

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

Report No. 99900089/79-01

Program No. 551300

Company: Huico Incorporated  
Box 208  
Meridian, Idaho 83642

Inspection  
Conducted: February 5-8, 1979

Inspectors:

W. M. McNeill  
W. M. McNeill, Contractor Inspector, Vendor  
Inspection Branch

2/22/79  
Date

Approved by:

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

2/22/79  
Date

Summary

Inspection on February 5-8, 1979 (99900089/79-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B including procurement controls, control of special processes, equipment calibration, and action on previous inspection findings. The inspection involved twenty-eight (28) inspector hours on site by one NRC inspector.

Results: The following six (6) deviations and two (2) unresolved items were identified.

Deviations: Procurement Control - dimensional inspection was not documented by a detailed written procedure as required by Criterion V of Appendix B and the QA Manual (See Enclosure, Item A); Control of Special Processes - the welding procedure specification did not document how the root pass welding was to be performed as required by Criterion V of Appendix B and the QA Manual (See Enclosure, Item B); Control of Special Processes - welding was not accomplished in full accordance with the welding procedure specification as required by Criterion V of Appendix B and the QA Manual (See Enclosure, Item C); Control of Special Processes - the visual inspection procedure did not prescribe the requirements of NF 4231.2 and NF 4232 as required by Criterion V of Appendix B and the procedure 389-300-8 (See Enclosure, Item D); Control of Special Processes - the continuous surveillance of welding was not prescribed by documented procedures

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as required by Criterion V of Appendix B and the QA Manual (See Enclosure, Item E); Equipment Calibration - the measures established to control calibration were not fully implemented in respect to QA Manual sections 9.4.1 and 9.4.2 as required by Criterion V and the QA Manual (See Enclosure, Item F).

Unresolved Items: Action on Previous Inspection Findings (Details, paragraph B.1.); Procurement Controls (Details, paragraph C.3.b.).

DETAILS SECTION

A. Persons Contacted

- R. Benner, Shop Supervisor
- \*L. E. Garrison, Shop QA Manager
- \*K. Han, Vice President and General Manager
- \*J. L. Harper, Procurement and Material Control Manager
- J. R. McWilliams, Receiving Inspector
- \*R. V. Olson, Director of Engineering
- T. R. O'Neill, Project Engineer
- \*L. O. Ramsett, Director of Corporate QA
- \*N. W. Seid, Senior, Welding Engineer
- \*D. L. Vance, A.N.I. (Lumbermens)  
C. L. Volkman, Data Technician Supervisor
- \*D. Volkman, QC Inspection Supervisor
- J. R. Webster, Project Engineer
- \*L. E. Wright, Executive Vice President

\*Denotes those attending the Exit Interview.

B. Action on Previous Inspection Findings

1. (Closed) Deviation (Report No. 78-01): follow-up action was not performed on subvendor audit findings. The corrective action of review and reissuance of the Approved Vendors List was done. Unresolved Item: Part of the corrective action included the revision of the QA Manual or QA procedures. This revision would clearly define under what conditions a vendor would be added to the Approved Vendor List. Huico is in the process of revising it's QA Manual and the change has been included in the new revision. This item will be considered an unresolved item until the QA Manual is approved and issued.
2. (Closed) Unresolved Item (Report No. 78-01): review and revision of the QA Manual Section 6.2.1. The QA Manual has been revised to address who completes the information on travelers, when and what operations are to be covered, what procedures and revisions to be used.
3. (Closed) Unresolved Item (Report No. 78-01): the visual inspection procedure was in need of revision. A memo has been issued to shop personnel to satisfy the requirements of NF-4424(c) which states that no under-cutting is allowed.

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4. (Closed) Unresolved Item (Report No. 78-01): documentation was not available for the 1978 management audits. The 1978 management audit report, follow-up, and close-out memos were found on file and were reviewed.

C. Procurement Controls

1. Objectives

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

- a. Procedures have been established for pre-contract and periodic evaluation of suppliers and that these procedures are consistent with applicable regulatory, code and contract requirements.
- b. Procedures have been established for the preparation and review of procurement documents and that these procedures are consistent with applicable regulatory requirements and the manufacturers overall QA plan.
- c. Procedures have been established for product surveillance activities as appropriate to assure conformance of procured items and services to identified requirements (procurement documents).
- d. The above procedures are adhered to in the procurement of materials parts or services which are included in the scope of this program.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Corporate Quality Assurance Manual, Revision 5, Section 5, which established the procedural requirements for procurement controls in such areas as source evaluation, procurement documents, and source surveillance.
- b. Review of the vendor survey check lists of two (2) vendors and verification that vendors were properly evaluated and auditors trained in accordance with the QA Manual.

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- c. Review of the vendor files of four (4) vendors and verification that ASME Code Quality Systems Certificates were on file, or the Huico Surveys.
- d. Review of the Approved Vendor List and verification that a current copy is in the purchasing department.
- e. Review of fourteen (14) purchase orders for one current project and verification that the vendors were listed on the Approved Vendor List. Also it was verified that the purchase orders detailed the scope of work, material specifications, ASME Code requirements, QA program requirements and record requirements.
- f. Verification that the above sample of purchase orders, and their changes, had been issued and distributed properly and reviewed and approved by QA as prescribed.
- g. Verification that the above sample of purchase orders receiving inspection had been performed in accordance with the QA Manual.

3. Findings

a. Deviation

See Enclosure, Item A.

b. Unresolved Item

It could not be identified how the ASME Code forming tolerances, NF-4220, had been complied with by Huico in the fabrication of saddles. Appendix K referenced by NF-4220 does not appear applicable nor was the design specification available to pass on the tolerances. Huico will research this problem and identify how NF-4220 is complied with by Huico.

c. Comments

The rolling and breaking of plate material into saddles was done by an outside vendor on numerous purchase orders. The saddles were then given a receiving inspection which included dimensional verification e.g., use of a template. How this dimensional inspection was to be performed was not documented in a procedure.

D. Control of Special Processes

1. Objectives

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

- a. The welding procedure specifications (WPS) used by a manufacturer in production welding are being prepared, qualified and controlled in accordance with the manufacturer's QA program and applicable ASME Code requirements.
- b. Welding material purchase, acceptance, storage and handling is in accordance with the manufacturers QA program and applicable ASME Code requirements.
- c. Production welding is controlled in accordance with the manufacturers QA program and applicable ASME Code requirements.
- d. Completed welds meet visual standards established by section III of the ASME Code and the manufacturers QA program.
- e. Welders and welding operators are qualified in accordance with Section IX of the ASME Code and the manufacturer's QA program.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Corporate Quality Assurance Manual, Revision 5, Sections 6.0 and 7.0 which establish the general requirements for controls of WPS, welding materials, production welding, welding inspection and welder qualifications.
- b. Review of two (2) WPS's, Weld Procedure for Manual Shielded Metal-Arc Welding (SMAW) of Mild Steel Not Requiring Impact Testing - Open Butt, All Positions, with Thickness Range of 3/16" through 1.24," 334-500-A45, Revision 2, and 389-500-A45, Revision 2, (same title) and verification that welding at four (4) stations was in conformance with the WPS's. Verification that all the variables required by ASME Code were documented in the WPS's.
- c. Review of the supporting Procedure Qualification Record for the above WPS's and verification that the qualification

test pieces were made using the essential and nonessential variables identified by the WPS. Also, verification that the PQRs are in compliance with ASME requirements and are properly certified by the manufacturer.

- d. Review of General Shop Welding Standard, 389-500-A3, Revision 1, which established the specific requirements of welding material control, and other general subjects.
- e. Review of welding material purchase orders and material certifications and verification that the material used at the above stations was in accordance with the ASME Code.
- f. Verification that welding material was properly identified, stored, and disbursed in accordance with procedures at the above stations.
- g. Verification that the welding operations were documented by a shop traveler and working documents were at the work stations noted above.
- h. Verification that fit up was within ASME Code requirements by review of the fit up at one work station.
- i. Verification that visual examination of welding was in conformance with the ASME Code, by witnessing inspections and review of accepted welds, and the review of procedure No. 389-300-8, Revision 0 for Direct Visual Examination of Weldment.
- j. Verification of the qualification of the welders by review of their qualification records, the Qualified Welder Roster, and the 90-Day Qualification Record.

### 3. Findings

#### a. Deviations

See Enclosure, Items B, C, D. and E.

#### b. Unresolved Items

None.

#### c. Comments

- (1) At the time of the inspection five (5) welding stations were in operation. Four (4) stations were welding, the fifth station was fitting up. Welders #277 (tackling) and #285 were found in compliance with the WPS 389-500-A45. Welders #275 and #268 were found to be as much as 4 volts below the range of 26-30 volts and as much as 20 amps above the range of 115-130. These changes were associated with the advent of a new lot of electrodes.
- (2) The visual inspection procedure 389-300-8 contained the requirements of NF 4426 on re-enforcement size and NF 4427 on fillet size and shape. However, this procedure did not address NF 4231.2(g) and NF 4232 although temporary attachments and offsets were observed on parts on the floor.
- (3) Continuous surveillance of the welding processes is reportedly performed. The shop travel documents inspection of the final weld, the root pass, and electrode issuance and control. But there is no procedure which describes the surveillance necessary during the welding process. Who, how, and when this is performed for example, and how this activity is documented, is not described.

#### E. Equipment Calibration

##### 1. Objectives

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

- a. A system has been established and is maintained to assure that tools, gages, instruments and other measuring devices used in activities affecting quality are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within specified limits.
- b. The system has been adequately documented with approved procedures and that these procedures are being implemented.

##### 2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Corporate Quality Assurance Manual, Revision 5, Section 9 which establishes the general requirements for calibration.

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- b. Review of Calibration of Measuring and Testing Equipment, HSSP-200-10, Revision 5, and the attachments which established the specific requirements of calibration.
- c. Review of the Manufacturing Equipment List, Master Equipment List, and Calibration Record Cards for a sample of eight (8) gages and verification of implementation of the above procedures.
- d. Verification that master gages used for calibration were traceable to NBS or other standards by review of their certifications.

3. Findings

a. Deviation

See Enclosure, Item F.

b. Unresolved Items

None.

c. Comments

- (1) The Master List is the trigger mechanism to initiate recalibration. The Master List found did not list individual gages etc., but types of gages. The recalibration of gages could be confused because the dates on the Manufacturing Equipment Master List were not always the same as on the individual Calibration Records.
- (2) The tensile tester and thermometers were calibrated, however, the procedure does not address the frequency, method, and accuracy limits to do such calibrations.

F. Exit Interview

The inspector met with management representatives (denoted in paragraph A) at the conclusion of the inspection on February 8, 1979. The inspector summarized the scope and findings of the inspection. The management representatives had no comment in response to each item discussed by the inspector.