

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

Report No. 99900209/80-01

Program 51300

Company: Bergen-Paterson Pipesupport Corporation
48 Winnisquam Avenue
Laconia, New Hampshire 03246

Inspection
Conducted: May 6-9, 1980

Inspector:

C. J. Haller
L. E. Ellershaw, Contractor Inspector
Component Section II
Vendor Inspection Branch

6-4-80
Date

Approved by:

C. J. Haller
Uldis Potapovs, Chief
Vendor Inspection Branch

6-4-80
Date

Summary

Inspection conducted May 6-9, 1980 (99900209/80-01)

Areas Inspected: Implementation of 10 CFR 50 Appendix B Criteria, and applicable codes and standards including: previous inspection findings, and identified problem areas. The inspection involved twenty seven (27) hours by one NRC inspector.

Results: In the two areas inspected, no deviations or unresolved items were identified.

DETAILS SECTION

(Prepared by L. E. Ellershaw)

A. Persons Contacted

G. R. Amsden - Quality Assurance Engineer
C. Asmundsson - Manager, Product Engineering
W. F. Becksted - Manager, Quality Assurance
E. Cloutier - Assistant Plant Manager
M. R. Fandetti - Manager, Manufacturing
P. Gagne - Manager, Process Engineering
A. Lee - General Foreman
H. Noreen - Director, Quality Assurance
G. A. Palmer - Manager Contract Administration
J. K. Rule - Manufacturing Engineer
R. A. Stokes - Chief Examiner
C. Strout - Claims Manager

B. Action on Previous Inspection Findings

1. (Closed) Item A: (Report No. 79-02) This item dealt with the QA Manager not receiving training programs and schedules from various departments, and his not conducting training programs with managers of other departments.

Bergen-Paterson Pipesupport Corporation (B-P) has implemented their committed corrective action in that training programs and schedules were on file, and the QA Manager has documented the various training sessions conducted with managers of other departments.

2. (Closed) Item B. (Report No. 79-02): This item dealt with nonconforming material not being tagged or controlled by the Material Control Log.

B-P has implemented their committed corrective action by revising the QA Manual to provide for more effective means of controlling non-conformances.

3. (Closed) Item C. (Report No. 79-02): This item dealt with a conflict between the route sheet and the drawing regarding material requirements.

B-P has implemented their committed corrective action in that the authorization allowing material substitution was distributed to the affected departments. The authorization states that the materials involved are acceptable alternatives in that the products were load rated on the basis of the lowest allowable stress.

C. Identified Problem Areas

1. Construction Deficiency Report (CDR): This CDR deals with integral attachments such as shear lugs and pipe stanchions on component supports not having material traceability. The problem was identified by TVA relative to the Phipps Bend and Hartsville sites.

B-P engineering did not designate the material traceability requirements on the Hanger Detail Drawings. Because the requirements were not on the drawings, Processing/Order Entry did not require it on the Bill of Materials. The error continued to be propagated through manufacturing documents, and QA/QC did not detect it. There were approximately 270 units released for fabrication. It should be noted that a number of component supports were to be fabricated to ANSI B31.1 requirements, which do not require the material traceability.

B-P did go to the two sites and observed approximately 100 integral attachments that were not identified. However, the component supports themselves are identified by a hanger mark number. Therefore, B-P was able to review the documentation relative to each hanger mark number and determine the material lot code of the integral attachments. The material lot code, which is recorded on the manufacturing NPT route sheets, then leads you to the certified material test reports. Thus by reviewing all hanger mark numbers involved, B-P was able to identify all integral attachments, except four at the Hartsville site and two at the Phipps Bend site. It was agreed that B-P would provide identified replacements for those attachments with the certified material test reports.

The B-P Hanger Detail Drawings are project specific. An evaluation of other project drawings by B-P and a random sample reviewed by the inspector indicated that this problem was related to these two sites only, thus is not considered to be generic.

The various B-P engineering offices were apprised of the problem and internal documentation requires all drawings dated after December 1979, to specify material traceability. In addition, Processing now requires all integral attachments to be identified physically, size permitting.

It would appear that these actions will preclude recurrence.

2. Construction Deficiency Report (CDR): This CDR deals with defective welds in instrumentation tubing support frames. The problem was identified by Carolina Power & Light Company during receiving inspections at the Shearon Harris 1 facility.

B-P personnel visited the site to review the welds on the four frames involved. It was determined that nine welds are defective due to undercut and lack of fusion (when based upon ASME Code Section IX acceptance criteria). There are approximately 60 welds per assembly.

Welding Procedure Specification 2A-WT, gas metal arc welding, was used by B-P for the fabrication of the welds, and had been approved by their customer and the architect engineer on June 21, 1978, and July 21, 1978, respectively, as being in accordance with ASME Code Section IX.

B-P stated that the defective welds were welds that were made in the vertical and overhead positions only. The four welders involved, were qualified in August, October and November, 1979.

Quality Control/Inspection did not detect the defective welds. Procedure BP-9-7, "Standard Operating Procedure for Visual Examination," is in accordance with the acceptance criteria of ASME Code.

Instructions have been given to B-P inspection personnel regarding the need for strict adherence to the acceptance criteria as stipulated by the visual examination procedure.

There were no frames at any stage of fabrication at B-P during this inspection which would have allowed the inspector to verify the implementation of the instructions.

The defective welds discovered at the Shearon Harris site will be repaired.

3. B-P 10 CFR 21 Report Dated October 30, 1979, and resulting IE Circulars, No. 79-25 Dated December 20, 1979, and No. 79-25 Supplement A dated January 31, 1980.

The Part 21 Report and the Circulars deal with the following items:

- a. The rear bracket of B-P's Part 2540 Strut Assembly does not allow for sufficient clearance of the Mechanical Shock Arrestor for sizes -15, -50, and -120.

- b. The adaptor of B-P's Part 2108 may cause damage to the Mechanical Shock Arrestor if the adaptor comes in contact with the rear of the snubber, causing distortion of the end dust cover, on sizes -50 and -120.
- c. B-P's Part 2540-120 Shock Arrestor Strut Assembly does not meet the published load rating of 120,000 pounds. The maximum acceptable load is 112,000 pounds.

The following sites have been supplied with the above items and have been notified: Shoreham 1; Shearon Harris 1, 2, 3, 4; Virgil C. Summer 1; Limmerick 1, 2; Three Mile Island 2; Watts Bar 1; and Waterford 3.

B-P Product Engineering identified items a. and b. during a review of design drawings. Item c. was identified during the analysis of items a. and b.

B-P has redesigned the rear bracket, to eliminate the potential insufficient clearance of their Part 2540 Strut Assembly when mated to the Pacific Scientific Mechanical Shock Arrestor. The affected units have been or are being replaced by the redesigned parts.

The possible damage which could occur regarding item b., is due to the fact that the male threaded adaptor has the same number of threads which could be mated to different lengths of the female threaded Pacific Scientific Mechanical Shock Arrestors. The potential existed for the adaptor to be screwed in too far so as to damage the end dust cover. The adaptor has been redesigned so that a shoulder now exists which prevents the adaptor from going in too far. Units that sustained damage have been or are being replaced by the redesigned parts.

B-P has derated the published load of Part 2540-120 Shock Arrestor Strut Assembly from 120,000 pounds to 112,000 pounds for the existing units. A design change will upgrade new units to the published load data. B-P has notified the affected customers so that an analysis could be made to determine whether or not loads will exceed 112,000 pounds. Where loads do exceed 112,000 pounds, B-P will provide the necessary replacements.

The results of the analysis and the quantities affected will be provided to NRC as the information becomes available.

The method of calculations, being used at the time of publishing the load data, included an assumption which was found to be inaccurate. The current method of calculation eliminates the assumption. B-P has

been performing a re-analysis of their product lines to assure correct published bad data.

B-P has developed a test facility, which will allow them to load rate all of their products. They have committed to verify all published load data by testing.

D. Exit Interview

A meeting was held at the conclusion of this inspection on May 9, 1980, with the following management representatives:

G. R. Amsden - QA Engineer
W. F. Becksted - Manager, Quality Assurance
E. Cloutier - Assistant Plant Manager
M. Fandetti - Manager, Manufacturing
J. E. Morel - Manager, Quality Control

The scope and findings of this inspection were summarized. Management acknowledged the statements relative to the findings.