

PART 21 IDENTIFICATION NO. 60-232-001 COMPANY NAME Industries, Inc.

DATE OF LETTER 11/14/80 DOCKET NO. 60-329/330

DATE DISTRIBUTED 12/2/80 p.m. ORIGINAL REPORT SUPPLEMENTARY

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CENTRAL FILES 016

CENTRAL FILES 016

CENTRAL FILES (CHRON)

CENTRAL FILES (CHRON)

PDR

CENTRAL FILES SS-396

LPDR

PDR

TERA

LPDR

TERA

CENTRAL FILES 016

CENTRAL FILES (CHRON)

PDR

LPDR

~~TERA~~

ACTION:

PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOWUP AS SHOWN BELOW:

IE

NRR

NMSS

OTHER

~~RCI~~

~~ROI~~

~~SS~~

~~FFMSI~~

EES

REV. 8/1/80

9/17/80

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NRC Part 21 ID #
50-232-001

November 14, 1980
DGH-714
File Reference:
NPSI/NRC-01-001

Nuclear Regulatory Commission
Office of Inspection & Enforcement
Washington, DC 20555

50-329/330

Attention: Victor Stello - Director

Subject: Reporting of Defect & Noncompliance

Reference: NPSI Letter DGH-573, dated June 16, 1980
Southern Bolt & Foundry

Gentlemen:

This letter will serve as a follow-up to the reference letter which informed you of a potential defect of Noncompliance under the rules of Federal Register 10 CFR Part 21.

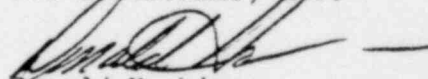
At the time of our report on June 16, 1980, preliminary investigations had revealed the potential defect. Since that time a very thorough investigation by Bechtel, NPSI, and Southern Bolt & Foundry has been conducted. The results of that investigation is detailed in Attachments I & II. Additional documents are on file and available for review if necessary. Both Consumers Power and Bechtel-Midland Project have been kept informed of the status during the investigation.

Defective materials have been identified and corrective action has been completed with the exception of final replacement of the materials at the site. As identified in SBF cover letter (Attachment II) the replacement materials are awaiting heat treatment processing. The date for completion of that process and final source inspection by NPSI is expected to be approximately December 1, 1980. A final report will be forwarded to you after the replacement materials have been installed or received at the site and the defective materials have been returned to SBF.

Should you have any questions regarding this report, please contact us.

Very truly yours,

NPS INDUSTRIES, INC.


Donald Harbison
Corporate Mgr. of Quality Assurance

ENC

cc: New Jersey

J. Barton - President
L. Hovi - Sr. Vice President
F. Sugar

Austin

R.G. Normand
L. Walker

Portland

J. Takeuchi
A. Halamay
K. Hanna

R. Alexander - Southern Bolt & Foundry

SOUTHERN BOLT

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



July 9, 1980

NPS Industries, Inc.
10420 Metric Blvd.
Austin, TX 78758

ATTN: Mr. Don Harbeson

Re: SBF letter to NPSI dated 6/11/80

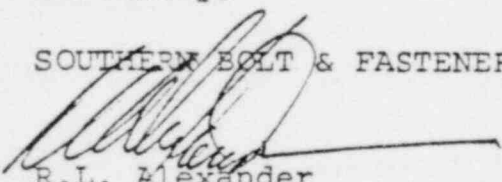
Dear Don:

Enclosed please find a copy of the completed SBF investigation of the defective material covered by our MTR No. 5795. As agreed to earlier, we conducted a thorough in-house investigation of the events surrounding the occurrence, and are now satisfied with the conclusions drawn by the investigators.

Upon your review of the report (attached to the NCR No. 157-A), please immediately advise me should you have any questions. Also, please be advised that the report for the defective material described by MTR's 6370, 6371, 6372, 6373, 6374 shall be sent next week under separate cover as it has a different NCR assigned to it. Our estimate of completing this investigation apparently did not allow ample time for the paperwork to get done. Please accept our apologies.

Sincerely,

SOUTHERN BOLT & FASTENER CORPORATION



R.L. Alexander
Vice President

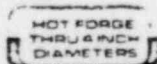
RLA/skc

cc: SBF QA Department
E.W. Nelson, Jr. - SBF
J.F. Barton - NPSI (Secaucus, NJ)

Attachments: NCR No. 157-A with its accompanying Report No. 157-A.

ATTACHMENT I
PAGE 1 OF 7

LARGE BOLTS & NUTS



STAINLESS & ALLOY

(NOTE: SEE REPORT ATTACHED FOR ADDITIONAL INFO)
 (EST. COMP. DATE 6-24-80) RA

CUSTOMER NAME	NPS INDUSTRIES	PROD. ORD. NO.	1849-010	DATE	6/19/80
PART DESCRIPTION	1 1/8" x 6 1/4" Hwy Hex Bolts (MTR # 5795) ASTM A540; GR. B23; CL. 3				
QUANTITY	72 PCS ORDERED AND SHIPPED TO CUSTOMER				
QUANTITY CHECKED	3 PCS RETURNED BY CUST. FOR ANALYSIS				
QUANTITY NONCONFORMING	3 } 1- DEF. BY D. HARBESON } LAB TESTS 2- RET. BY FIELD }				
OPERATION	N/A (RETURNED MATERIAL)				
OPERATOR	N/A (RETURNED MATERIAL)				
DESCRIPTION OF NONCONFORMANCE	BOLTS REJECTED BECAUSE OF UNACCEPTABLE TEST RESULTS OBTAINED (PER ASTM SPEC) ARE CLASSIFIED DEFECTIVE PARTS.				
INSPECTED BY:	W. Sow - 6-9-80	TRANSMITTED FOR CORRECTIVE ACTION TO:	R. L. ALEX		
<p>10 CFR 21 NOT SPECIFIED BY PD.</p> <p>Just to report as necessary via phone and by LTR to return all material. D. Harbeson 6/16/80 RA</p> <p>CORRECTIVE ACTION REPORT CUSTOMER HAS BEEN ADVISED (6.10-80) PHONE AND BY LTR TO RETURN ALL MATERIAL. INVESTIGATION SHALL BE COMPLETED</p> <p>AS TO CAUSE OF DEFECT, LIMIT, AND ALL MATERIAL THAT IS AFFECTED DETERMINED AT ONCE. FURTHER CORRECTIVE ACTION - BE COVERED IN WRITTEN REPORT NATURE OF REWORK ATTACHED TO THIS NCR AND ASSIGNED WITH SAME NUMBER. <i>W. Sow 6/19/80</i></p>					
1. WHOLE ORDER REJECTED	YES	NO			
PART OF ORDER REJECTED	YES	NO			
ISSUED REPLACEMENT PRODUCTION ORDER NO.	- REPLACEMENT NO. NOT ASSIGNED		YES	QUANTITY	→ 7
(NO. ASSIGNED ONLY UPON RECEIPT OF REPLACEMENT CUST. A.C.)					
2. DEFECTIVE PARTS REWORKED AND PUT IN STOCK	YES	NO			
PRODUCTION ORDER NO. ISSUED	N/A	QUANTITY	N/A		
DEFECTIVE PARTS PUT DIRECTLY INTO STOCK	YES	NO			
DEFECTIVE PARTS TOTALLY SCRAPPED	YES	NO			
3. INSPECTED BY:	W. Sow - 6-9-80	DATE:			
PRODUCTION MANAGER	N/A - PARTS WERE RETURNED BY CUSTOMER <i>W. Sow</i>				
QUALITY ASSURANCE MANAGER	by → <i>Kenneth De</i> (QA ADMINISTRATOR)				

Upon completion of form return to Quality Assurance.

POOR ORIGINAL

DEFECTIVE MATERIAL

NPSI P.O. NO. PDX 9478N

72 pcs.--1-1/8" : ASTM A-540 Gr. B23 Cl. 3
HWY HEX BOL. . LOT #359)

1. PROBLEM: Bolts described above and furnished to NPSI do not meet all the specified requirements, as purchased, of the ASTM specification. Bolts were manufactured by SBF and heat treated in SBF Ht. Lot No. 359. Representative samples of other bolting materials heat treated in this lot were checked and found to be acceptable, but the NPSI bolts (MTR No. 5795) were found to be unacceptable and therefore classified as defective.
2. INVESTIGATION AND ANALYSIS MADE AS TO THE CAUSE OF THE PROBLEM: The cause of the defect as described above is believed to be that the wrong material type was used. Chemical and physical tests and analysis were conducted from representative samples of the bolting materials heat treated in SBF Ht. Lot No. 359. All those results were acceptable, except for the results from the NPSI material sample. Results from the analysis conducted on that material revealed the chemical composition of the material samples to be equivalent to AISI 1020 steel requirements. A review of the heat treating records by SBF and NPSI failed to turn up any evidence which would indicate anything being wrong with the heat treatment process used. This was further substantiated by the acceptable metallurgical results obtained from re-checking representative material samples (See attachment No. 1) that were processed in Ht. Lot No. 359. With an apparent combination of 1020 and 4340 material in the lot only the 4340 would have responded properly to the treatment, and 1020 material would not have developed the desired properties. The material originally intended to be used for the order was 1-1/8" dia., E4340H, furnished to SBF from Crucible Specialty Metals Division, under heat number 11526. A thorough review of all quality related records did not reveal an apparent reason for this unique occurrence. The actual problem, though, is believed to have occurred in production at a point somewhere between the point of production order release for the material to be taken and "sheared" into forging lengths, and when the actual forging operation was performed. The exact origin from which the wrong material that apparently was used came can not be determined due to the length of time that has elapsed since the event occurred and also because personnel that were directly involved with the work have either left or have otherwise been replaced since then. No evidence has been discovered that would place any other production order under suspicion since this occurrence, although very unfortunate, appears to be isolated to S/O #1849-010.

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ATTACHMENT I

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Old records, some not necessarily quality related, were also reviewed. Research back through old inventory records (current during that time period) has confirmed that the material originally intended for use on this NPSI bolting requirement (E4340-H, Crucible Ht. No. 115261) is in inventory. SBF metallurgical lab and QA personnel took a representative sample of that raw material and reverified that it is in fact the Crucible E4340H, 1-1/8" diameter, SBF Code A154, Heat #115261 material. No evidence such as an unexplained decrease in inventory count was found during the examination of the records to substantiate a possibility that the wrong NPSI material that was used was taken from some 1-1/8" dia., 1040 bars in stock.

In the final analysis of the results of the completed investigation, conclusions must be made realizing that due to the fact that it is known the purchase documents did not specify the provisions of 10CFR21 and Section III, NCA-3800, some slack existed in the degree of controls required. However, the results do indicate some sloppy workmanship was used by those persons processing S/O #1849-010.

By the conclusion made as to the cause of the defective material being unique to the locating, transporting, and handling of the 1-1/8" diameter material for S/O #1849-010, and no proof or other known evidence has been reported for any other shop orders, no further action is believed warranted to be taken regarding any other bolting material, particularly code material, which was being produced. All the defective bolts affected are believed to have been identified (MTR No. 5795), their final disposition determined, and is reportedly being undertaken.

The analysis of the results also gives strong credit to the fact that all material processed, and then heat treated in Ht. Lot No. 359, did have representative samples checked during the investigation to verify chemical composition and heat treatment (See Attachment No. 1).

3. SCOPE OF THE PROBLEM: The defect, as described, was limited to only the headed bolts supplied to NPS Industries. P.O. No. PDX 9478N, and described by SBF MTR No. 5795. (See Attachment No. 1 for additional information). It has been determined from evidence found during the investigation, and supported by the fact that all of the original material (5 bars of 1-1/8" dia. E4340H, Crucible Ht. No. 115261) is presently located at the SBF Plant, under SBF control. As shown by Attachment No. 1, samples of all material heat treated in SBF Lot No. 359 were located and their proper ties were re-verified. The NPSI material (forged hex bolts), was found to be unacceptable, both for chemical composition and for mechanical properties.

ATTACHMENT I

PAGE 4 OF 7

4. CORRECTIVE ACTION: Upon the evaluation and acceptance of the results and conclusions of the completed investigation of bolting material manufactured and then heat treated in SBF Ht. Lot No. 359, SBF Management, as a additional step of precaution, instructed the SBF QA Manager, utilizing qualified persons from his own department, to completely review implementation of all the current procedures used for the following specific actions:

- A. Receipt and identification of code material before manufacturing
- B. Control of code material during manufacturing
- C. Handling of code material scheduled to be thermal treated in-house.

The current SBF QA Manual was to be used as a guide against objective evidence to verify compliance and implementation of our current quality system for code material. The order to accomplish this review was given with the knowledge that although the bolting required by NPSI on P.O. No. PDX 9478N was not specifically requested under the provisions of 10CFR21 and Section III, NCA-3800, the action still was warranted out of the desire to offer assurance and every ounce of precaution. The deadline for completion of the review assigned to the QA Manager was August 29, 1980. To correct the immediate problem in the field, upon confirmation that the material was defective (6-10-80), SBF notified NPSI Quality Assurance by phone on 6-10-80 and followed that with a letter (dated 6-11-80) of its responsibility to advise that all materials supplied and described by MTR No. 5795 may not be in compliance with the specific P.O. requirements. Further, NPSI was ordered to return all the described material to SBF for immediate replacement. SBF has subsequently been notified by NPSI by phone that steps were underway to have this done, and that a replacement order was forthcoming. SBF also requested that NPSI accept whatever responsibility that existed for reporting under 10CFR21 provisions, since their procurement document, PDX 9478N, did not clearly specify that the provisions of such were applicable to the order.

A comparative analysis of applicable system elements which were current at the time the NPS material was processed (1978) and those currently being used for code work, (1980), is summarized as follows:

- A. THEN: Raw material received, documents reviewed, and an identification number assigned so that material was permanently identified by SBF before QA authorized its release.
NOW: After above occurs, a sample bar is cut from the raw material, identified by stamping each sample cut with identification to the Mill heat, and the sample is forwarded to the Metallurgist and Metallurgical lab for further verification and testing prior to QA release from the receiving HOLD area.

B. THEN: Upon completion of heat treating operations, the items were placed in a HOLD area, and sample bars were forwarded to a designated QC person who had the test samples machined and testing performed. After satisfactory test results were received, the items were then released by QA by a sign off of the appropriate HOLD POINT.

NOW: After heat treatment operations are accomplished, the items are placed in a HOLD area, and sample bars (which have been stamped with material ID) are forwarded to the Metallurgist and Metallurgical lab for testing. Heat Treat Charts are also reviewed by the lab and QA. After acceptance by Metallurgical and QA personnel, the HOLD POINT is signed off the QA, and the items are released.

As indicated by the above, the overall quality system has obviously since been improved by other SBF continuing efforts to technically upgrade all phased of its quality program.

5. FOLLOW-UP OF CORRECTIVE ACTION: SBF QA Manager shall report to the President of SBF the results of the review described above by 8-29-80. Any findings reported at that time shall be immediately placed with the appropriate manager or supervisor for corrective action to prevent recurrence. Upon receipt of the material from NPSI and the field, all the material shall be disposed of by SBF QC so that it will not be used. The QA Manager shall follow up on this and document that it has been done.

ATTACHMENT NO. 1

SUMMARY OF MATERIAL RE-VERIFICATION: SBF HEAT TREAT LOT NO. 359

SBF S/O#	REPORTED QTY. RUN (1)	TYPE MATERIAL	HEAT NUMBER	COMMENTS
1666-040	141 pcs.	4340-M 3-3/4" dia.	Rep. 6076970	SBF LAB RE-VERIFIED HEAT TREAT AS BEING ACCEPTABLE FROM MAT'L. SAMPLE LOCATED AT SBF (SA540, GR. B24, CL. 4)
1200-020	134 pcs.	4340-M 3-3/4" dia.	Rep. 8070419	SBF MET LAB RE-VERIFIED HEAT TREAT AS BEING ACCEPTABLE FROM MAT'L. SAMPLE LOCATED AT SBF. (A540, GR. B24, CL. 2)
1849-010 (2) (NPSL BOLTING)	84 pcs.	E4340-H 1-1/8" dia.	Cruc. 115261	NPSI MAT'L: SBF LAB REJECTED OUTSIDE LAB TEST RESULTS COMPOSITION NOT TYPE E4340H, AND SBF LAB RESULTS OF MECHANICAL PROPERTIES NOT ACCEPTABLE PER SA
1200-070	21 pcs.	4340-M Hexed from 6" dia. round bars	Rep. 6075519	SBF LAB RE-VERIFIED HEAT TREAT AS BEING ACCEPTABLE FROM MAT'L. SAMPLE TAKEN FROM SBF INVENTORY (A540, GR. B24, CL. 2)

NOTES:

- (1) - Includes additional material for use as test bars.
- (2) - NPSI Material - 1-1/8" x 6-1/4" Hvy. Hex Bolts - as described SBF MTR. No. 5795. Chemical and mechanical properties not acceptable per ASTM A540, Gr. B23, Cl. 3.

PREPARED BY:

W. Jones
SBF Metallurgical Lab

DATE:

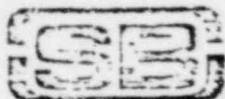
2 July 80

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ATTACHMENT H

SOUTHERN BOLT

6 FASTENER CORPORATION P. O. BOX 7195 301 MONTGOMERY TELEPHONE AREA 1318 221-4251 SHREVEPORT, LOUISIANA



8-14-80 and 9-1-80

NPS Industries, Inc.
10420 Metric Blvd.
Austin, TX 78758

ATTN: Mr. Don Harbeson

Re: SBF letter to NPSI dated 7-9-80

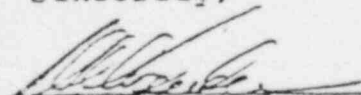
Dear Don,

Enclosed please find a copy of the final segment of the defective material covered by our MTR's 6370, 6371, 6372, 6373, and 6374. Also, be advised that we now plan to ship the replacement bolts before the defective bolts are returned as agreed upon with Bechtel's Mr. Bob Dann (San Francisco) to facilitate matters at the jobsite. Bechtel has assured us that measures will be taken to prevent any misuse of the defective bolts, and they are fully aware of our concern that such caution be used.

Our schedule of heat treating the replacement bolts has been interrupted again, due to equipment malfunction in our No. 1 furnace. Also, to complicate matters further, Bechtel's QA audit team which visited our plant on 8-27-80 thru 8-29-80, recorded a finding in the heat treat area, and therefore has written a "stop shipment" and "stop heat treat" order until our furnace repairs are completed and re-surveyed, etc. Obviously the finding was directly related to the equipment malfunction mentioned. During our recent plant shutdown (July 18-31), we installed new equipment in the heat treat plant, and the problems are with that equipment.

Your patience and cooperation has been appreciated. When we get our equipment repaired, which should be done by 9-18-80, I will be contacting Bechtel QA with regards to clearing the audit findings. Source inspection could possibly be made by you by 10-15-80.

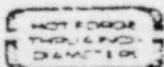
Sincerely,


R. L. Alexander

ATTACHMENT II
PAGE 1 OF 5

Attachments: NCR No. 157-B with its Report No. 157-B

LARGE BOLTS & NUTS



STAINLESS & ALLOY

NOTE: SEE REPORT ATTACHED FOR ADDITIONAL INFO

CUSTOMER NAME NPS INDUSTRIES PROD. ORD. NO. DATE 6/9/80

PART DESCRIPTION 1 1/2 x 5 1/2, 3, 5, 4 1/2, 4 Heavy Hex BELTS
ASTM A490

QUANTITY 98 Shipped to cust. as ordered

QUANTITY CHECKED N/A (Returned material - not in shop)

QUANTITY NONCONFORMING N/A (Returned material - not in shop)

OPERATION N/A (Returned material)

OPERATOR N/A (Returned material)

DESCRIPTION C. NONCONFORMANCE Belts rejected because some do not meet the requirements of A490 completely.

INSPECTED BY: WJ [Signature] 6-9-80 TRANSMITTED FOR CORRECTIVE ACTION TO: R. Alexander

10 CFR 21 NOT SPECIFIED ON PO. SEE NCR-157-A CORRECTIVE ACTION REPORT

CORRECTIVE ACTION REQUIRED (SEE NCR No 157-A)

NATURE OF REWORK

- 1. WHOLE ORDER REJECTED YES NO
- PART OF ORDER REJECTED YES NO
- ISSUED REPLACEMENT PRODUCTION ORDER NO. Not Assigned QUANTITY 98
- 2. DEFECTIVE PARTS REWORKED AND PUT IN STOCK YES NO
- PRODUCTION ORDER NO. ISSUED N-A QUANTITY N-A
- DEFECTIVE PARTS PUT DIRECTLY INTO STOCK YES NO
- DEFECTIVE PARTS TOTALLY SCRAPPED YES NO
- 3. INSPECTED BY: WJ [Signature] DATE: 6-9-80

PRODUCTION MANAGER N-A (Returned Material)

QUALITY ASSURANCE MANAGER by → Kenneth Day QA Admin

Upon completion of form return to Quality Assurance.

POOR ORIGINAL

DEFECTIVE MATERIAL

NPSI P.O. NO. PDX 9461

98 pcs.--1½" x 3, 4, 4½", 5, 5½"; ASTM A-490
 MTR. NO. 6370, 6371, 6372, 6373, and 6374
 HVY HEX BOLT (HT. LOT #36-HEAT #69784)

1. PROBLEM: Bolts described above and furnished to NPSI all do not meet all the specified requirements, as purchased, of the ASTM specification. The bolts were manufactured by SBF and furnished to NPSI, as described by the MTR numbers listed above, and because the returned sample analyzed by our Metallurgical Lab during the week of June 9, 1980 did not meet the A490 specification completely, it was therefore classified as defective by SBF, and all material of Heat #69784 from Heat Lot #36 was investigated to determine the cause.

2. INVESTIGATION AND ANALYSIS MADE AS TO THE CAUSE OF THE PROBLEM: The cause of the defect described above is believed to be that the bolts were not heat treated properly. The bolts were heat treated by SBF in Ht. Lot #36 as they were being manufactured for Stock. Upon the review of processing records, it has been determined that the A490 bolts did not all receive a full heat treatment processing. Our findings indicate that some were only "normalized" and were not further hardened and quenched and tempered. This caused the problem of the NPSI bolts failing to pass the required mechanical properties. Southern Bolt needed 98 bolts to complete the required quantity of 845 pieces on NPSI P.O. No. PDX 9461, (which only required the bolts to meet A490 and a purchase order requirement also for an impact test performed @+40°F meeting 25 mils lateral expansion) against which 747 pieces were already supplied. The 98 bolts were obtained from an active stock order of "blanks" that were heat treated in HT. LOT #36, (They only needed to be cut to the lengths required and threaded up, etc. for NPSI). These bolts are described as follows:

<u>MTR NO.</u>	<u>DESCR.</u>	<u>QTY</u>	<u>HEAT NO.</u>	<u>HT LOT.</u>
6370	1½" x 5½" (A490)	15	69784	36
6371	1½" x 3" (A490)	11	69784	36
6372	1½" x 5" (A490)	19	69784	36
6373	1½" x 4½" (A490)	42	69784	36
6374	1½" x 4" (A490)	11	69784	36

During the investigation it was also discovered that the MTR's were not properly prepared by the documentation personnel who were responsible for such at that time. The MTR's report properties as coming from mill certs when they actually did not since the Heat Treatment was by SBF. However, this was classified as a "paperwork mistake" which merely contributed confusion. An oversight or a mistake like that is not believed to be a

safety related threat since corrected copies of the MTR's are easily obtainable. Because of the elapsed amount of time and the fact that many of the key personnel who were directly involved with the processing of this order have since departed, the investigation went a lot slower than originally expected. All records that were checked show that the NSPI bolts (identified above) of heat number 69784 were heat treated along with two other groups of material (4340M and E4340H) not supplied to NSPI, and were for SBF stock. The prescribed first step of the heat treating process for Lot #36 was to normalize for three hours at heat and then air cool to room temperature. The next step was to harden for four hours at heat, and finally quench and temper. However, when the first step described above was completed, a shift change occurred, and a different operator took over. It is believed that particular operator failed to realize that he had not completed the process on all the bolt of heat number 69784, as intended. Records show that there were 205 pieces (including test bars) of this material scheduled to be heat treated, as described, along with the other material. Exactly how many of the bolts of heat number 69784 that did not make it through the complete heat treatment can not be determined, but some material of that heat apparently did because test results were obtained to verify the heat treatment and some bolts reportedly were field tested and passed tensile at 104,000 psi. It was concluded from this, however, that all bolts from that heat number (69784) could be suspected as defective and either be re-verified by qualified inspection, or be returned to SBF for disposition. No evidence was found to cause concern over the other two groups of material treated in Lot #36 and samples were also re-verified. The operator error which caused this problem did not have any affect on the other 747 bolts (A490) because they were not processed at the same time. Representative samples of those bolts were reportedly field tested and passed. Also, SBF received samples from the field and those all passed the re-testing.

By the conclusion made as to the cause of the defective material being unique to the heat treating of this material, and no proof or other known evidence has surfaced since the defect was discovered and reported, the investigation into this incident is believed to have included all the affected bolts, and they have all been identified. Their disposition has been determined, and it is reportedly being undertaken: the materials furnished to NPSI described by MTR No. 6370, 6371, 6372, 6373, and 6374 are to be returned to SBF and replacement bolts shall be furnished which meet all the requirements of their purchase order. Also, records are still being checked to determine if any other nuclear jobsite--Bechtel or otherwise--may have received defective material caused by this problem. No evidence to date has surfaced confirming that anyone else did.

POOR ORIGINAL

SCOPE OF THE PROBLEM: The defect, as described, was limited to the bolts (heat number 69784) heat treated in Ht. Lot. #36. It has been determined from the evidence examined during the investigation that no other A490 bolts were affected by this problem. Further, verification was made by the SBF investigation that the properties of a returned sample from other A490 bolts supplied NSPI on the same order were acceptable as ordered:

<u>MTR No.</u>	<u>Ht. Lot.</u>	<u>TESTED CHEMICALLY</u>	<u>TESTED MECHANICALLY</u>	<u>SPEC</u>
5718	336	passed	passed	A490

CORRECTIVE ACTION: Upon the evaluation and acceptance of the results of the completed investigation of the bolting materials as described, SBF management has directed the corrective action to follow that as reported in Report No. 157-A dated 6-9-80 for another NPSI bolting nonconformance which was investigated simultaneously with this one.

NPSI was notified by SBF letter dated 6-11-80 of the possibility that all the material supplied may not be in compliance with their P.O. requirements. Since the material was not procured to 10CFR21 provisions or ASME Section III provisions, no code violation is believed to have occurred. All available records shall be examined by the QA Manager to determine whether any nuclear site may have received either directly or indirectly any of the material. If evidence should be found which confirms that one did, then the customer we sent the bolts to shall be notified. Although the changes of this have been reported as extremely unlikely, this shall be thoroughly checked by QA as described.

FOLLOW-UP OF CORRECTIVE ACTION: SBF QA Manager shall report to the President of SBF the results of the action described above by 8-29-80. Any findings reported at that time shall be immediately placed with the appropriate manager or supervisor for corrective action to prevent it recurring. Upon receipt of the material from NPSI and the field, all the material shall be disposed of by SBF QC so that it will not be used. The QA Manager shall follow up on this and document that it has been done.

POOR ORIGINAL

ATTACHMENT II
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