

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

Report No. 99900392/80-01

Program No. 51300

Company: Speedway Machine and Tool Company, Inc.
1802 North Luett Street
Indianapolis, Indiana

Inspection Conducted: June 2-5, 1980

Inspectors: Ross L. Brown
Ross L. Brown, Contractor Inspector
Component Section I
Vendor Inspection Branch

6/13/80
Date

Approved by: D. E. Whitesell
D. E. Whitesell, Chief
Component Section I
Vendor Inspection Branch

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Summary

Inspection on June 2-5, 1980 (99900392/80-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B, including training, welding procedure and personnel qualification, equipment calibration and follow-up item from previous inspection. The inspection involved twenty-seven (27) inspector-hours on-site by one NRC inspector.

Results: No deviations from commitment or unresolved items were identified in the five (5) areas inspected.

DETAILS SECTIONA. Persons Contacted

*R. L. Aiken, Manager Quality Assurance
A. F. Ellis, Chief Inspector
N. L. Parker, Shop Foreman, Building No. 2

*Attended exit interview.

- B. (Closed) Follow-up Item (Report No. 79-01): The Speedway Machine and Tool Company, Inc. (SMATCO) Nuclear Quality Assurance Manual Edition 2, date accepted by ASME January 30, 1980 (QAM) indicates the program descriptions were revised and/or modified to be more specific as to when, how, who and what activity is required and how applicable results are documented.

C. Training1. Objectives

The objectives of this area of the inspection were to verify that procedures have been established and implemented that provide for:

- a. Formal indoctrination and training or retraining programs for new employees and reassigned employees.
- b. Training of inspection, examination and testing personnel that provide for:
 - (1) Indoctrination with the technical objectives of the project, the codes and standards to be used; and the quality assurance elements that are to be employed.
 - (2) On the job participation through actual performance of processes, tests, examinations and inspections.
 - (3) Testing the capability and proficiency of personnel who perform nondestructive examinations.
 - (4) Retraining and recertification if evaluation of performance shows individual capabilities are not in accordance with specified qualifications.
 - (5) Records of training received by each person including applicable certification of qualification and results of tests.

- c. Training programs for other personnel performing quality related activities that include:
 - (1) A description of quality assurance material to be presented and method of presentation.
 - (2) Schedules for conducting the training sessions.
 - (3) Identification of individuals by job description or titles or groups required to attend sessions.
 - e. Documentation of attendance and retention of other applicable records for all formalized training accomplished.
2. Method of Accomplishment

The preceding objectives were accomplished by a detailed review of the following:

- a. Speedway Machine and Tool Company, Inc., (SMATCO) Nuclear Quality Assurance Manual Edition No. 2; date accepted by ASME, January 30, 1980 (QAM) Section 1.0 - Procedure No. 1.7, "Indoctrination and Training of Personnel."
 - b. SMATCO Training Manual.
 - c. 1980, Schedule for Departmental Training Sessions.
 - d. Five (5) new employees Indoctrination Training Records.
 - e. 1979 and 1980 Training Session Reports for manufacturing, engineering, welding and quality assurance departments.
 - f. NDE Training Program, Revision 1.
 - g. Three (3) NDE certificates of qualification for SMATCO - Level II examiners.
 - h. Five (5) NDE certificates of qualification for SMATCO subcontracted Level II and III examiners.
3. Findings

No deviations or unresolved items were identified in this area of the inspection. The inspector verified the following information:

- a. Procedure No. 1.7 establishes the manner in which all personnel affecting quality will be instructed in the requirements of the QA program and in performing their job function.

It assigns the QA Manager the responsibility for coordinating the overall indoctrination and training program and each department manager the responsibility for the indoctrination and training of personnel under his supervision.

- b. The training manual describes the quality training program through all phases of production, inspection, documentation, etc.
- c. The training schedule identifies the various departments, schedule training date and actual date of training session.
- d. The indoctrination training records for the newly employed machinist and lathe department employees indicates the new personnel had been instructed in all applicable areas of the QAM and that the new employee has read the training manual.
- e. The training session reports identifies the date(s) of the sessions, subjects covered, time of session, attendees signature and assigned instructor.
- f. The NDE Training program establishes the criteria for the qualification and certification of NDE personnel in accordance with the requirements of SNT-TC-1A. June 1975 Edition and applicable supplements.
- g. SMATCO Personnel performs liquid penetrant and magnetic particle inspections only. Their examiners are qualified Level II examiners.
- h. SMATCO subcontracts the radiographic examination and all Level III work to an outside source whose employees are qualified as required.

D. Weld Control

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Welding Procedure Qualification
 - (1) The manufacturer has established procedures or instruction for preparation, qualification approval/certification distribution and revision of welding procedures specifications (WPS).
 - (2) The WPS define all essential variables, supplementary essential variables and nonessential variables in accordance with the applicable editions of Section IX and III of the ASME Code.

- (3) Each of the above procedures has been qualified in accordance with Section IX and III of the ASME code and that the supporting Procedure Qualification Records (PQR) are on file.
- (4) Any changes or revisions of the WPS essential variables are supported by requalification of the original WPS or a new WPS.
- (5) Any changes in the WPS nonessential variables are properly identified and documented either as revisions to the original WPS or a new WPS.

b. Welder Qualifications

- (1) The manufacturer has established procedures for qualification of welders and welding operators in accordance with Section IX of the ASME Code.
- (2) The manufacturer has a workable system for maintaining a continuous record of the qualification status of all welders and welding operators and that this system is effectively utilized and accurate.

2. Method of Accomplishment

The preceding objectives were accomplished by a detailed review of:

- a. The QAM, Section 7.0 including the following procedures:
 - (1) Procedure No. 7.1 - "Welding Procedure Specification,"
 - (2) Procedure No. 7.2 - "Qualification of Welders and Welding Operators."
- b. Two (2) welding procedure qualification records.
- c. Three (3) welder qualification records.
- d. Two (2) welder performance records.
- e. Four (4) welders personal files.

3. Findings

No deviations from commitment or unresolved items were identified in this area of the inspection. The following information was verified.

- a. Procedure 7.1 establishes how welding procedures are to be written and qualified to meet the requirements of the code, standards and specifications. The procedure also assigns the responsibilities for these activities.
- b. Procedure 7.2 specifies the manner in which the welding personnel are to be qualified. It also establishes the responsibility for controlling these qualifications.
- c. The Procedure Qualification Records for welds joining P1 to P1 and P8 to P8 includes satisfactory results in accordance with ASME Section IX.
- d. The Welder Qualification Record for the following welding process was reviewed and found to be in accordance with the code requirements:
 - (1) Shield Metal Arc Welding (SMAW) in the 2G position for welding P1 to P1 material.
 - (2) Gas Tungsten Arc Welding (GTAW) for P8 to P8 material.
 - (3) SMAW in the 2G position for welding P1 to P8 material.
- e. The Welder Performance Records include: all the SMATCO welders by name, number and stamp no.; procedure qualification; material no.; date of qualification; shop order no. and date welded using the identified procedure.
- f. The Welder Personal File (welding only) includes the qualification record for each process qualified and personal performance record.

E. Equipment Calibration

1. Objectives

The objectives of this inspection were to verify that:

- a. Tools, gauges, instruments and other inspection, measuring, and testing equipment and devices used in activities affecting quality are of the proper range, type, and accuracy.
- b. These devices are calibrated and properly adjusted at specified periods or use intervals in accordance with written procedures.
- c. The calibration is performed against certified measurement standards which have known relationship to National Standards.

- d. The control measures include provisions for test equipment identification and calibration status by marking or on records traceable to the equipment.
- e. The Manufacturer determined and implemented 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 following:

- a. The QAM, Section 9.0 including the following procedures:
 - (1) Procedure No. 9.1 "Inventory of Equipment and Devices."
 - (2) Procedure No. 9.2 "Calibration of Equipment and Devices."
- b. Standard Operating Procedures (SOP):
 - (1) No. 838, Revision 0, "Calibration of Electrode Oven."
 - (2) No. 839, Revision 0, "Calibration of Welding Machine Used for Manual Gas Tungsten Arc Welding Method."
 - (3) No. 842, Revision 1, "Procedure for Calibration of Gages."
 - (4) No. 1040, Revision 0, "Calibration of Pressure Gauges."
 - (5) No. 1054, Revision 1, "Calibration of Magnetic Particle Examination Equipment."
 - (6) No. 1090, Revision 0, "Checking of Electrical Characteristics of Manual and Semi-Automatic Welding Machines."
- c. Calibration Record File for SMATCO equipment and devices.
- d. Calibration Record File for standards, gages, etc.

3. Findings

No deviations or unresolved items were identified. The inspector verified the following information:

- a. Procedure No. 9.1 establishes the manner in which tools, gages, instruments and other measuring and testing equipment and devices used in activities affecting quality will be inventoried.

The procedure also requires these items to be inventoried and accounted for on their scheduled calibration due date, but not less than once annually.

- b. Procedure No. 9.2 establishes the method by which the measuring and testing equipment will be calibrated. The procedure also applies to automatic welding machines, NDE equipment, and heat treating equipment.

The procedure defines the frequency of calibrations and requires these calibrations to be against standards traceable to the National Standards.

The procedure also specifies the action to be taken and personnel responsible for the activity when discrepancies in tools, gages instruments, etc., are found during calibration.

- c. SOP-No. 838 describes and establishes the method and frequency for calibration of electrode heating oven thermometers.
- d. SOP-No. 842 describes the method for calibrating the following:

OD micrometers, ID micrometers, vernier calipers, indicators, dial bore gages, heightmaster, Pratt and Whitney super micrometer, thread plug gages.

The procedure also defines the applicable tolerances.

- e. SOP-No. 1040 describes the method for calibrating pressure gages.

The procedure also requires a Certificate of Accuracy for each gage.

- f. SOP No. 1090 establishes the method, frequency and person responsible for checking/monitoring and recording the date of checks that are required at least once every six (6) months.
- g. The calibration files in Paragraph E.2.c and d includes the calibration cards for the following:

ID and OD micrometers, vernier calipers, dial bore gages, dial indicators, pressure gages, weld machines, angle plates, height gages, gage blocks, MT machines, thread plug gages, three (3) sets of standard blocks, five (5) pressure gages (standard and work gages), three (3) surface plates and hardness test machine.

The record card includes the tool identification, date of present calibration and calibration due date, as found condition, accuracy, and person performing calibration.

F. Exit Interview

The inspector conducted an exit meeting with the company management representatives at the conclusion of the inspection. Those persons indicated by an asterisk in Paragraph A, were in attendance. In addition, the following were present:

L. A. Roth, President
A. W. Basey, Manufacturing Manager

The inspector discussed the scope of the inspection and the details of the findings identified during the inspection. The SMATCO management comments were for clarification only.

The inspector also discussed the NRC method of reporting and informed those present that they will receive a copy of the inspection report for their review for any proprietary information.

The White Book information and distribution was also discussed.