

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

BEFORE THE NUCLEAR REGULATORY COMMISSION

In the matter of
 PACIFIC GAS AND ELECTRIC
 COMPANY
 (Diablo canyon Nuclear Power
 Plant, Units 1 and 2)

AFFIDAVIT OF HAROLD O. HUDSON

My name is Harold O. Hudson. I am submitting this affidavit freely and voluntarily without any threats, inducements or coercion, to Mr. Thomas Devine, who has identified himself to me as the legal director of the Government Accountability Project (GAP). This affidavit addresses deficiencies identified by the NRC and PG&E in the Quality Assurance Program of Cardinal Industrial Products and deficiencies in the Pullman Power Products Quality Assurance Program which complicates this issue.

Cardinal Industrial Products of Las Vegas, Nevada, has been on the Pullman Power Products' Approved Vendors List for many years. Pullman classified Cardinal as a Material Manufacturer qualified to furnish Steel Bolting and Fasteners intended for use in ASME, Section III, Class 1,2 and 3 fabrication. Pullman has purchased and installed Cardinal bolts and fasteners at the Diablo Canyon Nuclear Plant since sometime in the 1970's. Cardinal's past Quality Assurance Program has been identified by the NRC and PG&E to have significant deficiencies making the quality of the material indeterminate. PG&E has directed that corrective action be implemented but this action is limited in scope and does not address materials already installed in the plant by Pullman.

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This limited corrective action by PG&E is complicated by the fact that Pullman's Vendor Quality System Audits of Cardinal is of indeterminate quality based on a failure to implement ASME, Section III, NCA-3800 and 10CFR50 Appendix B Criteria VII requirements for procurement of materials.

- I. Pullman Power Products' Discrepancy Report # 9173 (12-21-84), issued as a result of NRC I.E. Information Notice 84-52 and PG&E's Quality Assurance Implementation Audit 844085 of Cardinal Industrial Products, does not address/provide for a system of identification, documentation, segregation and disposition of Cardinal materials previously purchased and installed by Pullman in both units of the Diablo Canyon Nuclear Plant. This is a nonconformance to 10CFR50 Appendix B Criteria XV - Nonconforming Materials, Parts or Components and Criteria XVI - Corrective Action.

10CFR50 Appendix B Criteria XV requires measures shall be established to control materials which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Criteria XVI requires that measures shall be established to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and nonconformances are promptly identified and corrected. These requirements have not been implemented for Cardinal materials previously purchased and installed by Pullman in the plant.

Pullman's DR# 9173 only addresses/provides for a system of identification and documentation for material in Pullman's warehouse or storage areas which were manufactured by Cardinal. Only Cardinal material in Pullman's warehouse or storage areas are identified and placed on temporary Hold. This limited corrective action is at the direction of PG&E's General Construction Division. PG&E General Construction Letter of 12-21-84

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by R. Lieber and R. Hobgood, states as a result of identified deficiencies in Cardinal Bolts QA Program, "all fasteners in Class one storage supplied by Cardinal Bolt, including those supplied by a third party", must be immediately identified. The Letter goes on to state that "Pullman is authorized to release these materials from the Class one storage for installation, provided a system is established that will identify each fastener by size, material type, purchase order, heat and/or lot number, and installed location". PG&E's General Construction Division does not address/provide for a system of identification, documentation and segregation of Cardinal materials previously purchased and installed by Pullman in the plant. This is a nonconformance to 10CFR 50 Appendix B Criterias XV and XVI.

PG&E General Construction Division has directed Pullman based on their instructions from PG&E's Quality Assurance Division. PG&E Quality Assurance Letter of 12-20-84, by QA Manager S.M. Skidmore, identifies that Cardinal has provided fastener material for Diablo Canyon Power Plant on seven purchase orders (4 NPO and 3 GC). The Letter states that as a result of identified deficiencies, "the quality of the fastener materials we have received from Cardinal on the purchase orders listed above is indeterminate at this time". The PG&E QA Manager then recommended "that the items supplied by Cardinal be located and tagged". PG&E Quality Assurance Division's recommendation deals only with material from the seven PG&E purchase orders. The Letter only request a research of records to determine if there have been other purchases from Cardinal. PG&E's Quality Assurance Division instructions to General Construction Division does not specifically address/provide for a system of identification, documentation and segregation of Cardinal materials previously purchased and installed by Pullman in the Plant. This is a nonconformance to 10CFR50 Appendix B Criterias XV and XVI.

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The failure by PG&E's Quality Assurance and General Construction Divisions and Pullman's DR# 9173 to address/identify, document and segregate Cardinal materials previously purchased and installed by Pullman in the plant is a significant condition adverse to quality. PG&E's QA Division Letter states that the QA Audit of Cardinal "identified significant deficiencies in their past quality assurance program". The Cardinal Industrial Products Corporation "Report To Our Customers" by D.C. Fielder states that "with very limited exceptions, all the areas of concern raised by the NRC related to prior QA Programs..." With limited exceptions, it is the Cardinal QA program prior to its 1-9-84 ASME certification as a "material manufacturer" and "material supplier" that the NRC and PG&E QA Division is concerned with. Yet Cardinal materials purchased and installed by Pullman prior to 1-9-84 are not addressed by DR# 9173.

Pullman has purchased and installed Cardinal materials at the Diablo Canyon Nuclear Plant since sometime in the 1970's. Pullman's Diablo Canyon Site QA/QC Manager D. Geske performed an ASME, Section III, NCA-3800 Vendor Quality System Audit of Cardinal Industrial Products in 1980. A Pullman Interoffice Correspondence, 2-27-81, from A.A. Eck, Director of QA to W.L. Cox, Senior QA Auditor of the Pullman Quality Engineering Group, stated "per request from the Diablo Canyon Project, please keep Cardinal Bolt current on the AVL. Diablo will continue to use very heavily over the next few years".

Pullman has purchased and installed large amounts of Cardinal materials that falls under the NRC and PG&E identified past QA Program deficiencies. Yet Pullman, at the direction of PG&E, has not included this installed material under the scope of DR# 9173 for identification, documentation, segregation and control. This is a nonconformance to 10CFR50 Appendix B Criteria XV and XVI and is a condition adverse to quality.

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- II. The quality of Cardinal materials purchased and installed by Pullman prior to 1-9-84 is indeterminate for two reasons. First, because of significant deficiencies identified by the NRC and PG&E in Cardinal's past Quality Assurance Program. And second, because Pullman's own Vendor Quality System Audits of Cardinal performed during the early 1980's were inadequate and did not comply with ASME, Section III, NCA-3800 (Metallic Material Manufacturer's and Material Supplier's Quality System Program) requirements and 10CFR50 Appendix B Criteria VII (Control of Purchased Material, Equipment, and Services) requirements.

An examination of a Pullman "Vendor Quality System Audit Checklist Applicable to Material Manufacturers and Material Suppliers - Checklist No. 1", dated 7-21-81, for Cardinal Industrial Products, reveals significant deficiencies in Pullman's Corporate Vendor Auditing program and Pullman's ability to qualify Cardinal to ASME Section III requirements as a "material manufacturer" or "material supplier". Several of these deficiencies are generic in nature.

- A. PG&E's QA Division audit of Cardinal identified as a significant deficiency that certifications for the heat treating of materials did not contain the heat number of the subject material.

But a more significant finding is that Pullman's Vendor Quality System Audit of Cardinal did not address Heat Treating of materials. Checklist item # 18 - Verify if heat treating is performed in accordance with approved procedures - is marked not applicable and no audit was performed. Checklist item # 19 - Record the measure of control of furnace temperature by part or zone temperature - is marked not applicable and no audit was performed. Checklist item # 20 - Record measures for temperature monitoring - is marked not applicable and no audit was performed. Checklist item # 21 - Record and verify that the heating and cooling rates, maximum and minimum temperatures at specified

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times in accordance with code and customer requirements. Verify by heat treat charts or CMTR's - is marked not applicable and no audit was performed. Checklist item # 29c - Verify that vendors certified material test reports have provisions for heat treatment, hold temperature and cooling method and time - is marked not applicable and no audit was performed.

Pullman's Vendor Quality System Audit program for Cardinal is in nonconformance to ASME Section III, NCA-3820.a, b and c (1980 Edition) and 10CFR50 Appendix B Criteria VII, since Pullman did not audit the heat treatment of fasteners manufactured and/or supplied by Cardinal. This is a significant condition adverse to quality.

As the 1981 Lead Auditor performing Pullman's Vendor Quality System Audit of Cardinal, I used the 1980 Vendor Quality System Audit as my format for areas to be audited. The 1980 Audit of Cardinal performed by Diablo Canyon Site QA/QC Manager D. Geske did not address Cardinal's heat treating program. Taking my lead from the 1980 Audit, I assumed that Heat Treating was not an applicable section of Cardinal's Quality System Program to be audited. It should be noted that Pullman's Corporate Senior QA Auditor, W.L. Cox, who reviewed both the 1980 and 1981 Vendor Audits and then included Cardinal on the Approved Vendors List, did not identify this omission of a critical area of Cardinal's Quality System Program and require corrective action to be implemented. 120

Bolts and Fasteners manufactured and/or supplied by Cardinal that required Heat Treating cannot be assured by Pullman Vendor Quality System Audits to have been performed in accordance with procedures, code and customer requirements.

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- B. Attachment #1 to Pullman's 1981 Vendor Quality System Audit Checklist is a list of Cardinal's Quality Assurance Manual Sections and Cardinal Standard Practices Procedures. Although the QA Manual has a section on Special Processes, there is no Standard Practices Procedure listed for the Heat Treating of Materials. Cardinal appears to have had no Quality System Program covering Heat Treating of Material during this time period. The apparent absence of a Cardinal Standard Practice for Heat Treating of Materials is a nonconformance to ASME, Section III, NCA-3820.c, NCA-3862.a.1, NCA-3866.1 and NCA-3866.4 (1980 Edition) and 10CFR50 Appendix B Criteria IX - Control of Special Processes. Because of Pullman's failure in 1980, 1981 and possibility other years, to audit Cardinal's Heat Treating program and the apparent absence of a Cardinal Standard Practice Procedure for Heat Treating of Materials, there is no assurance that Heat Treating performed during this time period was controlled in accordance with material specifications and the rules of ASME, Section III, NCA-3800 and 10CFR50 Appendix B Criterias IV (Procurement Document Control), VII (Control of Purchased Material, Equipment, and Services), and IX (Control of Special Processes).
- C. A second deficiency in Pullman's Vendor Quality System Audit of Cardinal performed in 1981 was that the Audit Checklist, item # 5, did not list and no audit was performed to determine if the person or department responsible for defining and implementing the overall effectiveness of the quality program reported regularly on the effectiveness of the program. Pullman's failure to audit this area is a nonconformance to ASME, Section III, NCA-3820.a,b and c, NCA-3864.1.b.4 and 10CFR50 Appendix B Criteria VII.

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This is a generic deficiency in Pullman's "Vendor Quality Audit Checklist No. 1" used for Material Manufacturers and Material Suppliers. All vendors audited by Pullman using this checklist have a QA Program of indeterminate quality based on this omission.

- D. A third deficiency in Pullman's Vendor Quality System Audit of Cardinal performed in 1981 was that the Audit Checklist # 9 only addressed Nondestructive Examination personnel to determine if they were qualified to perform their duties. These NDE personnel were not Cardinal employees, but employees of Eagle Intermountain Testing, a subcontractor. No Cardinal employee who performed functions within the scope of ASME Section III were audited to determine if they were qualified as specified by Section III. This included the Director of QA, the Internal Auditor, QA/QC Inspectors, Engineers, and Production personnel performing special processes. None of these Cardinal personnel were audited by Pullman to determine if they were qualified to perform their jobs. This is a nonconformance to ASME, Section III, NCA-3820.a,b and c, NCA-3864.2.a (1980 Edition) and 10CFR50 Appendix B Criteria VII.

This is a generic deficiency in Pullman's "Vendor Quality Audit Checklist No. 1" used for Material Manufacturers and Material Suppliers. All Vendors audited by Pullman using this Checklist No. 1 have non NDE personnel of indeterminate qualifications performing ASME III functions.

- E. A fourth deficiency in Pullman's Vendor Quality System Audit of Cardinal performed in 1981 was that Audit Checklist item #10 - Are examinations performed in accordance with procedures, approved by PPP as specified by Pullman's purchasing specification - was marked not audited. The Checklist item #10 has a comment that "NDE is performed by Eagle Intermountain Testing" and "Procedures used are

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as specified on each customers purchase order". But this cannot be verified since no audit was performed on any NDE procedures (Eagle Intermountain or Cardinal) or on any other type of examination procedure, against any Pullman purchasing specification. Examination procedures used by Cardinal are of indeterminate quality. This is a nonconformance to ASME, Section III, NCA-3820.a,b and c, NCA-3866.3.a (1980 Edition) and 10CFR50 Appendix B Criteria VII.

A Pullman Power Products Letter, Log No. 81-193, dated 8-6-81, to Cardinal Industrial Products, from William L. Cox, Senior QA Auditor, advises Cardinal that "by virtue of satisfactory completion" of a QA Program audit, they had been included on Pullman's list of approved vendors. Pullman informed Cardinal that they had been classified as a "Material Manufacturer qualified to furnish Steel Bolting and Fasteners intended for use in ASME, Section III, Class 1, 2 and 3 fabrication".

Yet the Pullman Vendor Quality System Audit of Cardinal performed in 1980 and 1981 had significant deficiencies. Major portions of Cardinal's Quality System Program were not audited by Pullman as required by ASME, Section III, NCA-3820 and 10CFR50 Appendix B Criteria VII. The areas not audited by Pullman have significant impact on determining if Cardinal meet the requirements of ASME Section III, NCA-3800. The failure by Pullman to survey, qualify and audit Cardinal as required by ASME Section III, NCA-3800 and 10CFR50 Appendix B Criteria VII, means Pullman's method of approving Vendors is of indeterminate quality and that Cardinal's Quality System Program for this time period is of indeterminate quality.

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The Cardinal "Report To Our Customers" states "Frankly, after having been approved by so many customers over the past years, we are surprised that the NRC was able to find any problems with our prior Quality Assurance Program". Perhaps the reason the NRC found problems was because customers such as Pullman Power Products did inadequate Vendor Quality System Audits when qualifying

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Cardinal as a Material Manufacturer to furnish Steel Bolting and Fasteners intended for use in ASME, Section III, Class 1, 2 and 3 fabrication.

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I have read the above 10 page affidavit, and it is true, accurate and complete to the best of my knowledge.

Harold O. Hudson

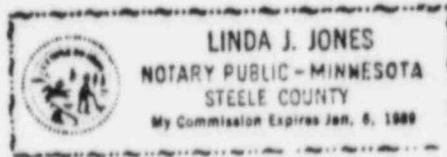
Harold O. Hudson

Harold O. Hudson

Signed and sworn before me this 23rd day of January, 1985.

Linda J. Jones

Notary Public



LIST OF ATTACHMENTS

1. Pullman Power Products Discrepancy Report # 9173, 12-21-84.
2. PG&E General Construction Division Letter of 12-21-84.
3. PG&E Quality Assurance Division Letter of 12-20-84.
4. Cardinal Industrial Products Corporation - REPORT TO OUR CUSTOMERS, no date.
5. Pullman Power Products - Vendor Quality System Audit Checklist Applicable to Material Manufacturers and Material Suppliers - Checklist No. 1, for Cardinal Industrial Products, 7-21-81.
6. Pullman Power Products Letter, Log No. 81-193, 8-6-81.
7. Pullman Power Products Interoffice Correspondence, 2-27-81.

Cardinal

INDUSTRIAL PRODUCTS CORPORATION



TOLL FREE 800-834-8861
3873 WEST QUENSO + PHONE (NEVADA) 702-739-1988
LAS VEGAS NEVADA 89118

REPORT TO OUR CUSTOMERS

This report has been prepared to update our customers as to the current status of our Quality Assurance Program as it relates to products supplied to nuclear customers. Over the past seven years, as interpretations of the ASME Boiler Pressure Code have evolved, Cardinal's Quality Assurance Manual has been updated to reflect these changes. Our Quality Assurance Manual has undergone three revisions and two editions. We believe that, in its current form, our Quality Assurance Manual is one of the most effective in the bolting industry. In recognition of our current Quality Assurance Program, on January 9, 1984, ASME certified Cardinal as a "material manufacturer" and a "material supplier".

We have also been the subject of frequent customer surveys and/or audits. During the past five years, well over one hundred customers have reviewed our Quality Assurance Program, with an approval rate in excess of 98%.

In the fourth quarter of 1983 concurrent with the ASME certification process, the Nuclear Regulatory Commission inspected selected portions of our Quality Assurance System and prepared detailed reports. The NRC's findings fell in three categories:

1. Items that have already been resolved by Cardinal taking corrective action, e.g., the posting of additional statutory and regulatory material and providing customers with notices of certain specific potential non-compliances.
2. Items that were resolved by providing additional information to the NRC, and
3. Items which will be the subject of an internal review program that will be discussed below.

Frankly, after having been approved by so many customers over the past years, we are surprised that the NRC was able to find any problems with our prior Quality Assurance Programs. Please be advised that, with very limited exceptions, all of the areas of concern raised by the NRC related to prior Quality Assurance Programs and not to our current ASME approved Quality Assurance Program.

While we are confident that Cardinal has provided quality products to the nuclear industry over the past years, in order to assure our customers of the quality of those products, we have commenced an internal review program which will review all certifications issued by Cardinal to the nuclear industry. Since well over 20,000 certifications must be reviewed to determine if any non-conformances exist, this process will take several months. The general areas of review will include the following:

1. The NRC found an isolated number of instances where our test records did not confirm that non-destructive tests had been performed on a small number of pieces from certain groups of material. We will review our records to determine if any other instances existed and, if so, notify the customer.

2. The NRC has interpreted the stress relief requirements for cold drawn A193 and SA193 B7 and B16 materials differently than Cardinal. Cardinal has received an informal confirmation of its interpretation from ASTM committee members involved in writing the standard. Cardinal is currently seeking formal confirmation, and if received, it will clarify that no problem exists. Otherwise, appropriate notice will be given.

3. Four purchase orders were identified where SA193 B7 material was cross-certified to SA320 Grade L7, where the required Charpy impact tests, performed by the mill, used Charpy Izod rather than Charpy V-Notch type tests. Empirical test data and informal metallurgical opinions indicate that the values reported for "lateral expansion" may, in fact, be more conservative using the Izod rather than the V-Notch method. In any event, we have listed on Attachment 1, those heat numbers which would be affected under subsection NX2300. You will note from Attachment 1 that we have already re-tested many of these heats with the V-Notch method, and in each case the material passed. We are currently completing the re-testing of all of the listed heats, and will re-certify them where they have been used in nuclear applications. Additionally, we are reviewing our records to determine, as to Charpy tests performed by Cardinal, whether we may have cut coupons, too close to the end of the material. To the extent we find any such instances, we will either re-test and re-certify the material or notify the customer. So far, all re-tested material has conformed to specifications.

4. We found isolated instances under prior Cardinal customer approved quality programs, where stock materials were either inadvertently used for code applications without proper upgrade, or where goods were furnished from vendors who were not surveyed and/or audited until after the material supplied had been produced. Those instances which were discovered have been reviewed with the appropriate customers. If we discover any further such cases, we will advise the affected parties.

We believe that Cardinal's Quality Assurance Program as currently constituted is an excellent one. Our goal has been and will continue to be to provide the highest quality parts to the nuclear industry. Moreover we believe that the NRC's input into Cardinal's Quality Assurance Program has been of significant benefit. We are delighted that Cardinal is the first organization to gear our program fully to current NRC interpretations. We will continue to stay abreast of such interpretations to insure that all products certified by Cardinal will meet or exceed the standards of the NRC, ASME, our customers and Cardinal.

We welcome these inputs into the bolting industry as we have long believed that such oversight is necessary to bring the industry into full code and statute compliance, for the ultimate benefit of you the nuclear bolting user.

If you have any questions or need additional information, please call me or Norm Henderson. We trust that we can count on your cooperation and support.

Additionally, we are attaching, for your review, copies of a supplement to our Quality Assurance Manual which will apply to procurement which invokes our Quality Assurance Program and either 10 CFR 50 Appendix B or N45.2 but does not invoke Section III of ASME Boiler and Pressure Vessel Code.

Sincerely,

Dennis C. Fielder
Dennis C. Fielder
President

JUNE 20, 1984

ATTACHMENT 1
MATERIALS WHICH WERE IZOD TESTED
A193 & SA193 B7 ALL THREAD STUDS

SIZE	AFFECTED HEATS
1 1/8-8:	(4) 4525B, (1) .6882D, (5) .9121E, X107E, X605D & X606D
1 1/4-8:	5450B, 5408B, 3454A, 7536B, (3) .9723D, 1508E & 8724B (4)(5)
1 3/8-8:	3454A, 5408B, 5450B, 6409B, 5785D, 7212E, (4) .9723D 9423E & 9814D
1 1/2-8:	N589B, 9525B, 7157D, 9106D & 8724B
1 5/8-8:	9233E, 9423E, (4) .9106D (5)
1 3/4-8:	9425E & 380E (4) (5)
1 7/8-8:	9892D, 9526B, 7238D, (5) 9526B, (5) 7762E, (4)(5) 8724B (5)
2-8:	9526B (4)
2 1/4-8:	D552B, (4)(5) & 7315A (2)
2 1/2-8:	7315A, (2) N825D, (2) & N630B (2)

NOTES:

- 1 - Tested at 0 Deg F per NX2300 with Charpy V-notch. Heat passed.
- 2 - Tested at 10 Deg F per NX2300 with Charpy V-notch. Heat passed.
- 3 - Tested at 20 Deg F per NX2300 with Charpy V-notch. Heat passed.
- 4 - Tested at 68 Deg F per NX2300 with Charpy V-notch. Heat Passed.
- 5 - Material being tested at 0 Deg F per NX2300 with Charpy V-notch.

JUNE 20, 1984

CARDINAL INDUSTRIAL PRODUCTS CORP.
GAM SUPPLEMENT

Supplement to Cardinal's Quality Assurance Manual. This supplement will apply to procurement which invokes Cardinal's Quality Assurance Program and either 10 CFR 50 Appendix B or N45.2 but does not invoke Section III, of the ASME Boiler and Pressure Vessel Code.

A. PURCHASING

Parts and/or materials may be purchased from surveyed and approved vendors as prescribed in the Quality Assurance Manual. As an alternate, vendors may be qualified thru other means such as evaluation of Quality program or product verification as outlined in "D" below at time of receiving inspection.

B. INSPECTION

Per Quality Assurance Manual.

C. CERTIFICATIONS

Vendor Certification: Vendor certifications will not require a Quality Statement but must consist of a Mill Sheet, Certified Material Test Report (CMTR) or a Certificate of Compliance (C of C). In the case of a C of C, heat numbers need not be known if product verification as delineated below is followed.

Cardinal Certification: The Cardinal Certification for material provided under this supplement shall bear the statement that the certification is issued subject to the provisions of this supplement as approved by the customer. Other data required by the purchase order will be given in the certification except Cardinal will not provide its QSC number.

D. PRODUCT VERIFICATION

Raw Material: For carbon steel raw material, Cardinal will determine that the material is ferro-magnetic and that the hardness range is as expected for the grade of carbon steel. For all other raw materials, Cardinal will additionally verify the chemical content of one piece of material and required mechanical testing and record such verification in the vendor certification file.

Finished Product: If carbon steel finished products are procured, Cardinal will verify that the material is ferro-magnetic and that the product meets the hardness and mechanical properties of the invoked material specification. The number of pieces tested will be as required by the referenced finished product specification. In the case of procurement for all other types of finished materials, Cardinal will additionally perform a verification of chemistry on one piece of material. This data will be included in the vendor certification file.

E. MARKING

All finished products will be marked in accordance with applicable customer and specification requirements. In cases where Cardinal procures finished products which are properly marked, no additional marking will be applied. If product requires additional marking this will be applied by Cardinal prior to shipment.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-39

DATE 7-21-81

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AUDIT CODE If supplemental observations or clarifications are necessary
 indicate with * under audit code and record on supplement sheet.
S=SATISFACTORY U=UNSATISFACTORY N=NOT AUDITED X=NOT APPLICABLE

NO.	EVALUATION	CODE	OBSERVATIONS
1.	Record the latest approved revision date and number of the Vendor QA Manual.	S	Rev. No. <u>2</u> Rev. Date <u>10-17-80</u>
2.	Record a few quality related procedures illustrating Rev. Dates, Accept/Reject criteria and necessary cognizant approvals.	S	<p align="right">Certifi-</p> Proc. # <u>CSP7.002</u> Proc. Title: <u>cation</u> Rev. Date <u>9-6-80</u> A/R Spec. <u>-</u> Appropriate Approvals <u>Eliason-Director QA</u> <p align="right">Storage Stain-</p> Proc. # <u>CSP8.001</u> Proc. Title: <u>less Stee</u> Rev. Date <u>9-6-80</u> A/R Spec. <u>-</u> Appropriate Approvals <u>Eliason-Director QA</u> <p align="right">P.O. for Nuclear Level I</p> Proc. # <u>CSP5.003-1</u> Proc. Title: <u>Require.</u> Rev. Date <u>9-6-80</u> A/R Spec. <u>-</u> Appropriate Approvals <u>Eliason-Director QA</u>
3.	Record how proposed quality related changes to the vendors quality program are reviewed and accepted by the party qualifying the vendor.	S	Revisions are forwarded to each customer after internal approval. Comments by the customer are resolved by letter on an individual basis.
4.	Verify that the organization chart depicts the current operating structure and authority is clearly established.	S	<u>C.W. Eliason</u> <u>Director QA</u> Heads QA Program Title <u>M.J. Donovan</u> <u>President</u> Quality Head Reports To Title
5.	Check organization chart to determine if the person or department responsible for defining and implementing the overall effectiveness of the program is: A. Designated in writing. B. Independent from production pressures. C. Direct access to management.	S	Record manual references for A, B, & C and explain. Quality Assurance Manual, Section 3 - All three items are implemented.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-39

DATE 7-21-81

PAGE 2 OF 12

AUDIT CODE If supplemental observations or clarifications are necessary
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NO.	EVALUATION	CODE	OBSERVATIONS			
6.	Record how persons performing QA/QC functions have authority and organizational freedom to: A. Identify quality problems. B. Verify implementation to these problems.	S	If authority is by generating NCR's, record several to justify: Quality Assurance Manual, Sections 11 & 17. #2038 - Nuts not to specification-customer accepted as is. #2033 - Bolts failed magnetic particle test cracks and linear indications. Bolts rejected.			
7.	Explain how management reviews the adequacy of the program.	S	Review internal audits and manual revision and record. The President signs and approves the QA Manual. Director of QA signs and approves Standard Practices. Internal Audits are forwarded to the President for review, approval and/or implementation of corr. action			
8.	Review manual distribution lists to ensure: A. Controlled distributions. B. Retrieval of outdated revisions.	S	Manual Dist. To	No.	Ack. Recpt.	Old Rev. Retr. or Destroyed Retrieved
			Bennett	169-2	yes	Retrieved
			Mazza	238-2	yes	Retrieved
			_____	_____	_____	_____
			_____	_____	_____	_____
9.	Verify all NDE examination personnel are qualified to SNT-TC-1A where applicable.	S	Personnel	Date of Qual.	Expir. Date	Qualified To
			P. Chavez	8-18-79	8-18-82	MT-3, PT-2
			G. Harris	3-24-81	3-24-84	MT, PT-3
			A. Tartavlia	7-31-81	7-31-84	RT, PT, MT-
		*	N. Henderson	3-9-81	3-9-84	PT, MT, UT-
			_____	_____	_____	_____
10.	Are examinations performed in accordance with procedures, approved by PPP as specified by Pullman's purchasing specifications?	N	Proc.	Proc. Title	PPP Apprv.	Date
			_____	_____	_____	_____
			_____	_____	_____	_____
			_____	_____	_____	_____
			_____	_____	_____	_____
			_____	_____	_____	_____
			N.D.E. is performed by Eagle Intermountain Testing. Procedures used are as specified on each customer's purchase order. Eagle Intermountain is on the Cardinal AVL.			

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-39

DATE 7-21-81

PAGE 3 OF 12

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S=SATISFACTORY U=UNSATISFACTORY N=NOT AUDITED X=NOT APPLICABLE

NO.	EVALUATION	CODE	OBSERVATIONS														
11.	Verify if applicable procedures are posted at work stations. Record Proc. # & Title. Check latest approved dist. list and compare e.g. heat treating, welding, etc.	U *	<p align="center">Production</p> <p><u>Work Location</u> <u>Manager</u> <u>Dist. List</u></p> <p>Proc. # <u>CSP5.003-1</u> Latest Rev. _____</p> <p>Proc. Title <u>PO for Nuclear</u> Date - _____</p> <p>Rev. Date <u>9-6-80</u></p> <p>Proc. # <u>CSP11.001</u> Latest Rev. _____</p> <p>Proc. Title <u>Inspection</u> Date - _____</p> <p>Rev. Date <u>10-14-80</u></p>														
12.	Is there a system incorporating mandatory hold points established by QA or customer requirements. Review and record a few process sheets to ensure adherence to hold points.	S	<table border="0"> <tr> <td>Trav. #</td> <td>Hold Pt.</td> <td>Hold Pt. Verification</td> </tr> <tr> <td><u>1256806</u></td> <td><u>yes</u></td> <td><u>yes</u></td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table>	Trav. #	Hold Pt.	Hold Pt. Verification	<u>1256806</u>	<u>yes</u>	<u>yes</u>	_____	_____	_____	_____	_____	_____		
Trav. #	Hold Pt.	Hold Pt. Verification															
<u>1256806</u>	<u>yes</u>	<u>yes</u>															
_____	_____	_____															
_____	_____	_____															
13.	Review & record a few completed process sheets to determine: A. QA release (approval) to production. B. Necessary inspection requirements are stipulated. C. QA has reviewed final process sheets for acceptance. D. All operations are signed & dated. E. Applicable procedures are referenced.	S	<p>A. Trav. # <u>2434501</u> QA Apprv. <u>yes</u> Dt. <u>6-3-81</u></p> <p>B. <u>yes</u> Insp. Req. <u>yes</u></p> <p>C. <u>yes</u> QA Apprv. <u>yes</u> Dt. <u>6-15-81</u></p> <p>D. <u>yes</u> All Opr. _____ Complete? <u>yes</u></p> <p>E. <u>yes</u> Procedures used Refer? <u>yes</u></p>														
14.	Obtain a few material heat numbers (or vendor unique identification) from prod. floor and verify: Traceability of materials, parts or components to specific inspection or test records <u>as</u> required by Code.	S	<table border="0"> <tr> <td><u>Floor</u></td> <td><u>Certificate</u></td> </tr> <tr> <td>Ht# <u>43275</u></td> <td>Ht. # <u>43275</u></td> </tr> <tr> <td>Mat. Grd/Type <u>L7PD</u></td> <td>Mat. Grd/Type <u>L7PD</u></td> </tr> <tr> <td>Appvd. Supplier <u>PO 9324-Crucible Inc.</u></td> <td></td> </tr> <tr> <td>Ht# <u>42655</u></td> <td>Ht# <u>42655</u></td> </tr> <tr> <td>Mat. Grd/Type <u>L7</u></td> <td>Mat. Grd/Type <u>L7</u></td> </tr> <tr> <td>Appvd. Supplier <u>PO 9324-Crucible Inc.</u></td> <td></td> </tr> </table>	<u>Floor</u>	<u>Certificate</u>	Ht# <u>43275</u>	Ht. # <u>43275</u>	Mat. Grd/Type <u>L7PD</u>	Mat. Grd/Type <u>L7PD</u>	Appvd. Supplier <u>PO 9324-Crucible Inc.</u>		Ht# <u>42655</u>	Ht# <u>42655</u>	Mat. Grd/Type <u>L7</u>	Mat. Grd/Type <u>L7</u>	Appvd. Supplier <u>PO 9324-Crucible Inc.</u>	
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PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-39

DATE 7-21-81

PAGE 4 OF 12

AUDIT CODE If supplemental observations or clarifications are necessary
Indicate with * under audit code and record on supplement sheet.
S=SATISFACTORY U=UNSATISFACTORY N=NOT AUDITED X=NOT APPLICABLE

NO.	EVALUATION	CODE	OBSERVATIONS			
15.	Verify welding procedures and welders are qualified to Section IX.	X	Welder	Process	Material	
			_____	_____	_____	
			_____	_____	_____	
			_____	_____	_____	
16.	Verify if welding procedures are submitted to Pullman Power Products for approval.	X	Proc. #	Proc. Title	PPP Appro.	Date
			_____	_____	_____	_____
			_____	_____	_____	_____
17.	Check filler metal containers. Verify and record marking and traceability to certification by heat & lot.	X	Size	Type	Heat	Certification Appd.
			_____	_____	_____	_____
			_____	_____	_____	_____
18.	Verify if heat treating is performed in accordance with approved procedures.	X	Proc. #	Proc. Title	Appd. By	
			_____	_____	_____	
			_____	_____	_____	
19.	Record the measure of control of furnace temperature by part or zone temperature.	X				

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
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DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
20.	Record measures for temperature monitoring. If by thermocouples, record and verify thermocouple calibration frequencies.	X	
21.	Record and verify that the heating and cooling rates, maximum and minimum temperatures at specified times in accordance with code and customer requirements. Verify by heat treat charts or CMTR's.	X	<u>Record material, hold times, and cooling cycles.</u>
22.	Verify and record provisions for handling, storage and shipping requirements. A. Record manual or proc. ref. B. Are special provisions for handling stainless materials specified, e.g., nylon slings, etc.?	S	A. QA Manual, Section 14. B. Standard commercial practice as shown on CSP 14.001
23.	What is the method used to ensure component traceability throughout the manufacturing process? What is the method of identification?	S	Control code assigned by QA, metal stamped by receiving and verified by QA. Material identified with metal stamp with bundles of material tagged with PO number, heat number and name of supplier.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
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DATE 7-21-81

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AUDIT CODE

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X=NOT APPLICABLE

NO.	EVALUATION	CODE	OBSERVATIONS
24.	Documentation of examinations and tests are traceable to the material. Record evidence of examinations performed and verify if the status indicator reflects the satisfactory completion of the examination.	S	QA assigned code entered on the CPR prior to release of material for manufacture.
25.	Record and verify how P.O.'s are reviewed and approved by QA prior to issuing P.O. to their supplier.	S	PO comes to Director of QA who reviews requirements and approves by signature or rejects.
26.	Verify through objective evidence of transference of marking to cut pieces, or by ref. manual paragraph if transference of material identification is not documented.	S	No transfer of code numbers allowed. Material remnants are transferred to a separate department and used for commercial orders only.
27.	Record evidence indicating that nonconforming items are reviewed for rejection, repair, rework and final verification of dispositions.	S	NCR #2033 - Material returned to manufacturer. NCR #2038 - Material acceptable per customer authorization and shipped.
28.	Ensure and record the measures used to identify nonconforming material and the subsequent segregation until dispositions are verified and approved. Record evidence of NCR's through the following: (Continued on next page)	S	A. NCR #2065 - Dispositioned by production representative, Engineering representative and QA representative with QA controlling power. B. Yes.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

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DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
28. (Cont)	A. An NCR was generated and who dispositioned? B. The traveler indicated the NCR. C. The NCR disposition was verified by QA. D. The rejected material was tagged, codes or segregated until disposition verification.	S S	C. Yes D. Rejected material did not have red hold tag due to temporary shortage. But material was segregated in a hold area with a tag identifying all information.
29.	Verify that the vendors certified material test reports have provisions for: (as applicable) A. Chemical Analysis B. Tests C. Heat treatment, hold temperature and cooling method and time. D. Weld repairs (if applicable). E. If applicable, certificate no. and expiration date.	S S X X S	A. Yes B. Yes C. D. E. Crucible Inc. Alloy Division Midland, PA 15059
30.	Review and record the manufacturer's CMTR to ensure that all test results and operations performed by the manufacturer or his subcontractor are in compliance with the requirements of the material specification. Verify applicable CMTR's to ensure this requirement.	S	CMTR for PO#5655, heat #89099 - Quantitative Chemical Analysis for ASTM A194, Grade 7 - compared to 1980 ASTM specification.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
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NO.	EVALUATION	CODE	OBSERVATIONS								
31.	<p>If the manufacturer purchases stock material not qualified to an NCA-3800 program, they must ensure the following requirements:</p> <p>A. The material manufacturer performs or subcontracts all other requirements of the material specification on <u>each piece</u> of stock material.</p> <p>B. A product analysis is to be performed on each heat or lot to verify chemical composition.</p> <p>C. Verify no welding has been performed on stock purchased material.</p> <p>D. These functions are performed in accordance with the material manufacturers quality system program.</p>	<p>X</p> <p>A.</p> <p>S</p> <p>B.</p> <p>X</p> <p>C.</p> <p>S</p> <p>D.</p>	<p>Verify and record which method indicated is applicable. Record objective evidence to substantiate:</p> <p>A.</p> <p>B. Certification required on actual mill test reports for each heat and lot.</p> <p>C.</p> <p>D. Statement on Test Report that material manufactured in accordance with QA system audit and approved by Cardinal on 2-29-80.</p>								
32.	<p>Record manufacturers procedure to ensure that tools, gages and instruments are calibrated and adjusted to specified intervals.</p>	<p>S</p>	<p>QA Manual, Section 13.</p>								
33.	<p>Obtain serial numbers of a few measuring instruments on floor and verify calibration requirements.</p> <p>A. What is the frequency of calibration?</p> <p>B. Date calibrated.</p>	<p>S</p> <p>A.</p> <p>S</p> <p>B.</p>	<table border="0"> <tr> <td><u>Instrument:</u></td> <td><u>Instrument:</u></td> </tr> <tr> <td>CI065</td> <td>CI005</td> </tr> <tr> <td>A. 90 days from time put into service.</td> <td>A. 90 days from time put into service.</td> </tr> <tr> <td>B. 4-27-81 In service date 5-13-81</td> <td>B. 6-1-81 In service date 7-17-81</td> </tr> </table>	<u>Instrument:</u>	<u>Instrument:</u>	CI065	CI005	A. 90 days from time put into service.	A. 90 days from time put into service.	B. 4-27-81 In service date 5-13-81	B. 6-1-81 In service date 7-17-81
<u>Instrument:</u>	<u>Instrument:</u>										
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PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

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DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
33. (Cont)	C. Date to be calibrated.	S	C. 8-13-81 C. 10-1-81.
	D. Serial number of master standard used to calibrate instrument.	S	D. Standards provided by Ponam Precision Gauges, Glendale, Ca.
	E. Ensure master standards are traceable through NBS.	S	E. Yes, records received from Ponam certify to NBS
	F. Are the gauges tagged to signify calibration dates.	U *	F. No F. No
34.	If master standards are forwarded to a calibration facility, ensure certification correlates with the standard, e.g., identification, required and correct frequencies, etc.	S	Ponam Precision Gauges provides card stating traceable to NBS per MIL-C-45662A standard.
35.	Inquire and record if any gauges have been found out of the required tolerance at calibration. If so, record what steps were taken to resolve previously inspected material with this gauge.	S	Yes. Used on a commercial product. Customer accepted material after being informed of out of tolerance gauge.
36.	Record the QA Manual and/or procedure reference to signify internal audit requirements.	S	QA Manual, Section 19. Cardinal Standard Practice 19.001

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V- 39

DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
37.	Obtain and record internal audit reports to verify: A. Record the audit frequency. B. Does the audit cover the total quality system program? C. Are checklists used to conduct the audit? D. Are audit results reviewed and approved by management? E. What were the steps taken to resolve audit findings? F. Were followup measures taken and responses sufficient to preclude recurrence? G. Are audits performed by trained personnel not having direct responsibility in the areas they audit?	 S S S S S U * S	 A. Annually B. Yes, 18 areas of 10CFR50, Appendix B. C. Yes D. By the President and persons involved. E. Summary Report to direct compliance with QA program. F. At the time of the audit, Cardinal did not provide this auditor with any follow up measures in order to determine if responses sufficient to preclude recurrence G. Yes, Jim Tyrrell-Northwest Regional Manager.
38.	Is a system of planned and documented external audits performed to verify compliance with all aspects of the suppliers and suppliers of subcontracted services. Record manual ref.	 S	 QA Manual, Section 8.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-39

DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
39.	Obtain and record external audit reports to verify: A. Record the audit frequency. B. Does the audit cover the total quality system program. C. Are checklists used to conduct the audit? D. Are audit results reviewed and approved by management? E. What governing document or what specification is used to qualify the manufacturers vendor? F. What were the steps taken to resolve audit findings. G. Were followup measures taken and responses sufficient to preclude recurrence? H. Are audits performed by trained personnel?	 S S S S S X S	Copperweld Steel Co., ASME Code Certificate, N Code - N-2211 A. Every three years, initial audit 4/24/81. B. Yes, ASME III, NCA 3800, Summer 1980 addenda. C. Yes D. Performed by C.W. Eliason, Director of QA with no additional review. E. ASME III, NCA 3800. F. Program adequate, no audit findings. G. H. Yes, Director of QA.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
CHECKLIST - NO: 1

VENDOR CODE NO: V-

DATE 7-21-81

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NO.	EVALUATION	CODE	OBSERVATIONS
40.	Shop drawings are approved to ensure that materials, dimensions, fabrication requirements and quality levels have been included.	X	Record drawings and verify requirements. <i>All drawings and specifications provided by customer. Cardinal has no design function</i>
41.	Pending drawing change due to revised specifications, record the mechanics used to withdraw the drawing and verify: A. Document or tag used to identify assembly on hold for drawing change. B. Who issues change notice? C. Does drawing reflect reason for change? D. Revisions to drawings are handled in same manner as original. E. Does QA approve all changes to fab sheets?	X X X X X	A. B. C. D. E.

PULLMAN POWER PRODUCTS

VENDOR QUALITY AUDIT
SUPPLEMENT SHEET

DATE: 7-21-81

VENDOR CODE NO: V-39

PAGE 1 OF 2

ITEM NO.	-ADDITIONAL INFORMATION OR CLARIFICATION
9	Henderson's PT, MT and UT, Level III certification is based on experience, not on examination.
11	<p>A. There is no Distribution list which states the latest revision dates for Cardinal Standard Practices. There is a Cardinal Standard Practice Assignment sheet which includes the following information: 1. Name of individual receiving procedure. 2. Person's initial for receiving procedure. 3. Date procedure issued. 4. Date and signature of person stating have read and understood their responsibilities. This Assignment sheet does not list the Cardinal Standard Practices or revision dates. There is a list of Cardinal Standard Practices (see attachment #1) used in conjunction with the Assignment sheet for indoctrination purposes but it does not list procedure revision dates either.</p> <p>B. In addition, during the audit of the Production Manager's procedures it was noticed that revised, outdated pages of CPS 3.8 and CPS 13.001 had not been removed from his procedure book. A red X had been lined through the old pages and the new revised pages inserted into the book next to the old.</p>
	See Cardinal QA Manual Section 7-5, ANSI N45.2, Section 7, ASME III NCA 3866.2 and 10CFR50, Appendix B, Section VI.
33F	<p>Per the Director of QA, the gauges are not tagged to signify calibration dates, due to the constant presence of grease on the gauges. The grease inhibits the adhesiveness of the tags and the company has been unable to find a brand of tags which will stick to the gauges. A tickler file has been set up based on a monthly review of records of gauges put into service. The file is based on the 90 day period from which gauges are put into service and the month that recalibration becomes due.</p>
	See ANSI Section N45.2, Section 13.

ATTACHMENT # 1

QUALITY ASSURANCE MANUAL		STANDARD PRACTICES	STANDARD PRACTICES cont.
Section		CSP #	15.001 CPR
1 PURPOSE		3.001 ORGANIZATION	15.002 MODIFICATION TO CPR
2 QUALITY ASSURANCE PROGRAM		5.001 REFERENCED DOCUMENTS	16.001 NON-CONFORMANCE, CORRECTIVE ACTION & AUTHORIZATION TO REWORK
3 ORGANIZATION		5.003-1 PURCHASE ORDERS FOR NUCLEAR, LEVEL 1 REQUIREMENTS	19.001 INTERNAL AUDITS
4 DESIGN CONTROL			22.001 NDE
5 PROCUREMENT DOCUMENT CONTROL		7.001 CI FILE	26.001 CONTROL OF COUPONS
6 INSTRUCTION, PROCEDURES AND DRAWINGS		7.002 CERTIFICATION PROCEDURE	27.001 PROCEDURE FOR SUBMISSION OF COUPONS FOR PHYSICAL TESTING
7 DOCUMENT CONTROL			28.001 ORDERING & PRODUCING CARDINAL STOCK ITEMS
8 CONTROL OF PURCHASED MATERIAL AND SERVICES		7.003 REQUEST FOR AN AMENDED CARDINAL CERTIFICATION	OTHER REQUIREMENTS
9 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS		7.004 QUALITY ASSURANCE REVIEW OF DOCUMENTATION	
10 SPECIAL PROCESS		8.001 STORAGE-STAINLESS STEEL	
11 INSPECTION		9.001 IDENTIFICATION & MARKING MATERIALS	
12 TEST CONTROL		9.001A ROD SEGREGATION	
13 CONTROL OF MEASURING AND TEST EQUIPMENT		9.002A BOLT BLANK SEGREGATION	
14 HANDLING STORAGE AND SHIPPING		9.003-1 FINISHED PRODUCT	
15 INSPECTION, TEST AND OPERATING STATUS		10.001 PURCHASE ORDER SPECIAL PROCESS	
16 NON CONFORMING MATERIAL		11.001 INSPECTION	
17 CORRECTIVE ACTION		12.001 RECEIVING INSPECT	
18 QUALITY ASSURANCE RECORDS		12.002 NOTICE OF REJECTION	
19 AUDIT		13.001 CALIBRATION OF MEASURING & TEST EQUIP.	
20 TRAINING INDOCTRINATION		13.002 CARE OF GAGE BLOCK	
21 FORMS		13.003 INSPECTION & TEST EQUIPMENT & MARKING ID	
		14.001 HANDLING STORAGE & SHIPPING	
		14.002 PACKAGING "Q" PRODUCTS	
		14.003	

Log No. 81-193

P. O. Box 3308, Reach Road
Williamsport, Pennsylvania 17701
Telephone (717) 323-9991
Telex 841416
Cable Pipeline Williamsport

V-39 R. Nott



Pullman Power Products

August 6, 1981

Cardinal Industrial Products
3873 West Quendo
Las Vegas, Nevada 81918

Attention: Mr. M. J. Donovan
President

Subject: Quality Assurance Program Audit
conducted July 21, 1981 to ASME
Section III, NCA-3800

Gentlemen:

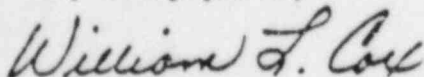
We are pleased to advise that by virtue of satisfactory completion of a Pullman Power Products Quality Assurance Program audit conducted July 26, 1981 in your facility, the approved status of Cardinal Industrial Products Las Vegas, Nevada has been included on our list of approved vendors for one (1) calendar year. Your firm has been classified as a Material Manufacturer qualified to furnish Steel Bolting & Fasteners intended for use in ASME, Section III, Class 1, 2 & 3 fabrication.

Your status is effective immediately. We reserve the right to conduct audits of your quality program and its implementation to verify continuing compliance.

This qualification includes auditing and qualification of sub-tier suppliers to ASME, Section III requirements.

Thank you for the cooperation extended to Mr. Hudson during his recent visit and we look forward to working with you in the future.

Very truly yours,



William L. Cox
Senior QA Auditor
Quality Engineering Group

WLC:cio

cc: AVL Dist. List B

PULLMAN POWER PRODUCTS

VENDOR QUALITY SYSTEM
AUDIT CHECKLIST APPLICABLE TO
MATERIAL MANUFACTURERS AND
MATERIAL SUPPLIERS

VENDOR
CODE NO: V39

NAME OF FACILITY	CARDINAL INDUSTRIAL PRODUCTS, CO.	DATE	7-21-81
MAILING ADDRESS	3873 West Oquendo, Las Vegas, Nevada 89118	PHONE AREA CODE +	702-739-1966
FACILITY ADDRESS	Same as above		
PLANT AREA IN SQ. FT.	<u>60,000</u>	TOTAL PERSONNEL IN COMPANY	<u>80</u>
TOTAL PERSONNEL IN ENG.	<u>1</u>	NO. OF PERSONNEL IN QA	<u>8</u>
NO. OF PERSONNEL IN MFG.	<u>40</u>	NO. OF PERSONNEL IN QC	<u>-</u>
GOVERNING DOCUMENT	<u>10CFR50 Appendix B, ANSI-N45.2, ASME III</u>		
ORGANIZATION LINES OF AUTHORITY	<u>Director of QA direct to President</u>		
TYPE OF PRODUCTS(S)*	<u>Fasteners</u>		

CURRENT ASME CERTIFICATES N/A

PERSONNEL CONTACTED

<u>NAMES(S)</u>	<u>POSITION</u>
<u>M.J. Donovan</u>	<u>President</u>
<u>C.W. Eliason</u>	<u>Director of Quality Assurance</u>

TYPE OF SURVEILLANCE
(CHECK WHICH PERFORMED)

INITIAL AUDIT RE-AUDIT AUDIT FOLLOW UP

PREPARED BY: Harold O. Hudson H.O. Hudson TITLE: Lead Auditor/Internal Auditor

AUDITED BY: Harold O. Hudson H.O. Hudson TITLE: Lead Auditor/Internal Auditor

(PULLMAN POWER PRODUCTS USE ONLY)

AUDITOR RECOMMENDS SECTION III NON-NUCLEAR

QUALIFICATION FOR: ADDITION TO AVL OTHER (ATTACH SHEET)
VENDOR SUMMARY REPORT

QEG COMMENTS: _____

QEG APPROVAL: _____ TITLE: _____ DATE: _____

Indicate explicit definition of Approved Products(s)

e.g. - If pipe-indicate Seamless or Welded.
Where welded pipe is furnished indicate whether Welded with or without filler metal.

PULLMAN POWER PRODUCTS
DIVISION OF PULLMAN INCORPORATED

VENDOR QUALITY AUDIT SUMMARY REPORT

AUDIT DATE: 7-21-81

VENDOR CODE NO: V-39

CL # _____

FACILITY: Cardinal Industrial Products
ADDRESS: 3873 West Oquendo
Las Vegas, Nevada 89118

DISTRIBUTION	

GENERAL SUMMARY & EVALUATIONS

Cardinal Industrial Products Company is recommended for continuation of the AVL upon corrective action of audit findings. Find attached Vendor Audit Action Request #1, #2, and #3 for Pullman Corporate review and upon confirmation, for submission to Cardinal for corrective action. The audit revealed that there is no Distribution List which states the latest revision dates for Cardinal Standard Practices and that the Production Manager's Standard Practice book had revised, outdated procedures still inserted in his book after the new procedure was distributed. The audit revealed that measuring gauges were not tagged to signify calibration dates. No record was available of follow-up measures taken concerning findings on their current internal audit. Except for the above findings the Cardinal Quality Assurance Program is adequate as implemented.

AUDITOR: Harold O. Hudson

DATE: 7/27/81

AUDITOR POST AUDIT CONFERENCE

Audit findings were discussed with the Director of Quality Assurance. Recommendations were made to improve distributions of Standard Practices. The tagging of measuring gauges was discussed, with the Director of QA explaining the reasons for the deficiency (see Supplement Sheet, Item #33F). The Director stated that follow-up measures taken to their internal audit findings would be mailed to me for review. He was informed that this information would be reported to Pullman Corporate QA for their evaluation.

AUDITOR: Harold O. Hudson

DATE: 7-21-81

QEG COMMENTS: _____

QEG APPROVAL: _____

APPROVAL DATE: _____

VENDOR AUDIT
ACTION REQUEST

VAAR # 1

VENDOR CODE NO. V- 39

COMPANY NAME: CARDINAL INDUSTRIAL PRODUCTS		COMPANY LOCATION: 3873 West Oquendo, Las Vegas, NV 89118
SUBMITTED TO: C.W. Eliason	DATE: 7-21-81	BY: Harold Hudson

FINDING: (REF. DOCUMENT WHICH WAS VIOLATED)
Checklist #11, Finding A - There is no Distribution List which states the latest revision dates for Cardinal Standard Practices.

Finding B - Revised, outdated pages of Cardinal Standard Practices 3.8 and 13.001 of the Production Manager's book had not been removed from his procedure book. A red X had been lined through the old pages and the new revised pages inserted into the book next to the old.

PPP Vendor Quality Audit Checklist, Item #11 - Cardinal QA Manual, Section 7-5, ANSI N45.2, Section 7, ASME III NCA 3866.2 and 10CFR50, Appendix B, Section VI - violates intent but no specific reference.

VENDOR CORRECTIVE ACTION PROPOSED
(INCLUDE ACTION TO PREVENT RECURRENCE) DUE DATE: _____

CORRECTIVE ACTION PREPARED BY: _____ TITLE: _____

QEG COMMENTS (FOLLOW-UP)

FINDING CLOSED BY MEANS OF
EVALUATION AND VERIFICATION BY: _____ DATE: _____
TITLE: _____

VENDOR CODE NO. V-39

VENDOR AUDIT
ACTION REQUEST

VAAR # 2

COMPANY NAME: CARDINAL INDUSTRIAL PRODUCTS		COMPANY LOCATION: 3873 West Oquendo, Las Vegas, NV 89118
SUBMITTED TO: C.W. Eliason	DATE: 7-21-81	BY: Harold Hudson

FINDING: (REF. DOCUMENT WHICH WAS VIOLATED)
Checklist 33F- Measuring gauges are not tagged to signify calibration dates.
PPP Vendor Quality Audit Checklist, Item #33F, ANSI N45.2, Section 13.
NOTE: Cardinal QA Manual states control of measuring and test equipment will be in accordance with MIL-C-45662 (see QA Manual, Section 13-1) and has no specific reference to tagging equipment.

VENDOR CORRECTIVE ACTION PROPOSED (INCLUDE ACTION TO PREVENT RECURRENCE)	DUE DATE: _____
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CORRECTIVE ACTION PREPARED BY:	TITLE:
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REG COMMENTS (FOLLOW-UP)

FINDING CLOSED BY MEANS OF EVALUATION AND VERIFICATION BY: _____	DATE: _____
TITLE: _____	

VENDOR AUDIT
ACTION REQUEST

VAAR # 3

VENDOR CODE NO. V-39

COMPANY NAME: CARDINAL INDUSTRIAL PRODUCTS		COMPANY LOCATION: 3873 Oquendo, Las Vegas, Nevada 89118
SUBMITTED TO: C.W. Eliason	DATE: 8-4-81	BY: Harold Hudson

FINDING: (REF. DOCUMENT WHICH WAS VIOLATED)

Checklist #37F - At the time of the audit, Cardinal was unable to provide a record of follow-up measures taken concerning findings on their current internal audit. A letter was received by this auditor on 8-3-81 from Cardinal stating that corrective action had been taken on all violations that were listed in their internal audit report. But the letter did not include responses to the audit findings in order to determine if they were sufficient to preclude recurrence.

Vendor Quality Audit Checklist #37F, ASME III NCA-3869.2, ANSI N45.2, Section 19.

VENDOR CORRECTIVE ACTION PROPOSED
(INCLUDE ACTION TO PREVENT RECURRENCE)

DUE DATE: _____

CORRECTIVE ACTION PREPARED BY:

TITLE:

REG COMMENTS (FOLLOW-UP)

FINDING CLOSED BY: _____
EVALUATION AND VERIFICATION BY: _____

DATE: _____

TITLE: _____

INTEROFFICE CORRESPONDENCE

1 copy J. RYAN
1 copy H. VIOSO
1 FILE

DATE February 27, 1981
TO W. L. Cox
FROM A. A. Eck
SUBJECT Cardinal Bolt

Per request from the Diablo Canyon Project, please keep Cardinal Bolt current on the AVL. Diablo will continue to use very heavily over the next few years.

As a reminder from the Site, they are due to expire on the AVL 6/27/81. As a recommendation, it would be practical to use Harold Hudson of Diablo to conduct this Audit. The necessary procedures, checklist, etc., could be made available from your office.

A. A. Eck
A. A. Eck

AAE/lam

cc: H. W. Karner - Diablo
File