

SOUTHERN BOLT

& FASTENER CORPORATION P. O. BOX 7196 301 MONTGOMERY TELEPHONE AREA (318) 221-4251 SHREVEPORT, LOUISIANA 71107



May 22, 1981

United States Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Attn: Mr. Uldis Potapovs, Chief
Vendor Inspection Branch

Re: NRC Ltr. to SBF dated 3/31/81
regarding Docket No. 99900735/81-01

Gentlemen:

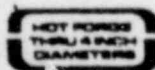
In accordance with your request in referenced letter above, we offer this response to the nonconformances identified by your letter. Please find enclosed, Attachments A and B which address Nonconformances A and B, respectively. We believe our response adequately covers the NRC discrepancies as noted. Should there be further questions, please contact us for assistance.

Sincerely,

R. L. Alexander
Quality Assurance Manager

cc: EWN
QA File - NRC Docket No. 99900735/81-01

B107010 139



Attachment A
4-17-81

Nonconformance: "Equipment calibration-records did not exist to substantiate that required calibration had been performed on impact testing equipment (See NRC Notice of Nonconformance, Item A.1), and a plug read gage with an out of tolerance condition was returned from a calibration subcontractor and placed into service (See NRC Notice of Nonconformance, Item A.2)."

SBF Response:

The NRC Inspector conducted the inspection on January 19-23, 1981 at Southern Bolt. Southern Bolt's Quality Assurance organization underwent extensive personnel changes and re-staffing of key positions in July, 1980. Since the inspection, SBF Q.A. personnel have become more acquainted with records. Past records have been searched and examined, and information showing that SBF was using a subcontractor to perform the Charpy impact testing on nuclear related material, covered by Met. Lab Report No. 2160, was verified. The NRC Inspector examined this document during the inspection, and it was cited in the report, (see item B.3.e of Details Section), but because of unfamiliarity with the records, SBF Q.A. did not produce records to substantiate that required calibration had been done on the impact testing equipment used on the material for Bristol Steel and Iron Works, P.O. 8-FO316 and 9-FO316, covered by Met. Lab Report No. 2160, and MTR Nos. 8483 and 8484. Records that were reviewed by the NRC Inspector pertained to an impact machine owned by SBF, but it was not used on the material in question. Instead, a subcontractor's machine, Tinius Olsen Serial No. 100555-6, was being used to impact test SBF nuclear related material during that time period. That impact machine was maintained on an annual calibration schedule by the subcontractor, and calibration was performed during January of each year. SBF has re-verified this for time period 1978 to 1981. Our review of the Calibration records did not reveal any evidence indicating that there was ever any problem encountered during the calibration of the machine. SBF has also re-verified that the temperature measuring equipment was being maintained on a three month calibration schedule by the subcontractor, and has examined documents which substantiate such for time period January

Attachment A
4-17-81

1978 to 1981. The perplexity we encountered during our research centered around poor maintenance of records. To correct this, we have redesigned the system of maintenance of calibration records to enhance retrievability. Also, we have redesigned the technique of monitoring the scheduling of the calibration activities for quality verification equipment. These corrective action steps have been taken, and the new record keeping system and controls are being implemented at this time. The applicable personnel involved have received instructions regarding the maintenances of the control system, and recurrence of the problem is not anticipated. These improvements also are expected to correct the cause of the problem relating to the thread plug gage, No. SP-161, which was sent out, calibrated, and returned by our subcontractor, and then returned to service with the subcontractor's cert indicating the pitch diameter to be out of tolerance. We have re-evaluated the historical records pertaining to that gage, and concluded that even though the record indicates that the instrument was checked and found to be dimensionally out-of-tolerance (Pitch dia.), the out-of-tolerance condition would place a more stringent acceptance condition on the parts being checked, and therefore continued use of the gage for inspection was acceptable. Gage No. SP-161 is a setting plug gage with one end being a NO-GO end and the other end being a GO end. This gage is used in setting adjustable ring gages, which are used to inspect the functional diameter of threads to assure that they are not too large (GO gage) or too small (NO-GO gage). The out-of-tolerance condition (which was indicated by the circle around the reported dimension on the cert from the subcontractor) indicated that the NO-GO end to be slightly large on PD and the GO end to be slightly small on PD. Either condition possibly could result in Southern Bolt's rejecting a good thread, but not in accepting a bad thread. Therefore, since a more stringent requirement is placed upon Southern Bolt, the gage was determined to be acceptable for inspection work and returned to service. Such practice is not uncommon for dimensional measuring devices as long as the requirements are not lessened. Personnel who were previously directly responsible for this activity are no longer employed by the company, and it is unknown why more complete documentation of this was not recorded. In our system now we will make notations on the device records that will more clearly explain the conditions of acceptance when gages are put back into service under similar conditions.

Attachment B
4-17-81

Nonconformance: "Certain materials were used in ASME Code Section III applications which had been received from vendors who had not been surveyed by either SBF or their customer, and were not holders of ASME Quality System Certificates. (See NRC Notice of Nonconformance, Item B.1), and verification of compliance of these materials with the material specification requirements had not been accomplished in accordance with the provisions of NCA-3867.4(e) in Section III of the ASME code, (See NRC Notice of Nonconformance, Item B.2)."

SBF Response:

A review of the purchase orders identified by the NRC inspector with regards to the vendor, the customer, the material itself, and what the material was used for has been conducted by SBF. The results are as follows:

1. Vendor: Crucible, Specialty Metals, Arlington, Texas

The NRC report noted that SBF has placed purchase orders with Crucible, Specialty Metals, in Arlington, Texas (Sales Office/warehouse). It also noted that this facility has been surveyed and audited on an annual basis by SBF since 1977, however some of the material received has come from other Crucible warehouses (eg. Cleveland, Ohio and Charlotte, North Carolina). Finally, the report stated that SBF, in some cases, verified chemistry only from one sample per received lot, and in other cases didn't verify anything.

P.O. 04909 dated May 16, 1977: Order was mailed to Crucible-Arlington which was the sales office covering this region. Material ordered was 4 bars - 4½" dia x 18'-20', AISI 4140. Material, as received, was 4 bars, as ordered, shipped from Crucible-Charlotte. The material has not been used and is still in stock at SBF. Heat No. is 54737, SBF Heat Code A93. If this material is to be used for ASME Section III applications, SBF will have this material properly qualified for code use.

Attachment B
4-17-81

P.O. 07669 dated July 31, 1978: Order was mailed to Crucible-Arlington which was the sales office covering this region. This facility had been audited by SBF and was on the AVL. The material was shipped to SBF from the Arlington warehouse facility. SBF received 11 bars of HT. 81418, ASTM A193 Gr. B7, 1 3/4" dia x 18'-20'. Of the 11 total bars received, 9 bars were furnished as bolting products to commercial customers as ASTM material, and 2 bars were made into 1 3/4" x 39" stud bolts furnished to the River Bend Power Station of GSU Co., located in St. Francisville, La. Our customer's P.O. No. 12210-05339 required us to furnish the material with a "Certificate of Compliance" stating that the material complies to their Spec. No. 211.180 dated 6/21/79. Material was purchased to ASME Section III, subsection NF, Class 3 Component Supports, and ASME SA-193 Gr. B7 material specification. No impact testing was required. Paragraph NF-2130 (Certification of Material) only requires a CMTR per NCA-3867.4 when impact testing is required (which was not required), and NF-2610, para. (b), exempted the other requirements of NCA-3800 for bolting material, including studs, nuts, and bolts of 2 inch nominal diameter and less. Subsequently, upon our review of records and documentation, we have concluded that this material was furnished as ordered.

P.O. 07930 dated October 1, 1979: Order was mailed to Crucible-Arlington which was the sales office covering this region. This P.O. was for two different sizes of material: 5 bars - 3/4" x 18'-20' ASTM A193 Gr. B7 and 2 bars - 1 1/2" x 18'-20' ASTM A193 Gr. B7. The 3/4" material was shipped from Cleveland, and the 1 1/2" was shipped from Charlotte, N.C. SBF furnished the 5 bars of 3/4" material to a customer, whose P.O. specified ASME Section III, NCA-3867.4, which permitted sizes 1" nominal size and less to be furnished with a Certificate of Compliance to the material specification as the only requirement. The 2 bars of 1 1/2" material are still in inventory at SBF.

Attachment B
4-17-81

P.O. 07689 dated August 18, 1978: Order was mailed to Crucible-Arlington and material was shipped to SBF from Arlington Warehouse. P.O. was for 7 bars - 1½" x 10'-14' 304 S.S. SBF furnished bolting products made from this material to a commercial customer as forged 304SS hex bolts.

2. Vendor: Crucible, Specialty Metals Division, Syracuse, New York

P.O. MR01095 dated Jan. 17, 1977: The NRC report noted that SBF received stainless steel from Crucible, Specialty Metals Division in Syracuse, N.Y. since at least 1977, and the records show that their first survey/audit of Crucible-Syracuse was performed on 10/7/80 and SBF performed a chemical analysis of just one bar from each heat received. Our review of this revealed that the customer's Purchase Order for which this material was used stipulated that the product was to meet ASTM A193 Gr. B8A material specifications and customer specification MS-6.0.0 Rev. 0 dated 8/10/76 and prints SKI and SK2. No reference to ASME Section III, NA-3700, or 10CFR21 was found on any of those documents by our review.

3. Vendor: Republic Steel Corp., Houston, Texas

P.O. 04396 dated Feb. 22, 1977: The NRC report noted that SBF placed this P.O. with Republic Steel Corp. in Houston, Texas, and the records indicated that Republic-Houston had not been surveyed or audited by SBF nor was each piece of stock material tested by SBF. Our review of this revealed that since Republic-Houston was the sales office covering this region, all purchases from Republic had to be mailed to the Houston sales office. Upon examining the CMTR's for the material itself, we found that the material was produced by Republic Steel in Ohio (Canton-Massillon Mill) and certified by the mill to meet NA-3700 requirements. SBF QA Manager qualified the mill to NA-3700 on 4-26-76 and 4-27-76. Also, on 2-9-77, the SBF QA Manager re-qualified the mill again by audit.

Attachment B
4-17-81

Even though the implementation of our QA program may not have been as strong as it should have been, our review of these records found some degree of control over the vendors and material, and all of the material, as addressed in the details of our response above, met ASME code requirements as purchased from SBF. Much has been learned, however, about the ASME code requirements regarding procurement quality assurance in the past several months, and SBF has concluded that some honest mistakes were apparently made in the past in formulating its own programmatic controls. They were largely caused by the ambiguity of the ASME code, and misinterpretation of the "intent" of the code documents. Realizing this, we have made, and are continuing to make an extreme effort to prevent recurrence of problems in these areas. Our QA Manual has been revised to include measures to strengthen our compliance with regulations with regards to procurement quality assurance. SBF has submitted the revision to ASME for review and acceptance, and shall implement it as soon as ASME accepts the revision. Until such time, SBF QA will monitor procurement activities very closely using routine and periodic checks and audits to assure compliance.