

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NEW REACTORS  
OFFICE OF NUCLEAR REACTOR REGULATION  
OFFICE OF FEDERAL AND STATE MATERIALS AND  
ENVIRONMENTAL MANAGEMENT PROGRAMS  
OFFICE OF NUCLEAR MATERIAL SAFETY  
AND SAFEGUARDS  
WASHINGTON, DC 20555-0001

November 20, 2019

NRC INFORMATION NOTICE 2012-22, REV. 1: COUNTERFEIT, FRAUDULENT,  
SUSPECT ITEM TRAINING OFFERINGS

**ADDRESSEES**

All holders of and applicants for a specific source material license under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 40, "Domestic Licensing of Source Material."

All holders of an operating license, research and test reactor operating license, or construction permit for a nuclear power reactor under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," including those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

All holders of and applicants for a power reactor early site permit, combined license, standard design certification, standard design approval, or manufacturing license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

All holders of and applicants for a fuel cycle facility license or a special nuclear material license authorizing the possession, use, or transport of formula quantities of strategic special nuclear material under 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material."

All holders of and applicants for a transportation package certificate of compliance or for a specific approval for the transport of radioactive material shipping containers under 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

All holders of and applicants for an independent spent fuel storage installation license or a certificate of compliance under 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste."

All contractors and vendors that supply basic components to U.S. Nuclear Regulatory Commission (NRC) licensees.

All NRC licensees and certificate holders, Agreement State Radiation Control Program Directors, and State Liaison Officers.

**ML19017A118**

All contractors and vendors that supply basic components to NRC licensees. All vendors and suppliers of safety-related components and digital assets associated with Section 73.54, "Protection of digital computer and communication systems and networks," of Title 10, "Energy," of the Code of Federal Regulations (10 CFR).

## **PURPOSE**

The NRC is issuing this information notice (IN) to inform addressees of examples of the many training opportunities available on detecting potential counterfeit, fraudulent, and suspect items (CFSIs) that may enter the supply chain. The NRC believes it is both prudent and warranted at this time to continue to make deliberate efforts toward understanding how the regulator and industry could address new CFSI challenges. The issuance of this IN will also serve to heighten each addressee's awareness of CFSI issues. The training resources listed in Table 1 of this IN may be useful for educating personnel involved in NRC-regulated activities on current trends in CFSI and on techniques to prevent the use of CFSI parts. The suggestions contained within this IN are not NRC requirements; therefore, no specific action or written response is required. Addressees can review this information and consider actions, as appropriate.

This IN calls attention to new advances in anti-CFSI techniques and provides a list of training that focuses on a broad spectrum of potential recipients. Each training provider should be contacted directly for current course descriptions, schedules, and fees.

## **BACKGROUND**

The NRC has issued several generic communications to inform licensees of counterfeit or misrepresented vendor products, including Generic Letter (GL) 89-02, "Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products," dated March 21, 1989 (ADAMS Accession No. ML031140060). The GL emphasized the three characteristics of effective procurement and dedication programs identified during NRC inspections. These characteristics are (1) the involvement of engineering staff in the procurement and product acceptance process, (2) effective source inspection, receipt inspection, and testing programs, and (3) thorough, engineering-based programs for the review, testing, and dedication of commercial-grade products for suitability of use in safety-related applications. The NRC found that programs that embodied the above three characteristics generally were effective in providing an enhanced capability to detect counterfeit or fraudulently marketed products and in assuring the quality of procured products, both in safety-related and other plant systems. These three characteristics are as relevant today as they were more than two decades ago.

In addition to GL 89-02, the NRC staff issued IN 89-70, "Possible Indications of Misrepresented Vendor Products," on October 11, 1989 (ADAMS Accession No. ML031190077), and Supplement 1 with the same title on April 26, 1990 (ADAMS Accession No. ML031180470), to inform licensees of misrepresented products and to provide information on how to detect them. The NRC staff also issued IN 2008-04, "Counterfeit Parts Supplied to Nuclear Power Plants," dated April 7, 2008 (ADAMS Accession No. ML093620098), to inform addressees of the potential for counterfeit parts to enter their supply chains. IN 2012-22, "Counterfeit, Fraudulent, Suspect Item (CFSI) Training Offerings" was issued on January 25, 2013 (ADAMS Accession No. ML12137A248) to inform addressees of a sampling of various CFSI training offerings dealing with detecting potential CFSI that may enter the commercial nuclear supply chain.

Regulatory Issue Summary 2015-08, "Oversight of Counterfeit, Fraudulent, and Suspect Items in the Nuclear Industry," dated June 24, 2015 (ADAMS Accession No. ML15008A191),

summarized existing NRC regulations and described their application to CFSI within the scope of the NRC's regulatory jurisdiction.

## DISCUSSION

The threat of industrial counterfeiting continues to increase globally despite concerted efforts by the various stakeholders and law enforcement agencies—proving once again that reactive efforts alone are only marginally successful in this arena. Recent examples that underscore this trend include the following:

- 2017 – The Japanese steel manufacturer Kobe Steel Group (Kobe Steel) released a report from an independent investigation committee, stating that Kobe Steel had engaged in “inappropriate conducts” in the handling of test data associated with delivered materials. The results of an independent internal investigation commissioned by Kobe Steel into the issue confirmed four instances of altering inspection data—all outside the commercial nuclear industry. Subsequently, the NRC issued IN 18-11, “Kobe Steel Quality Assurance Record Falsification,” on September 24, 2018 (ADAMS Accession No. ML18190A466), to alert NRC licensees, license applicants, certificate holders, and component contractors and vendors of Kobe Steel's widespread falsification of quality assurance records over a period of 5 years.
- 2017 – The French Nuclear Safety Authority (ASN) presented “Irregularities and Falsification – Background and suggested improvements” during the European Nuclear Safety Regulators Group's European Nuclear Safety Conference in Brussels. The public presentation explained the regulator's decision to increase inspections related to the Creusot Forge events. The number of inspections related to past manufacturing products was increased to 10,000 components, along with a corresponding increase to 150 people dedicated to performing those examinations. The ASN stated that the increases were based on observations noted during examinations performed between 2015 and 2016, including attempts by key suppliers to transmit falsified certificates of materials intended for the AP1000. In their summary, they proposed several improvements in three key areas: (1) information and notification, (2) controls and tests, and (3) oversight and inspections, noting that these recommendations are “Applicable to all actors (suppliers, customers, licensees, and safety authorities).”
- 2017 – The Construction Industry Institute published Research Report RR307, “Mitigating Threats of Counterfeit Materials in the Capital Projects Industry,” issued April 2016. This new study built upon their 2010 report, RT264. Although the new study which was performed several years later published similar conclusions (e.g. both reports indicated that CFSIs continue to be a threat to the construction industry; within the construction industry, valves, fasteners, bolts, and pipe were found to be some of the most widely reported instances of CFSIs; approximately 53 percent of CFSIs are detected after installation and completion of construction activities and, the need still exists for comprehensive training of personnel to prevent the introduction of CFSI into the supply chain).
- 2016 – April 21, 2016, the French Nuclear Safety Authority (ASN) published a notice in response to a report they received on January 21, 2016, from a metallurgical analysis laboratory on, indicating that inspection reports produced for Le Creusot Forge had been falsified. The notice stated that the subject company produces parts incorporated into

industrial equipment including nuclear power plants. This information would lead to a multiyear, multinational investigation into how the facility interpreted and communicated technical data associated with the adequacy of those components. On January 10, 2017, the NRC's Office of Public Affairs, via the agency's public-blog, expressed the U.S. regulator's confidence that based on the results of joint efforts between the NRC and the ASN), there are no safety concerns for U.S. nuclear power plants raised by the Creusot Forge investigations in France.

- 2013 – The NRC issued IN 2013-15, “Willful Misconduct/Record Falsification and Nuclear Safety Culture,” dated August 23, 2013 (ADAMS Accession No. ML13142A437), to inform addressees of recent instances of willful misconduct identified at U.S. nuclear sites.
- 2010 – The Construction Industry Institute issued the final report for study RT264, “Product Integrity Concerns in Low-Cost Sourcing Countries,” which summarizes interviews of 187 industry representatives and government leaders from eight countries. The consensus was that the magnitude of the problem has grown from “big” to “very big.”

As many published best practices recommend, proactive anti-CFSI policies should stress the need to share CFSI information and to train the workforce in current identification, avoidance, management, and response techniques. Many industries have already begun to modify their purchasing policies and procedures in response to CFSI threats. Each organization's commitment to CFSI training will vary based on many factors, including reliance on procurement strategies that carry higher CFSI risks (e.g., unfamiliar supply sources, or suppliers known to exhibit questionable business practices). The constant among better implemented programs is that every individual involved in specifying, procuring, and installing components is held responsible for combating CFSI. Training, including hands-on instruction, should be considered for all employees supporting the procurement process, including personnel involved in product purchasing (materials and services), quality assurance, receiving, maintenance, and investigation. Refresher training also may be regularly emphasized to update employees on new threats, identification techniques, and communication strategies.

Providing training and awareness programs to these individuals helps prevent the inadvertent introduction of nonconforming parts into the supply chain. This message is particularly important in keeping pace with the growing trends in business-to-business commerce. While many organizations today have implemented some form of electronic commerce (e-commerce), each organization must weigh the level of risk along with the legitimacy of a supplier's offer when purchasing critical items. It is vitally important that all final procurement decisions, including those steps programmed into automated systems, consider the best possible anticounterfeiting purchasing practices before the final purchase.

Table 1 of this IN (ADAMS Accession No. ML19017A117) lists CFSI training courses offered from a variety of sources. The list is not intended to be complete, nor is it the staff's intent to maintain this list current. It is intended to inform the industry of existing CFSI training and to encourage industry representatives to expand the body of knowledge. This list focuses on those responsible for traditional supply chain procurement from product development through product receipt. It also includes some often-overlooked support functions, including offerings focused on establishing and protecting intellectual property rights.

Additionally, the list provides offerings for fraud investigators and prosecutors. Most of this training was developed from a nonnuclear industry perspective but can be adapted for the commercial nuclear industry. Many of the organizations contacted are willing to tailor their sessions to a specific topic or audience. The NRC staff has made no attempt to evaluate, rate, or endorse these courses but rather provides this list to those organizations and individuals seeking this unique knowledge or skill set. The NRC encourages users of this list to contact resource representatives directly and to perform due diligence to determine if the offering adequately satisfies their specific needs.

## CONTACT

This IN requires no specific action or written response. Please direct any questions about this matter to the technical contact listed below.

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under "NRC Library."

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**ADAMS Accession No: ML19017A118** \*concurrence via E-mail

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