



Counterfeit, Suspect, Fraudulent Items (CSFI): Today & Tomorrow

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TOPICS

1. Recent CSFI activity
2. The Role of Quality Assurance
3. What is the NRC doing
4. NRC outreach efforts
5. The need for a solid community

RECENT CSFI ACTIVITY ON THE INDUSTRY'S RADAR

1. ABB Capacitors – *U.S.A. (Nuclear Power)*
2. Copper Busmann Fuses – *U.S.A. (Nuclear Power)*
3. Ladish Valves – *U.S.A. (Nuclear Power)*
4. Square-D Breakers – *U.S.A. (Nuclear Power)*
5. Microchip, Handheld Rad Detector - *U.S.A. (Nuclear Power)*
6. Fasteners – *U.S.A (DOE facility)*
7. Moisture Separator Reheater Piping – *Japan (Nuclear Power)*
8. Substandard Steel – *Italy (Nuclear Power)*
9. Seamless Pipe – *China (Fossil Power)*
10. Fasteners – *U.S.A. (Oil Refinery)*
11. ASME Flanges – *U.S.A. (Oil Refinery)*
12. Chrome gas valves 2"-24" - *U.S.A. (Oil Refinery)*
13. Pressure Safety Valves - *U.S.A. (Oil Refinery)*
14. Walworth Globe Valves – *USA (Nuclear Power)*

RECENT CSFI DATA FROM THE DEPARTMENT of COMMERCE

1. **Approx. 500 participants in the 2008 electronics supplier survey**
 - ***OEM's; OCM's; Authorized Distributors, Independent Distributors, Brokers, Board Assemblers***
2. **No. of counterfeit incidents (2005-2008)**
 - **3,397 < 2005**
 - **5,985 < 2006**
 - **5,747 < 2007**
 - **7,383 < 2008**
 - **22,512 < 2005-2008**
3. **Percentage of counterfeit incidents: Out vs. In production**
 - **36/64 % < 2005**
 - **44/56 % < 2006**
 - **47/53 % < 2007**
 - **46/54 % < 2008**
 - **43.25 % < Out of Production (Avg.)**
 - **56.75 % < In Production (Avg.)**

RECENT CSFI DATA FROM THE DEPARTMENT of COMMERCE

4. Average percentage of suppliers testing incoming parts (by type)

- **44 %** < *OEMs*
- **52 %** < *OCMs*
- **52 %** < *Authorized Distributors*
- **58 %** < *Independent Distributors*
- **62 %** < *Brokers*
- **38 %** < *Internet-exclusive sources*

5. Percentage of companies performing inventory audits for counterfeits

- **52 %** < *Distributors*
- **17 %** < *OCMs*
- **13 %** < *Board Assemblers*

SOURCES OF COUNTERFEITING

- Theft of O.E.M. design (readily available technology)
- Remarking (100MHZ part becomes 200MHZ)
- Illegal Manufacturing (unauthorized design use)
- Excess production runs
- Peppering (Salting) of CSFI parts
- Lax return policies
- Rebuilding used items
- Inventory auctions (in & out)
- Scrap salvaging
- Dumpster diving

BRANDING FRAUD

Tampering with original markings or application of counterfeit markings including:

- OEM markings (black topping & re-etching)
- Counterfeit manufacturer's labels or tags
- Inspector's insignia/designators
- Lot/heat/batch markings
- Tracking bar codes/RF information

DOCUMENT FRAUD

Falsification of Product Certificates:

- Certificates of Conformance (COC)
- Certified Material Test Reports (CMTR)
- Lot/Batch/Heat Records
- Factory Acceptance Testing (FAT)
- Scrap Authorizations
- Cut Logs
- Bills of Lading/Manifests

Role of Quality Assurance

- Strong anti-counterfeiting tools
 - Know your suppliers
 - Clear and complete procurement specifications based on engineering input
 - CSFI sensitive scrap/disposal policy
 - IT protection of Intellectual Property
 - Zero tolerance policy for counterfeiting
- Thorough receipt inspections
 - QA/QC receipt inspectors training on counterfeit parts
 - Procurement specification verification
 - Questioning attitude

KEY US NUCLEAR INDUSTRY DOCUMENTS RELATED TO CS&FI

- 10 CFR 50 Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants”
- 10 CFR Part 21, “Reporting of Defects and Nonconformances”
- 10 CFR 50.5, “Deliberate misconduct”
- 10 CFR 50.7, “Employee protection”
- Generic Letter 89-02, “Actions to Improve the Detection of Counterfeit and fraudulently Marketed Products”
- Information Notice 89-70, “Possible Indications of Misrepresented Vendor Products”
- EPRI NP-5652, Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07)”
- Generic Letter 91-05, “Licensee Commercial-Grade Procurement and Dedication Programs”
- Information Notice 2008-04, “Counterfeit Parts Supplied to Nuclear Power Plants”

WHAT IS THE NRC DOING?

- 1. Issuance of IN 2008-04, “Counterfeit Parts Supplied To Nuclear Power Plants” (April 7, 2008)**
- 2. Developing the NRC’s CSFI community (June 4, 2009)**
- 3. Continuing to enhance the NRC’s Vendor Inspection program**
- 4. Working with NUPIC to enhance their audit process**
- 5. Working with EPRI’s Technical Advisory Group (TAG) on CSFI**
- 6. Cooperating with DHS’s Anti-Counterfeiting task forces**
- 7. Improving communications and sharing information with the nuclear community**
 - Presentations to NUPIC, EPRI, Federal Agencies, Industry Executives, etc.**

Generic Communication IN 2008-04

“Counterfeit Parts Supplied To Nuclear Power Plants”

The **3 characteristics** of an effective procurement and dedication plan:

- 1) The involvement of engineering staff in the procurement and product acceptance process;
- 2) Effective source inspection, receipt inspection, and testing programs;
- 3) Thorough, engineering-based programs for review, testing, and dedication of commercial-grade products for suitability for use in safety-related applications.

Generic Communication IN 2008-04

“Counterfeit Parts Supplied To Nuclear Power Plants”

“Licensees may want to consider the applicability of these characteristics to their programs to reduce the likelihood of the introduction of counterfeit or fraudulent products into their plants and to assure the quality of procured vendor products.”

Outreach Organizations

♦ Department of Defense

- Government Information Data Exchange Program (GIDEP)
- Diminishing Sources and Material Shortages (DMSMS)
- NASA
- Aerospace Standard AS5553, "Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition"

♦ Department of Energy

- Suspect/Counterfeit or Defective Items Program (S/CDI)
- Occurrence Reporting and Processing of Operations Information (ORPS)

♦ Department of Commerce

- International Trade Administration, Office of Energy and Environment
- Manufacturing & Services
- Bureau of Industry & Security, Office of Technology Evaluation

♦ Nuclear Procurement Issues Committee (NUPIC)

- Commercial Nuclear Power Licensees & Suppliers

♦ Nuclear Energy Institute (NEI)

♦ Electric Power Research Institute (EPRI)

COMMUNITY WATCH PROGRAMS

A community-based organization working together to combat CSFI activity:

- Take positive steps
- Share current information of new trends in CSFI
- Establish consistent programs for combating CSFI activity
- Awareness of & access to the various related government agencies
- Develop industry standards
- Evaluate CSFI claims
- Training for Inspectors, Purchasers and QA personnel

EXISTING DATA SOURCES

- 10 CFR Part 21 Reports - NRC
- **OpE**: Operating Experience - NRC
- **OpEx**: Operating Experience - INPO
- **EPIX**: Equipment Performance & Information Exchange-INPO
- **GIDEP**: Government Industry Data Exchange Program
- **SCI**: Suspect & Counterfeit Items – DOE
- **EPLS**: Excluded Parties List System - GAO
- **CPSC**: Consumer Protection Safety Commission
- **TheTrueCosts.org**: U.S. COC
- **STOPFAKES.gov**: Joint Effort hosted by DOC
- **IRS**: Incident Reporting System – IAEA
- **ConE**: Construction Experience - NRC
- **ConX**: Construction Experience - NEA

SUMMARY

- The threat of CFSI is real – and growing
- Industry vulnerabilities are growing also
- Maintain a robust CSFI program
 - Refer to current NRC guidance
 - Protect your Intellectual Property (IP)
 - Incorporate Best Practices
- Build and maintain a solid CSFI community
 - Federal agencies
 - Industry communities
 - Supply chain

Closing Thoughts

“The NRC depends on industry to be the first line of safety. It is a well-known adage around my office that if there is something amiss at a commercial nuclear power plant, the plant owners and operators should find it first.”

- Former NRC Chairman Dale Klein

Generic Communications Listed in GL 89-02

Counterfeit Products	
Bulletin 87-02 (with supplements)	Fastener Testing to Determine Conformance with Applicable Material Specifications
Bulleting 88-05 (with supplements)	Nonconforming Material Supplied by Piping Supplies, Inc., at Folsum, New Jersey and West Jersey manufacturing Company at Williamstown, New Jersey
Bulletin 88-10	Nonconforming Molded-Case circuit Breakers
Information Notice 88-19	Questionable Certification of Class 1E Components
Information Notice 88-46	Licensee Report of Defective Refurbished Circuit Breakers
Inadequate Dedication	
Information Notice 87-66	Inappropriate Application of Commercial-Grade Components
Information Notice 88-35	Inadequate Licensee Performed Vendor Audits

Other Generic Communication on Counterfeiting

Information Notice 88-48 (with supplements)	Licensee Report of Defective Refurbished Valves
Generic Letter 89-02	Actions to Improve the Detection of Counterfeit and Fraudulently Marked Products
Information Notice 89-03	Potential Electrical Equipment Problems
Information Notice 89-39	List Of Parties Excluded From Federal Procurement Or Non-Procurement Programs
Information Notice 89-45 (with supplements)	Metalclad, Low-Voltage Power Circuit Breakers Refurbished With Substandard Parts
Information Notice 89-56	Questionable Certification Of Material Supplied To The Defense Department By Nuclear Suppliers
Information Notice 89-59 (with supplements)	Suppliers Of Potentially Misrepresented Fasteners
Information Notice 89-70 (with supplements)	Possible Indications Of Misrepresented Vendor Products

Other Generic Communication on Counterfeiting

(cont'd)

Information Notice 90-46	Criminal Prosecution Of Wrongdoing Committed By Suppliers Of Molded-Case Circuit Breakers And Related Components
Information Notice 90-57 (with supplements)	Substandard, Refurbished Potter & Brumfield Relays Represented As New
Generic Letter 91-05	Licensee Commercial-Grade Procurement and Dedication Programs
Information Notice 91-09	Counterfeiting Of Crane Valves
Information Notice 92-22	Criminal Prosecution And Conviction Of Wrongdoing Committed By A Commercial-Grade Valve Supplier
Information Notice 92-56	Counterfeit Valves In The Commercial Grade Supply System
Information Notice 92-68 (with supplements)	Potentially Substandard Slip-On, Welding Neck, And Blind Flanges
Information Notice 93-43	Use Of Inappropriate Lubrication Oils In Safety-Related Applications

Other Generic Communication on Counterfeiting (cont'd)

Information Notice 93-73	Criminal Prosecution Of Nuclear Suppliers For Wrongdoing
Information Notice 95-12	Potentially Nonconforming Fasteners Supplied By A&G Engineering II, Inc.
Part 21 1995-212	Aerofin - Cardinal Industrial Products capscrews
Part 21 1996-06-4	Aerofin - Cardinal Industrial Products capscrews
Information Notice 96-40	Deficiencies In Material Dedication And Procurement Practices And In Audits Of Vendors
Part 21 1997-06-0 through 1997-06-3	Limitorque - counterfeit component
Information Notice 07-19	Fire Protection Equipment Recalls And Counterfeit Notices
Information Notice 08-04	Counterfeit Parts Supplied to Nuclear Power Plants



QUESTIONS

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