Fraud Detection Awareness for Counterfeit Parts and Documents

Presented by:
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Presentation Topics

- Counterfeiting, its nature, growth and safety risks
- Attributes of items that make them most vulnerable to misrepresentation
- Types of S/Cls discovered at DOE sites
- Forms that S/Cls can take
- DOE’s S/Ci process goals
- Awareness manual highlights
Counterfeiting in Perspective

Athletic equipment
Clothes, shoes and accessories
Music and movies
Antique furniture
Computer software
Cat food
Auto brakes, steering assemblies
Aircraft engines, landing gear
Medicines
Nuclear facility parts and components

Increasing risk

Unapproved Components, Unauthorized Salvage

Counterfeiting in Perspective

- Negatively impacts safety
- Damages the economy
- Victimizes legitimate manufacturers and suppliers
- Causes loss of customer confidence
- Compounds the product liability issue

Counterfeit vs. Suspect vs. Defective

Some quick definitions for this session:

- **Counterfeit Items** – *Hard evidence* to support an intent to misrepresent or to defraud
- **Suspect Items** – *Indications* of an intent to misrepresent or to defraud
- **Defective Items** – Failure to perform as expected
In Term of Dollars

- What do you think the reported impact due to counterfeiting was to the United States in 1994?
  - 1. 1 Billion
  - 2. 5 Billion
  - 3. 10 Billion
  - 4. 20 Billion
  - 5. 30 Billion
- How about in 1999 in the U.S.?
- How about in 2006 worldwide?

Impact on the United States

- Counterfeiting increased 3000%+ from 1994 to 2006
  - $20 Billion in 1994
  - $200 Billion in 1999
  - $600+ Billion in 2006 (worldwide)
    - World Customs Organizations
- ~7% of all products worldwide are counterfeit
- There is no sign that the impact is going to decrease anytime soon. In fact the indications are that the problem is going to increase more.

Keyword Search: counterfeit parts/items/components, unapproved parts, bogus parts, fake
Why Is Counterfeiting Growing?

- Money and its uses
- Links to organized crime
- Minimal risk of prosecution
- Internet provides enhanced opportunities
- Internal push for “faster and cheaper”

Current Trends in Government & Industry Create Problems

- Expedited procurement processes
  - Credit card systems
  - E-Commerce
- Quality checks being eliminated
  - Budget cuts reduce checks and balances
  - End user becomes quality inspector
Counterfeit Items Discovered at DOE Sites

- Fasteners (bolts brackets) > 70% of S/CIs
- Ratchet straps/tie down straps
- Refurbished molded-case circuit breakers
- Transformers, fuses, resistors, switch gear
- Metal struts
- Pipe components, fittings flanges, valves
- Material and testing certification

S/CI Process Goals

- Ensure installed items and components meet intended function and operability requirements
- Ensure that S/CI are quickly identified
- Work toward eliminating S/CI from DOE Operations
S/C-DI Process Flow Chart

For high profile or special case S/Cls, HS develops & transmits investigation lines of inquiry to the PSOs.

PSOs initiate investigation with the field offices.

Field does search for S/Cls & reports to PSOs.

When S/Cls are identified, the field notifies the IG.

HS reviews operating experience S/C issue.

HS initiates S/C operating experience notifications.

PSO documents results of review and actions. Results may be there are no S/Cls.

HS reviews, consolidates results and closes inquiry.

Sharing S/C-DI Information

- Safety Alerts/ Bulletins/ Advisories
- Data Collection Sheets

SCI-DI Website:

http://www.hss.energy.gov/csa/csp/sci/
HSS Responsibilities for Implementing the S/C-DI Process

- Screen data sources
- Distribute operating experience notices
- Develop lines of inquiry
- Request PSOs direct field element investigations
- Evaluate results of field investigations
- Do trending and analysis for S/C-DIs

Role of the PSOs

- Provide guidance to the field on S/CIs
- Document results of field investigations
- Verify the field’s S/CI corrective actions are appropriate
Role of DOE Field Management

- Take actions required by Alerts & Bulletins
- Investigate/report to PSO on special S/C-DI
- Ensure S/Cl requirements flow down to contractor
- Notify the local IG – as per local arrangement
- Ensure contractor reports corrective actions

Role of the Operating Contractor Management

- Assure:
  - Personnel are trained & competent
  - Use of qualified vendors (procurement)
  - "Use as is" or "repair determinations are appropriately evaluated
  - S/CIs are identified before they enter operations
  - SCI requirements flow down to the subcontractors
- Document identified S/C-DIs via ORPS
- Notify the local IG – as per local arrangement
- Take corrective action(s)
Role of the Crafts in S/CI

Handling parts that don’t look right?
- Item not packaged as usual from supplier
- Parts are not new
- Different type parts in same batch
- Painting, grinding, polishing not normal

STOP and notify your supervisor

Awareness Manual

- Background Information
- Contacts
- SCI Process/Directive/References
- DOE SCI & LL Websites
- Fasteners/Headmark List
- Definitions
- Other Component Indicators
- Photos of SCI
DOE's Manufacturers' Headmark List

Headmark List

- All Grade 5 and Grade 6 Fasteners of Foreign Origin Which do Not Display Any Manufacturer's Headmark:
  - Grade 5
  - Grade 6

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer A]
  - [Manufacturer B]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer C]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer D]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer E]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer F]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer G]

- Grade 6 Fasteners with the Following Manufacturer's Headmarks:
  - [Manufacturer H]

Product Fraud Attributes

- Misrepresentation
- Substitution
- Falsification of documentation
- Remarketing
- Repackaging
- Knockoffs – Counterfeits
Misrepresentation

- McDonald Valves

- Product not evaluated by UL and bears a counterfeit UL Mark for the US and Canada
Substitution

- Breakers sold as "new," but are used or reconditioned

Sold as new by supplier
Indications of being used or refurbished
Label worn and torn

- Potting material in bottom screw hole tampered with;
  should be smooth and even with surface of case
  Appears dirty and worn
  Represented as being new in the condition above

Falsified Documents

- M&M Aerospace
- Western Testing
- Hunt Valves
- Temperform
Example of Flagrant Counterfeiting that affected DOE: Temperform USA

- Falsified heat treat and inspection process
- False certifications for aluminum alloy parts
- Affected DOD, NASA and commercial aircraft
- Comprised components commonly used in 14 Boeing aircraft and >25 major DOD/NASA programs
- Product found at two DOE sites
- Costs for inspection, retesting, repair, replacement

Remarking

- Stainless Steel “T” Weldalet – grind marks where information was removed and new information stamped
Production of Knock-Offs

- DURACELL® copyright infringement (name and/or black and gold copper top)

Products Most Vulnerable to Misrepresentation

Items:
- Of low cost & high turnover rate
- Used in critical and non-critical applications
- Easily copied by secondary market suppliers
- Can by-pass supplier and drop ship to customers
- Substantially lower priced than market value
Common Counterfeiter Tactics

- "Salting" in small % of counterfeit items w/ good
- Placing foreign parts in domestic label boxes
- Mixing used items w/genuine new items
- Grinding old ID marks & stamping new marks
- Changing the documentation
- Painting to mask evidence of wear or falsify the identify of items (use of trademark colors)

Common Indicators of S/CIs in General

- Item configuration is inconsistent
- Poor fit of assembled items
- Metallic items pitted or corroded
- Hand tool marks
- Dissimilar parts evident
- Wear marks or scratches on external surfaces
- Hand painting (touch up)
- Recent polishing of non-ferrous metals
- Handmade parts
- Casting markings ground off & re-stamped
- Not factory authorized supplier
- Inconsistent dimensions with purchase order
“J” & “KS” manufacturer markings still popping up on fasteners
- Item still remains S/CI regardless of position of suspect manufacturer markings (e.g., centered vs. off to the side
- If you cannot trace the item back to its origins, item remains, at minimum, suspect

JH Headmark found at West Valley Dec 2005
S/C-DI Trends

- Circuit Breakers

DCS 1068

S/C-DI Trends

- Hoisting and Rigging

DCS 1085 TJ-Lab

DCS 1104 SNL
S/C-DI Trends

- Faulty vehicle barriers

- Faulty Respirator - Respirator Components
  - Defective facemask lens frame [DCS 894]
  - MSA Ultra Twin Filter Housings failure [DCS 922], MSA respirators falling apart [DCS 924]
S/C-DI Trends

- Faulty Security Weapons, Ammunition
  - Ruptured Bushmaster Rifle, DCS 888
  - Broken Bushmaster Rifle Bolt, DCS 899/876 pictured below
  - Fragmenting Ammo, DCS 870
  - Defective Weapons Assembly Protective Blanket, DCS 920

When S/CIs are Discovered

- Presume the item(s) to be defective
- Tag, hold, process as non-conformance
- Follow the S/CI procedure
- Conduct an engineering evaluation
- Do not return the item(s) to the supplier
- Do not contact the supplier
The Value of Engineering Involvement in Procurement

- Procurement
  - Develop technical specifications
  - Determine critical characteristics
  - Verify suppliers' technical performance
- Product acceptance
  - Determine testing requirements & methods
  - Evaluate acceptance test results
  - Disposition S/CIs
  - Review technical changes & deviations
  - Evaluate acceptability of suspected items

Inspection Techniques to Screen for Misrepresented Items

- Inspect cartons, boxes, packaging and packing materials
- Inspect carton and box labels
- Inspect nameplates or identification tags
- Inspect multiple items of an identical type for differences in appearance
### Indicators of Falsified Documentation

- Unsigned or missing documents
- Indeterminate document approver
- Inconsistent technical data
- Unclear document traceability
- Undelivered or unusual documentation
- Unclear documentation
- Page count conflicts
- Product recall

### Indications of S/Cl from Visual Manufacturing Quality

- Poor fit
- Inconsistent configuration
- Increased dimensions
- Bolt head scoring
- Loose or missing fasteners
- Marring, tool impressions
- Heat discoloration
- Poor cleanliness
- Dissimilar items
Indications that Mechanical, Electrical or Electromechanical Parts Have Been Used

- Wear marks, scratches
- Evidence of repainting
- Pitting or corrosion of metallic surfaces
- Evidence of metallic surface refinishing
- Exterior evidence of repairs
- Connection wires of different lengths

Fraud-Prevention Program Elements

- Heighten the consequences of committing fraud
- Actively enforce infractions.
- Establish contract language with teeth - e.g.,
  "If suspect/counterfeit parts are furnished under this agreement and are found on the (site), such items shall be impounded by (site). The Seller shall promptly replace such items with items acceptable to the (site) and the Seller shall be liable for all costs relating to impoundment, removal, and replacement. (Site) may turn such items over to (US Office of Inspector General, FBI, etc.) for investigation and reserves the right withhold payment for the suspect items pending the results of the investigation."
- Effective corporate implementation
When it Comes to S/Cl Issues—are We....

<table>
<thead>
<tr>
<th>Part of the Solution</th>
<th>Part of the Problem</th>
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<tbody>
<tr>
<td>At risk for S/CIs</td>
<td>No counterfeit here</td>
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<tr>
<td>Awareness</td>
<td>No process, no awareness</td>
</tr>
<tr>
<td>Process in place</td>
<td>It is not our problem</td>
</tr>
<tr>
<td>Collective responsibility</td>
<td>Counterfeiting is not my problem</td>
</tr>
<tr>
<td>Individual responsibility</td>
<td>No training, no interest, ignorance prevails</td>
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<tr>
<td>Communication</td>
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Questions or Comments?

HS-31 Office of Corporate Safety Programs