WORKING COPY

VERIF. DATE: _____

INTIALS: _____

CP3-QA-1006 FRev. 3	**TITLE**: Suspect/Counterfeit Items	Page 1 of 23

DOCUMENT CATEGORY:	☒ Administrative	☐ Technical
LEVEL OF USE:	☒ Information Level ☐ Reference Level	☐ Continuous Use

FUNCTIONAL AREA: Quality Assurance **SUBJECT MATTER AREA:** Procurement Quality/Suspect Counterfeit Items	**SUBJECT MATTER EXPERT**: Andrew Gallegos, Quality Specialist
NUCLEAR SAFETY REVIEW DOCUMENTATION: FRNP-20-0030-D	**APPROVED BY**: Jennie Freels, Quality Assurance/Quality Control Program Manager 01/22/2020
REQUIRED REVIEW DATE: 01/22/2023	**EFFECTIVE DATE**: 02/12/2020

REVISION/CHANGE LOG

Revision/Change Letter	Description of Changes	Pages Affected	Date of Revision/Change
FR0	Blue Sheeted Version	All	9/22/2017
FR1	Initial Release. Changes from FPDP to FRNP throughout document; Title changes consistent with Transition Title Change Crosswalk; Bluesheet Document Number: CP3-QA-1006 FRev. 0, original document number: CP3-QA-1006, R1.	All	11/16/2017
FR2	Clarification on the dispositioning of S/CI.	All	5/10/2018
FR3	Review and update to align with the FRNP QAPD and DOE O 414.1D Attachment 3 Suspect Items Prevention to address CA-001996 derived from SA-FY19-0045, Self-Assessment Checklist for S/CI.	All	01/22/2020

TABLE OF CONTENTS

1.0 PURPOSE AND SCOPE 3
1.1 Purpose 3
1.2 Scope 3
2.0 REFERENCES 3
2.1 Use References 3
2.2 Source References 3
3.0 COMMITMENTS 4
4.0 RESPONSIBILITIES 4
4.1 Quality Assurance/Quality Control Manager 4
4.2 Engineering 4
4.3 Requestor 4
4.4 Procurement 4
4.5 Plant Shift Superintendent 4
4.6 Subject Matter Expert 4
4.7 Contractor Performance Assurance 5
4.8 Property and Logistics Manager 5
4.9 Warehouse Personnel 5
4.10 Training 5
4.11 Facility Manager 5
4.12 Contract Technical Representative 5
4.13 Quality Control Inspectors 5
5.0 GENERAL INFORMATION 5
6.0 INSTRUCTIONS 6
6.1 Training 6
6.2 Acquisition of Items and Services 6
6.3 Receipt Inspection Requirements 7
6.4 Inspection of Inventory and Storage Areas 8
6.5 Inspection of Installed Safety and Non-Safety Applications/Systems 8
6.6 Lifting Equipment Load Bearing Components/Equipment Requirements 9
6.7 Segregation and Disposition Requirements 10
6.8 Improvement of the Prevention Process 10
7.0 RECORDS 11
7.1 Records Generated 11
7.2 Records Disposition 11
APPENDIX A – ACRONYMS/DEFINITIONS 12
APPENDIX B – SUSPECT/COUNTERFEIT ITEM INDICATORS 14
APPENDIX C – HEADMARK LIST 21
APPENDIX D – CHARACTERISTICS FOR REPORTING S/CI 23

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this procedure is to provide guidance regarding the identification, control, and disposition of suspect/counterfeit items (S/CI) within the United States (U.S.) Department of Energy (DOE) areas under the management of the Paducah Gaseous Diffusion Plant (PGDP) Deactivation and Remediation (D&R).

1.2 Scope

This procedure applies to the procurement process in that it provides guidance to prevent the purchase or lease of equipment or systems that contain S/CI.

This procedure applies to any S/CI discovered during inspection, testing, and/or routine work activities, regardless of application or quality level. (Refer to Appendix B, *Suspect/Counterfeit Item Indicators,* and Appendix C, *Head Mark List,* for criteria used to identify S/CI). Additional information on trademark filings may be found at https://www.usa.gov/federal-agencies/u-s-patent-and-trademark-office.

This procedure applies to all PGDP D&R Contractor employees and contract labor resource personnel unless otherwise exempted by specific subcontract language. S/CI requirements associated with suppliers or vendors are addressed within Procurement documentation.

2.0 REFERENCES

2.1 Use References

- CP3-QA-2005, *Nonconformance Control*
- CP3-QA-3005, *Occurrence Reporting*

2.2 Source References

- 10 CFR §830.122, *Quality Assurance Criteria*
- CP2-QA-1000, *Quality Assurance Program Description*
- CP3-PR-3001, *Warehouse Operations and Receipt of Material*
- CP3-QA-2001, *Approved Supplier Selection, Evaluation, Approved Supplier Maintenance*
- CP3-QA-2004, *Material Receipt Inspection*
- CP3-QA-2500, *Procurement, Inspection, and Management of Items Critical for Paducah Off-Site Shipments*
- CP3-QA-3001, *Issues Management*
- CP3-EN-0215, *Engineering Evaluations*
- DOE G 414.1-2B Chg. 2, *Quality Assurance Program Guide*
- DOE Order (O) 221.1B, *Reporting Fraud Waste and Abuse to the Office of the Inspector General*
- DOE O 232.2A, *Occurrence Reporting and Processing of Operations Information*
- DOE O 414.1D Chg 1, *Quality Assurance*
- EM-QA-001 Rev 1, *Environmental Management Quality Assurance Program*

3.0 COMMITMENTS

None

4.0 RESPONSIBILITIES

4.1 Quality Assurance/Quality Control Manager

- Maintaining S/CI oversight and prevention process commensurate with the facility/activity hazards and mission impact
- Responsible for S/CI activities and for serving as point of contact with the Office of Health, Safety and Security
- Serving as point of contact for reporting requirements to the Inspector General Office (OIG)

4.2 Engineering

- Preventing introduction of S/CIs into DOE work by:
  - Involvement during development of procurement specification
  - Involvement during inspection and testing
  - Involvement when maintaining, replacing, or modifying equipment
- Performing evaluations for acceptance of installed S/CI as well as marking to prevent future reuse.

4.3 Requestor

Involving engineering in procurement specifications

4.4 Procurement

Flowing down technical and quality assurance requirements in procurement specifications

4.5 Plant Shift Superintendent

Responsible for determination of reporting requirements for installed S/CI.

4.6 Subject Matter Expert

- Providing training and informing managers, supervisors, and workers on S/CI process and controls (including prevention, detection, and disposition of S/CIs)
- Responsible for including processes for inspection, identification, evaluation, and disposition of S/CIs that have been installed in safety application and other applications that create potential hazards in procedural guidance
- Responsible for addressing the use of supporting engineering evaluations for acceptance of installed S/CI as well as marking to prevent future reuse in procedural guidance
- Collecting, maintaining, disseminating, and using the most accurate, up to date information on S/CIs and suppliers to communicate to personnel
- Conducting trend analyses for use in improving the S/CI prevention process
- Reviewing lessons learned for use in prevention

4.7 Contractor Performance Assurance

Providing oversight for reporting requirements for identified S/CI.

4.8 Property and Logistics Manager

- Providing oversight to warehouse personnel for inspection and identification of S/CI in inventory and storage areas
- Accepting only those items that comply with procurement specifications, consensus standards, and commonly accepted industry practices

4.9 Warehouse Personnel

Performing periodic inspection of inventory and storage areas to identify and control S/CIs and reporting accordingly.

4.10 Training

- Maintaining a training program on S/CI processes and controls
- Maintaining training records

4.11 Facility Manager

- Being cognizant of S/CIs in facility during walkdowns/inspections
- Reporting any S/CIs discovered

4.12 Contract Technical Representative

Flowing down procurement requirements to prevent introduction of S/CIs by subcontractors

4.13 Quality Control Inspectors

- Conducting receipt inspections for items or equipment procured
- Accepting only those items that comply with procurement specifications, consensus standards, and commonly accepted industry practices
- Initiating nonconformance reports according to CP3-QA-2005, *Nonconformance Report*
- Performing inspections of installed equipment and systems
- Being cognizant of S/CIs during inspections and reporting any discovered

5.0 GENERAL INFORMATION

5.1 Items that are discovered at receipt inspection shall **NOT** be accepted until the Nonconformance Report (NCR) for the potential S/CI has been dispositioned, the corrective action implemented and completed.

5.2 The NCR shall be dispositioned and closed out according to CP3-QA-2005, *Nonconformance Control*.

5.3 In instances where S/CI is discovered during routine maintenance, Engineering shall evaluate the S/CI and either permit its use **or** remove and replace the item(s) as needed.

5.4 The Plant Shift Superintendent (PSS) shall be promptly notified if an item is identified while in use (for example, has been accepted, installed, and in service); an issue shall be entered into Issues Management as the issue may be reportable.

5.5 Document the basic information in Appendix D, *Characteristics for Reporting S/CI*, for disposition of the potential S/CI.

5.6 S/CI shall be placed in a location where it is controlled or segregated so that it **CANNOT** be used.

> NOTE:
>
> The S/CI **CANNOT** be used unless Engineering determines its use will **NOT** be detrimental to the system or Plant.

5.7 Engineering shall evaluate the S/CI against associated safety function impact **and** either permit its use **or** remove it from service **and** replace as needed.

6.0 INSTRUCTIONS

6.1 Training

Subject Matter Expert

6.1.1 Participate in training and informing managers, supervisors, and workers on S/CI processes and controls (including, prevention, detection and disposition of S/CIs.)

Training

6.1.2 With Subject Matter Expert (SME) involvement, maintain up to date training materials, and training records.

6.2 Acquisition of Items and Services

> NOTE:
>
> The meaning of the term "requestor" in this procedure is primarily the person responsible for the item(s) or equipment; however, it can be extended to include anyone who uses, inspects, or tests the item or equipment.

Requestor

6.2.1 Ensure procurement documents require the purchased item to be new, **NOT** reconditioned, used, or repaired, unless otherwise specified by the contracting organization.

Quality Assurance or Engineer

6.2.2 Review submitted procurement documents to ensure requirements of Step **6.2.1** have been satisfied.

Procurement Representative and Contract Technical Representative

6.2.3 Ensure procurement requirements are included in subcontracts prohibiting subcontractors from bringing S/CI on site, **and** hold subcontractors accountable for replacing S/CI at their own expense.

Engineer, Quality Assurance/Quality Control, or Contract Technical Representative

6.2.4 Ensure procurement documents specify the appropriate technical specification and documentation requirements and that received items are subject to Engineering and/or Quality inspection to ensure their validity.

Quality Assurance/Quality Control or SME

6.2.5 Consider past performance in the area of S/CI when performing vendor re-evaluations for the Approved Supplier List (ASL).

6.2.6 Review trend analyses, lessons learned or information shared by Operating Experience (OPEX) Share.

6.3 Receipt Inspection Requirements

Quality Control Inspector

6.3.1 **If** while inspecting or testing items or equipment at receipt, **and** a potential suspect or counterfeit item is discovered or identified, **then** initiate a Nonconformance Report (NCR) according to CP3-QA-2005.

6.3.2 **If** potential S/CI is discovered during a receipt inspection, **then** do **NOT** allow the item or equipment to be released until an engineering evaluation has been completed and resolution on disposition of the S/CI has been received.

6.3.3 **If** the item is potentially S/CI, **then** consult with the Quality Assurance/Quality Control Program Manager and/or SME.

Engineer

6.3.4 **When** notified of a potential S/CI, **then** perform an evaluation of the S/CI according to applicable data and technical specifications to determine appropriate disposition.

6.3.5 Disposition the NCR after performing an evaluation of the S/CI. Take into consideration documentation associated with the nonconformance (such as, inspection reports etc.).

6.3.6 **When** the evaluation is completed, **then** notify the person responsible for the item or equipment (where the S/CI was discovered) of the evaluation results and the required disposition of the S/CI.

6.3.7 **If** the item or equipment is determined **NOT** to be S/CI, **then** disposition the NCR according to CP3-QA-2005.

Quality Assurance/Quality Control Manager

6.3.8 **If** the item or equipment is determined to be S/CI, **then** contact the DOE Inspector General (IG) via the DOE IG hotline: ighotline@hp.doe.gov and/or (800) 541-1625, before destroying or disposing of S/CIs and corresponding documentation, to allow the IG to determine whether the items and documentation need to be retained for criminal investigation or litigation.

Quality Assurance/Quality Control

6.3.9 Maintain documentation of S/CI evaluations and dispositions with the NCR.

6.4 Inspection of Inventory and Storage Areas

NOTE:

Inspection of inventory and storage areas and walk downs are addressed in Department of Energy (DOE) Order 414.1D Chg 1, *Quality Assurance*, Attachment 3, *Suspect/Counterfeit Items Prevention*. Specific guidance for implementing these processes can be found in DOE Handbook "*Suspect/Counterfeit Items Resource Handbook* No. DOE-HDBK-1221-2016." Quality can provide a copy upon request.

Receipt Inspections of Quality Level 4 items are conducted according to CP3-PR-3001, *Warehouse Operations and Receipt of Material*.

Warehouse Personnel

6.4.1 Perform periodic inspection of inventory and storage areas to identify and control S/CIs.

6.4.2 Report any S/CI discovered to immediate supervision.

Property and Logistics Manager

6.4.3 Notify Quality Assurance/Quality Control of potential S/CI.

Quality Control Inspector

6.4.4 Initiate nonconformance report and process according to CP3-QA-2005.

6.5 Inspection of Installed Safety and Non-Safety Applications/Systems

Facility Manager

6.5.1 Perform periodic or annual walk down inspection of installed safety and non-safety applications/systems to identify potential S/CI. The walk down inspection can be included in scheduled maintenance activities.

NOTE:

Discovery of S/CI is screened for reportability according to CP3-QA-3001, *Issues Management,* or CP3-QA-3005, *Occurrence Reporting*.

6.5.2 **If** S/CI is discovered on an existing item or piece of equipment, **then** notify PSS immediately, **and** initiate an issue.

Plant Shift Superintendent

6.5.3 **If** the item is determined to be a S/CI, **then** consult with the Quality Assurance, Quality Control Program Manager (Quality Manager), S/CI Subject Matter Expert (SME) or Contractor Performance Assurance Manager before initiating an occurrence report according to CP3-QA-3005.

6.5.4 Make appropriate notifications.

6.5.5 **If** required, **then** initiate an occurrence report according to CP3-QA-3005.

Engineer

6.5.6 Evaluate each S/CI discovered in safety systems to determine how and where the S/CI is used in the system, its potential to adversely affect the safety system, and its proposed disposition.

6.5.7 Perform an extent of condition review as determined according to CP3-QA-3001.

6.5.8 Ensure the engineering evaluation determines whether the system should be removed from service immediately, locked out and tagged out (LOTO), or otherwise controlled or designated until the S/CI can be replaced, or used-as-is with limits to operation, until the S/CI can be replaced.

6.5.9 Evaluate each S/CI discovered in non-safety systems to determine how and where the S/CI is used in the system, its' potential to affect the system, and its proposed disposition.

Facility Manager

6.5.10 **If** the engineering evaluation determines an S/CI does **NOT** pose a potential safety hazard, **then** allow the item to remain in place, provided it is properly identified and marked by painting or other suitable means, to prevent its reuse in another application for which it may **NOT** be suitable.

6.5.11 Replace, repair, **or** remove any S/CI during routine maintenance based on Engineering's disposition.

6.5.12 **If** approved by Engineering to use-as-is, **then** mark the item **and** allow it to remain in place.

6.5.13 **When** removed, **then** maintain the S/CI for evidentiary purposes in a location identified by the Property and Logistics Manager until **NO** longer deemed necessary by the OIG.

6.6 Lifting Equipment Load Bearing Components/Equipment Requirements

NOTE:

This section also applies to subcontractor equipment inspections conducted by Quality Control Inspectors for onsite use.

Facility Manager or Quality Control Inspectors

6.6.1 Conduct the following steps to complete the disposition.

6.6.2 Place any S/CI discovered in the critical load path (load bearing components) of a piece of lifting equipment in a safe condition, **and** immediately remove from service pending evaluation of the S/CI by Engineering.

Engineer

6.6.3 Evaluate any S/CI discovered in lifting equipment based on information provided by the equipment manufacturer.

6.6.4 Handle S/CI discovered outside the critical load path of lifting equipment in the same manner as S/CI discovered on non-safety equipment.

6.6.5 Implement the engineering disposition.

6.7 Segregation and Disposition Requirements

Facility Manager

6.7.1 Clearly identify (by marking with a black indelible marker or other appropriate means) any S/CI dispositioned to remain in place or to be replaced during the next scheduled maintenance.

6.7.2 **If** remaining in service until it can be replaced during routine maintenance, **then** write a maintenance or work planning request for the item(s) to be removed and replaced.

6.7.3 Ensure the request is placed in the appropriate equipment file until replacement has been completed.

6.7.4 Implement the disposition (removal, replacement) of the S/CI based on the engineering decision for the S/CI item(s) or equipment.

6.7.5 Mark any removed S/CI that could be removed from an acceptable application to preclude their reuse.

6.7.6 Contact the Property and Logistics Manager for a storage location for removed S/CI pending direction of removal from site.

6.7.7 Document the basic information in Appendix D for disposition of the potential S/CI

Property and Logistics Manager

6.7.8 Identify a secure location in the warehouse for storage of removed S/CI pending direction for removal from site.

6.8 Improvement of the Prevention Process

Subject Matter Expert

6.8.1 Collect, maintain, disseminate, and use the most accurate up to date information on S/CIs and suppliers.

6.8.2 Conduct trend analyses for use in improving the S/CI prevention process.

6.8.3 Review existing lessons learned and communicate information to personnel.

6.8.4 Submit new lessons learned reports to improve the prevention process.

6.8.5 Maintain documentation of actions taken to improve the process.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

S/CI (NCR) Evaluation/Disposition Records

7.2 Records Disposition

The records are to be maintained according to CP3-RD-0010, *Records Management Process*.

Appendix A – Acronyms/Definitions

ACRONYMS

ASL – Approved Supplier List

DOE – U.S. Department of Energy

D&R – Deactivation and Remediation

LOTO – Lockout/Tag out

NCR – Nonconformance Report

OIG – Office of the Inspector General

O – Order

OPEX – Operating Experience

PGDP – Paducah Gaseous Diffusion Plant

PSS – Plant Shift Superintendent

S/CI – Suspect/Counterfeit Item

UL – Underwriters Laboratory

DEFINITIONS

Critical Load Path – The components of a lifting device that directly support the load or load bearing portions of a lifting device. Examples of equipment having critical load path requirements include, but are **NOT** limited to, fixed or mobile cranes, elevators, man lifts, conveyors, and slings. Examples of critical load path components include bottom and top blocks, trolley system, bolted connections on main bridge supports, end stops, etc.

Defective – A defective item or material is any item or material that does not meet the commercial standard or procurement requirements as defined by catalogues, proposals, procurement specifications, design specifications, testing requirements, or contracts. It does **NOT** include parts or services that fail or otherwise are found to be inadequate because of random failures or errors within accepted reliability levels.

Procurement Representative - A member of the Procurement organization designated with purchasing authority by the Procurement Manager or Subcontracts Supervisor that is responsible for performing activities prescribed by this procedure.

Requestor – An individual who initiates a purchase requisition.

Appendix A – Acronyms/Definitions (Continued)

Suspect/Counterfeit Item (S/CI) – An item which is suspect when inspection or testing indicates that it may not conform to established Government or industry-accepted specifications or national consensus standards, or whose documentation, appearance, performance, material, or other characteristics may have been misrepresented by the vendor, supplier, distributor, or manufacturer. A counterfeit item is one that has been copied or substituted without legal right or authority or whose material, performance, or characteristics have been misrepresented by the vendor, supplier, distributor, or manufacturer.

Items that do **NOT** conform to established requirements are **NOT** normally considered S/CIs if non-conformity results from one or more of the following conditions (which must be controlled by site procedures as nonconforming items):

1. Defects resulting from inadequate design or production quality control
2. Damage during shipping, handling, or storage
3. Improper installation
4. Deterioration during service
5. Degradation during removal
6. Failure resulting from aging or misapplication

Supervisor - The meaning of the term "supervisor" in this procedure is primarily the person responsible for the item/equipment, however actions can be extended to include anyone who uses, inspects, and tests the item/equipment.

Appendix B – Suspect/Counterfeit Item Indicators

This list identifies S/CI indicators in the first five sections for general mechanical components, fasteners, pressure transmitters, and electrical components. The sixth section of the list provides indicators of suspect documentation and certification. This list is **NOT** all inclusive. Additional information can be found in DOE G 414.1-2B, *Suspect/Counterfeit Items Guide*, Appendix 4.

1. GENERAL MECHANICAL COMPONENTS

General Indicators

Logos/Labels/Markings/Nameplates/Tags

- Evidence of having been altered, photocopied, or painted over.
- Identifiers are not secured well or are unusual in location and method of attachment.
- Identifiers show incomplete data or are not legible.
- Identifiers are missing - some components with no markings.
- Identifier shows signs of discoloration from previous use.
- Identifiers on similar parts are inconsistent.
- Identifiers have been ground off; item was restamped with another marking in same vicinity.
- Identifiers are multiple, possibly overlapping.
- Identifiers appear to be questionable or meaningless numbers.
- Nameplates are either old or worn or they appear to be much newer than the item.
- Preprinted labels have typed entries.
- Items identified as "China" only - no manufacturer's name as required for traceability.

External Appearance

- Evidence exists the item may have been previously used:
  - Wear marks or scratches are visible on external surfaces.
  - Hand tool marks exist on fasteners or other assembly parts.
  - Upset metal exists on screw or bolt head.
  - Metallic items are pitted or corroded.
  - Assembled items fit poorly.
  - Threads show evidence of wear or dressing.
  - Item shows marring, tool impressions, or other evidence of previous fit-up or assembly.
- Obvious attempts at beautification have been made:
  - Excess painting or wire brushing occurred.
  - Evidence exists of hand painting (touch-up).
  - Traces of Prussian Blue or lapping compound are visible.
  - Stainless steel has been painted.
- Evidence exists all items in a group are not the same:
  - Same part may be painted with different colors.
  - Dissimilar parts are evident (eight made of same material; one made of different material).
  - Some items are thinner or thicker than others.
- Obvious attempts at repair have been made:
  - External weld or heat discoloration exists.
  - Evidence exists of tampering of sealed portions.
- Handmade parts are evident:
  - Gaskets are rough cut.
  - Shims and thin metal part edges show evidence of cutting or dressing by hand tools, filing, hacksaw marking, tin snips, or nippers.

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

Packaging

- Component or item is unusually boxed or packed.
- Unusual or inadequate packaging (such as, foreign newspapers) was used.
- Features/dimensions are inconsistent with other items from same supplier or vary from those indicated in supplier literature/drawings or a specification referenced in the purchase order.

Other

- Designations on item required by the specification are missing (size, pressure class rating).
- Chemical or nuclear shipping casks have deficient welds.
- Stainless steel wire rope has no documentation or incomplete documentation.
- Supplier is not a factory-authorized distributor.
- Price is significantly lower than the competition.

2. FASTENERS (INCLUDES BOLTS AND NUTS)

General Indicators

- Head mark on item or component matches one listed on either the suspect item list of the United States Customs Service, "Suspect Headmark List," as flowed down by DOE through the DOE Headmark List or the Headmark List taken as an overhead view of the fasteners listed in DOE EH Safety & Health Bulletin No. 97-6, November 1997 (refer to Appendix C of this procedure).
- Head marking is marred, missing, or appears to have been altered (for example, double stamped).
- Threads show evidence of dressing or wear (threads should be uniform in color and form).
- Head marking is inconsistent with a heat number or lot.
- Head marking appears to be impression-stamped from post-production.
- No manufacturer's or grade mark exists, unless certified to specification **NOT** requiring marking.
- No markings exist on nuts or washers packaged with labels indicating they were manufactured to a code or Marked Length Spectrum which requires marking.
- Item combinations made of improper bolt and nut material (such as, bronze nut on steel bolt).
- Incorrect dimensions are obvious.
- Item shows evidence of fresh sand blasted appearance, including eye bolts, fittings, stem, etc.
- Item shows evidence of previous bolt head scoring on backside of flange (item has been ground to remove such marks).
- Evidence that fastener has been previously used (for example, machining marks, poor thread form, evidence of wear or dressing, wrench marks on flats).
- Foreign manufacturer **NOT** meeting Public Law 101-592.
- Item has both metric and Society of Automotive Engineers stamping.

3. VALVES, PUMPS, AND COMPONENTS

General Indicators

- Valve appears freshly painted and valve stem has paint on it.
- Item has wear marks on any painted surface.
- Valve stem is protected, but protection has paint on it.
- Paint does **NOT** match standard original equipment manufacturers color.
- Tags are attached with screws instead of rivets.
- Tags are attached in a different location than normal.
- Tags appear old, worn, or newer than the valve.

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

General Indicators (Cont'd)

- Tags have paint on them.
- Tags have irregular stamping.
- Screw heads affixing tags to part are marred from use.

Hand wheels

- Hand wheels appear to be older than the valve.
- Hand wheels appear sand blasted or newer than the value.
- Different types of hand wheels are on valves of same type.

Surfaces

- Item shows marring, tool impressions, wear marks, traces of Prussian Blue or lapping compound, or other evidence of previous attempts at fit-up or assembly.
- Item shows evidence of heat discoloration or indication of previous joint welding.
- Item shows evidence of erosion, corrosion, wire-drawing, or "dimples"(inverted cone-shaped impressions) on valve discs, seats, or pump impeller.
- The finish of valve bodies, eyebolts, fittings, and stems on a new stainless steel valve between dull and shiny usually indicates bead blasting and a dull finish usually indicates sand blasting.
- Foreign material is found inside the valve (such as, metal shavings, other debris).
- Valve stem packing shows all the adjustments have been run out.
- A gate in a gate valve is off center when checked through the open end of the valve.
- Obvious differences exist between valves in the same shipment.
- Different types of hand wheels are on valves of the same manufacturer.
- Some parts (such as, hand wheels) look newer than the rest of the valve.
- Wrench marks visible on valve packing glands, nuts, and bolts.
- Nameplates are attached with screws rather than rivets.
- Poor fit exists between assembled valve parts.
- Fasteners or packing glands are scratched or marred.
- Fasteners may be loose or missing.
- Improper material combinations exist (such as, bronze nut on a stainless stem).
- Post-manufacturing alteration was made to identification/rating markings.

Crane Valves (generally have the following features and considered suspect if missing these features):

- Body cast or forged markings:
  - "Crane" name
  - Pressure rating
  - Pattern number
- Nameplate information:
  - Made from stainless steel (silver color) with black lettering
  - Attached by drive screws OR attached on valve stem underneath handle
  - Valve size, pressure class, operating pressure at temperature
  - Body material - grade of steel, melt number
- Seat material on valve body and valve seat
- Stem trim material and heat-treat conditions
- Certification data Military specification, if applicable
- Drawing number Shop Order Number (SO#)

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

Masoneilan-Dresser Valves (generally have the following features and considered suspect if missing these features):

- Masoneilan or Worthington Controls stamped on nameplate
- MN or Masoneilan on valve body

Powell Valves - Wm. Powell Co. (generally have the following features and considered suspect if missing these features):

- Body cast or forged markings including the name "Powell"
- Valve class
- Grade of steel
- Melt number
- Nameplate information:
  - Riveted to valve body OR attached to valve stem underneath handle
  - Attached with single end welded wire (small valves)
  - Serial number
  - Valve size
  - Figure number C-4
  - Body style
  - Valve stem, disc, and seat type
  - Strength at temperature (for example, 100°F)
  - "The Wm. Powell Co. Cin. Oh. Made in U.S.A."

Vogt, Henry Machine Co. Inc. (generally have the following features and considered suspect if missing these features):

- Body cast or forged markings:
  - The name "Vogt"
  - Pressure rating
  - Pattern number
  - Size
  - Material specification
  - Two code ID - 3-letter code and a 4-digit code
- Nameplate information:
  - Made from aluminum with electro-chemical etched lettering
  - Attached on valve stem underneath handle
  - Valve size
  - Pressure class, operating pressure at temperature
  - Body material
  - Internal seal material or internal H.F.
  - Stem trim material
  - Specification number
  - Drawing number
  - Pressure rating

Walworth Valves (generally have the following features and considered suspect if missing these features):

- Body cast or forged markings:
  - The name "Walworth"
  - Pressure class
  - Size
  - Heat code
  - Serial number (stamped) C-5
- Nameplate information:
  - Made from aluminum
  - Attached by drive screws
  - Attached to cover at times
  - Valve size

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

- Pressure class and operating pressure at temperature
- Body material
- Internal seat material or H.F.
- Stem trim material and heat treatment conditions
- Figure number
- Serial number
- Location of manufacture
- Item code number

Watts Valves (generally have the following features and considered suspect if missing these features):

- Marked as FBV-1
- Made in Taiwan
- Certification Marks are UL, CGA, 2G, AGA, FM

4. PRESSURE TRANSMITTERS

General Indicators

- The bellows body has dimple marks on it as if it had been clamped tightly in a vise.
- An internal relay normal factory setting is set differently.
- An internal nozzle is clogged with dirt and rust.
- An internal bellows has scratch marks on it as if someone had attempted to pry it out with a screwdriver or other tool.

5. ELECTRICAL COMPONENTS

General Indicators

- Nameplate contains insufficient information, has been modified or restamped, or is improperly fastened (such as, screws used in place of rivets).
- Manufacturer's labels are discolored or faded, indicating they may have been photocopied.
- Calibration stickers (internal and external) are past due.
- Tags may be handwritten, typed, or photocopied rather than stamped.
- Tags may be missing (usually UL approval tag) on products requiring them.
- Connections show evidence of previous attachment (upset metal, marring, screwdriver marks, arcing or discoloration).

General Indicators (Cont'd)

- Electrical leads are of different lengths or are not as long as stated in vendor proposal.
- Terminals are missing, or contain different screw types or materials.
- Solder terminations may be broken or damaged.
- Contacts and lugs are broken, damaged, pitted, or worn or otherwise do not mate properly.
- Fasteners are loose, missing, or show upset metal.
- Lubrication for moving parts appears to be old.
- Item has scratches or nicks in factory paint or coating.
- Item has scratched or marred surfaces or rough metal edges.
- Color inconsistencies exist for metal or plastic parts.
- Body is worn or discolored or has signs of paint or smoke.
- Item is not in manufacturer's box or container or was shipped in plain packaging with no manufacturer bar code.

Capacitors

- Polished surfaces scratched or dented.
- Termination lugs are scarred.
- Buildup of debris and dirt in termination guards is evident.
- Plain packaging (no manufacturer bar codes).

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

Circuit Breakers (General)

- Underwriters Laboratory (UL), Factory Mutual, or the original manufacturer's label shows signs of being altered or copied (such as, black and white, poor legibility).
- Item has Canadian manufacturer label, but no UL label.
- Rating stamp is in the wrong place.
- Third-party markings are on item.
- Certifications are copied or show evidence of falsification. (Where possible, original certification forms should be obtained from the distributor.)
- Circuit breaker rating shows signs of being altered (such as, rating painted on instead of impressed into the case) or contradictory amperage ratings appear on different parts of the same refurbished breaker.
- Rivets or other connectors used to hold the case together are **NOT** the proper type or have been removed; the case may be held together with wood screws, metal screws, or nuts and bolts.
- Case is cracked or otherwise appears used.
- Style of breaker is no longer manufactured or is old.
- Breaker comes in cheap, generic-type packaging (for example, bulk-packaged in plastic bags or paper bags, or cardboard boxes with handwritten labels) instead of manufacturer's original boxes.
- Data on carton or label have been altered or are inconsistent.
- Manufacturer's seal across the two halves of the case of the breaker is broken or missing.
- Manufacturer's date code is not stamped on the breaker.
- Wire lugs show evidence of tampering.
- Surface of the circuit breaker may be nicked or scratched, yet has a high gloss finish.
- Terminal lugs are on both ends.
- Terminal hardware is wrong size or type or is mismatched.
- Cover screw seals are missing, or rough, or are poorly resealed.

Circuit Breakers (Molded Case)

- Molded case breakers are consistent with manufacturer-provided checklists for detecting substandard or fraudulent breakers.
- Handle was modified to change ampere rating.
- Style is no longer manufactured.
- Unusual packaging exists: bulk packaging, generic packages, and cheap appearance.
- Refurbisher's name is on breaker.
- Seal is broken between halves.
- Contradicting amperage ratings exist.

Circuit Breakers (Power-Draw Out)

- Over current devices are of different shape or color.
- Auxiliary trip devices appear to be suspicious looking.

Fuses

- Label is missing or weathered.
- Wear marks are visible on bases.

Motor Control Centers

- Breakers are used that are not easily opened or closed with compartment door closed.
- Buss work is exposed when compartment doors are open.

Motor Starters

- Poor fitting or wrong voltage rated operating coil.

Appendix B – Suspect/Counterfeit Item Indicators (Continued)

Relays (electromechanical)

- Poor or loose fitting relays.

Relays (Potter-Brumfield)

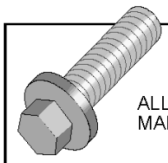
- Coil lead solder joints are sloppy.
- Relay base grommets (normally clear) are painted.
- Terminal strips are fastened with eyelets.
- Rivets fastening the terminal strip to the relay housing are painted.
- Termination screws are in brown paper bags (should be in clear heat-sealed plastic bags).
- Bubble wrap is used (plastic with Styrofoam should be used).
- Inner bell surface has been repainted.
- Date codes, inspection stamp, and/or test stamp are missing or inconsistent.
- Shaft relay cover clearance and shaft play is incorrect and bearing lubricant is inadequate.
- Tops of rotor shafts are painted a color other than black.
- Non-uniform numbers are stamped on the contact decks, indicating decks were made up from various relays.
- Incorrect coil (such as, 125 VDC relay with 200 VDC coil) is used.

6. DOCUMENTATION AND CERTIFICATION

General Indicators

- Documentation is **NOT** delivered as required on the purchase order or is in an unusual format.
- Document is not traceable to the items procured.
- Technical data are inconsistent with code or standard requirements.
- Certification or test results are identical among several items; small variations are expected.
- Evidence on document questions validity of data.
  - Lines on forms are bent, broken, or interrupted indicating data may have been deleted or exchanged by "cut-and-paste."
  - Data on a single line may be located at different heights.
  - Correction fluid or correction tape may have been used.
  - Type style or pitch change may be evident.
  - Handwritten entries are on the same document where typed or preprinted data exists.
  - Documentation has missing/illegible/faded or unclear signatures, initials, or data.
- Item may be part of a product recall.

Appendix C – Headmark List



SUSPECT/COUNTERFEIT PART

HEADMARK LIST

ALL GRADE 5 AND GRADE 8 FASTENERS OF FOREIGN ORIGIN WHICH DO NOT BEAR ANY MANUFACTURERS' HEADMARKS

Grade 5

Grade 8

GRADE 5 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:

	MARK
J	J
KS	KS

GRADE 8 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:

	MARK		MARK
A	A	KS	KS
NF	NF	RT	RT
H	H	FM	FM
M	M	KY	KY
MS	MS	J	J
△	Hollow Triangle	(CA TW JP YU) (Greater than 1/2 inch dia)	
E	E	UNY	UNY

GRADE 8.2 FASTENERS WITH THE FOLLOWING HEADMARKS:

	MARK
KS	KS

GRADE A325 FASTENERS WITH THE FOLLOWING HEADMARKS:

		MARK
Type 1	A325 KS	A325 KS
Type 2	A325 KS	
Type 3	A325 KS	

Headmarkings are usually raised – sometimes indented.

KEY: CA-Canada, JP-Japan, TW-Taiwan, YU-Yugoslavia

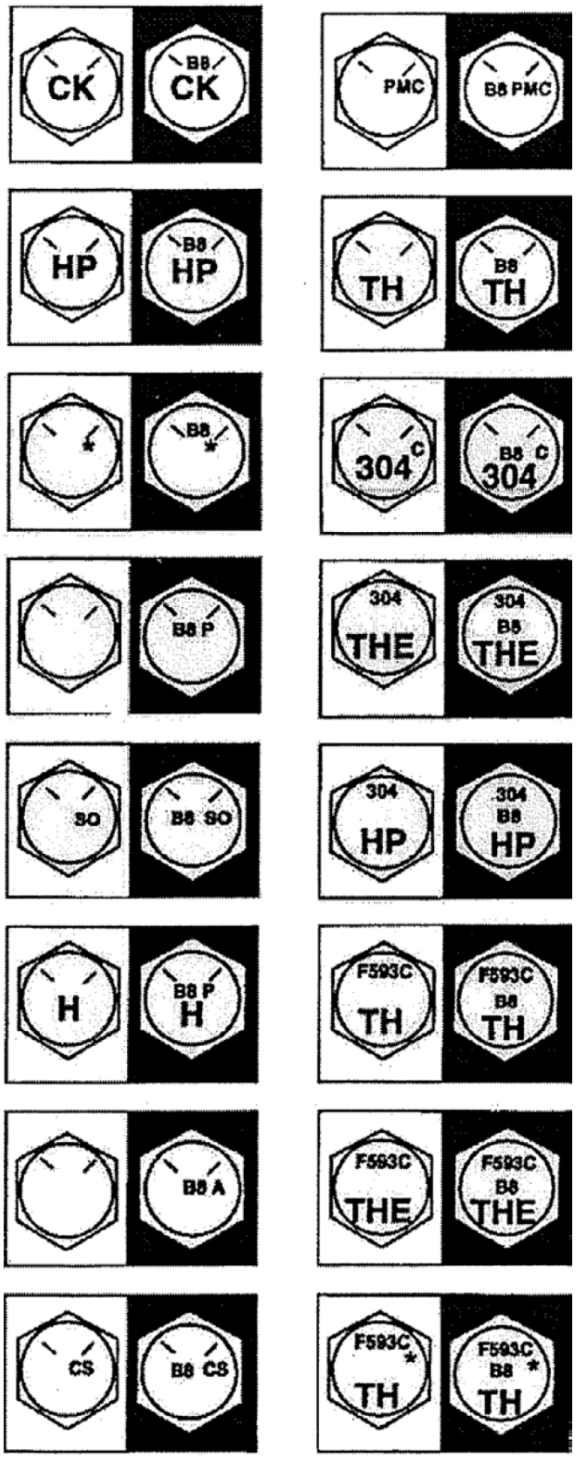
ANY BOLT ON THIS LIST SHOULD BE TREATED AS DEFECTIVE.

Reference: This tool was derived from the 1992 U.S. Customs Service list.

Date: 12/21/2010

Appendix C – Headmark List (Continued)

The Headmark List is taken as an overhead view of the Suspect Stainless Steel Fasteners listed in DOE EH Safety & Health Bulletin No. 97-6, November 1997



Appendix D – Characteristics for Reporting S/CI

Identify the following characteristics for reporting:

1. Description of the S/CI (for example, raw material, fasteners, electrical components, valves, fittings, ratchet straps)

2. Location of the discovery (for example, receiving inspection, specific building and room installed)

3. Name of manufacturer, distributor, and supplier

4. Identifying numbers (for example, serial number, model number, product code)

5. POC for information on the location of the S/CI and corresponding documentation

6. Date of the S/CI discovery

7. Occurrence report number (if available)

8. Intended end use (for example, facility construction, component or equipment assembly)

9. Significance of S/CI

10. Dollar value of S/CI

11. Other pertinent information, including any action that is underway by the DOE or other agencies