatment of pipe seam welds.

(6) Optical Pyrometer.

(7) Micrometers.

(8) Pi Tape.

(9) Charpy-V Impact Tester.

(10) Charpy Test Specimen Thermometers.

(11) Micrometer Gage Block Set.

(12) Hardness Tester.

(13) Tensile Tester.

(14) Dead Weight Tester.

(15) Radiographic Density Film Standard.

(16) Radiographic Densitometer.

c. Review of the Trent Tube Calibration Record cards and where applicable, the subcontractor certificates of calibration for above devices.

d. Review of the Trent Tube calibration procedures for the above devices.

e. Discussions with responsible personnel.

3. Findings

a. Nonconformances

See Notice of Nonconformance, Item A.

b. Unresolved Items

None.

C. Welding Control

1. The objectives of this area of the inspection were to verify that the following activities were controlled in accordance with applicable NRC and ASME Code requirements.

a. A system has been established to assure that welding is controlled in accordance with the applicable codes.

b. The weld joint fitup alignments meet requirements.

c. The requirements of essential variables and other procedure parameters are concurred with during welding.

d. The completed welds meet visual acceptance standards of the program.

e. The welders and procedures used are qualified in accordance with the ASME Code.

f. The post weld heat treatment, specified by the welding procedures, is performed in accordance with an approved procedure, consistent with Code requirements.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual Section 13.0 "Welding".

b. Review of in-process Mill Order (traveler) No. 5-C5-35067-1-0 during welding of ASME SA-312, T-304 piping, to verify that the welding operation was controlled and identified by procedure and revision number.

c. Review of welding procedure specification (WPS) TWP-22A, Revision 1, located at the welding station for the above in-process welding.

d. Observation of the above in-process Plasma Arc/Gas Tungsten Arc welding on Automatic Welder No. 716, using WPS TWP-22A, to verify that the procedures essential variables and other parameters were being controlled.

e. Review of in-process Mill Order (traveler) No. 4-C3-01563-0-0 during welding of stainless steel pipe.

f. Review of WPS TWP-8A, Revision 1, located at the welding station for the welding of the piping on M.O. 4-4C-01563-0-0.

g. Observation of the in-process GTA welding using WPS TWP-8A, Revision 1, for welding of piping on M.O. 4-4C-01563-0-0.

h. Review of the Performance Qualification records for two welding operators using the previously identified WPSs TWP-22A and TWP-8A.

i. Review of the book of WPS and supporting PQRs maintained in the QA Office.

j. Review of the Mill Order travelers, welding reports, and WPSs for two completed orders, M.O. 2-C5-50514-0-0 and M.O. 3-C5-50469-0-0, covering manufacture of ASME Section III C1.3 SA-312, T-304L and ASME Section III, Class I, SA-358, T-304 piping.

k. Observation of as-welded seam welds in completed stainless steel piping.

l. Review of heat treatment records for M.O.s identified in above Item j.

m. Observation of in-process heat treatment of ASME Code piping for M.O. 8-C5-50840-0-0, and review of the accompanying Mill Order traveler, Furnace log, and Optical Pyrometer Log.

o. Discussions with responsible personnel.

3. Findings

a. Nonconformances

See Notice of Nonconformance, Items B and C.

b. Unresolved Items

None.

D. Radiographic Examination

1. Objectives

The objectives of this area of the inspection were to verify that the following items were controlled in accordance with applicable NRC and ASME Code requirements:

a. A written system has been established to assure that radiographic examination (RT) is performed in accordance with applicable codes.

b. Final acceptance RT is performed in accordance with detailed written instructions or procedures which delineate requirements and acceptance standards.

c. The RT procedures meet the requirements of the ASME Code and are qualified.

d. The RT is performed and the results interpreted by certified personnel.

e. Test results are documented and evaluated to assure that the component or material examined, contains no rejectable defects.

f. Appropriate instruments are used, and the instruments are calibrated, where required.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual Section 14.0, "Nondestructive Examination."

b. Review of the following two approved RT procedures (and related performance qualification records) used in the examination of longitudinal welds in ASME Code SA-312, T-304 and SA-358, T-304 piping, to determine if they contained the parameters required by the ASME Code:

(1) No. QDP-101-C3, Revision 5 "Procedure for Radiographic Examination of Welds - Filler Metal."

(2) No. QDP-101-C4, Revision 5, "Procedure For Radiographic Examination of Welds - without filler metal."

c. Observation of the setup activities for radiographic examination of the longitudinal weld in a pipe.

d. Review of records of "NDT Personnel Qualification" including eye examination, for four SNT-TC-1A Levels I and II RT technicians.

e. Examination of two sets of RT films; one for an SA-312 T-304 pipe weld and for an SA-358, C1.1, Section III, C1.3 pipe weld.

f. Review of the following RT related records for two (2) orders of ASME Section III, C1.2, SA-358, C1.1 piping, i.e. M.O. C5-50365-0-0 and M.O. C5-50268-0-0, to verify that appropriate records were completed and maintained in accordance with ASME Code requirements.

(1) Mill Orders (travelers).

(2) Radiographic Examination Reports.

(3) Trent Tube Material Test Reports.

(4) Trent Tube Customer Purchase Orders.

g. Discussions with responsible personnel.

3. Findings

Within this area of the inspection, no nonconformances or unresolved items were identified.

E. Exit Interview

1. The NRC inspector met with management representatives and other staff members denoted in paragraph A at the conclusion of the inspection on February 12, 1981.

2. The following subjects were discussed:

a. Areas inspected.

b. The inspection findings identified in this report.

3. Management was requested to structure their written response to nonconformances in accordance with the conditions described in the report cover letter.

4. Managements questions related to clarification of the inspection findings.