

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

March 19, 2013

NRC INFORMATION NOTICE 2013-02: ISSUES POTENTIALLY AFFECTING NUCLEAR
FACILITY FIRE SAFETY

ADDRESSEES

All holders of an operating license or construction permit for a nuclear power reactor under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," including those that have permanently ceased operations and have spent fuel in storage in the spent fuel pool.

All holders of an operating license or construction permit for a non-power reactor (research reactor, test reactor, or critical assembly) under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," including those that have permanently ceased operations and have spent fuel in storage at their facility.

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 or applicants for a fuel cycle facility license under 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material."

All holders of or applicants for 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 or 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 holders of or applicants for a gaseous diffusion plant certificate of compliance or an approved compliance plan under 10 CFR Part 76, "Certification of Gaseous Diffusion Plants."

All holders of and applicants for a specific source material license under 10 CFR Part 40, "Domestic Licensing of Source Material."

All State Radiation Control Program Directors and State Liaison Officers.

ML122840031

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to alert licensees and certificate holders to recent fire protection equipment counterfeit and failure notices that the U.S. Defense Logistics Agency Headquarters (DLA-HQ) and Underwriters Laboratories, Inc. (UL) have issued. This IN also informs licensees of a recent UL announcement regarding certification of fire resistive electrical cables. The NRC expects recipients of this IN to review the information for applicability to their facilities and consider taking actions, as appropriate. However, suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

The following notices, which have the potential to affect nuclear facility fire safety, were recently issued:

Counterfeit Single-Jacketed Fire Hose

On August 31, 2012, UL issued a notification for the U.S. about a single-jacketed fire hose that bears a counterfeit UL mark. The official UL Release 12PN-36 is publicly available in the NRC Agencywide Documents Access and Management System (ADAMS) at Accession No. ML122830149.

According to UL Release 12PN-36, the counterfeit single-jacketed Aquaplug Fire Hose Model APH-65-ORU can be identified by the following markings:

- UL EX15106 Aquaplug Fire Hose Model APH-65-ORU Service Tested 175 PSI
65 MM X 30 M 12/08.

The notification states that UL has not evaluated this fire hose to the appropriate UL standards for safety, and it is unknown if the fire hose complies with UL listing requirements.

Counterfeit Dry Chemical Portable Fire Extinguishers

The DLA-HQ announced a recall of counterfeit hand-held fire extinguishers. The DLA-HQ fact sheet is publicly available in ADAMS at Accession No. ML13004A347. The notification states that the DLA-HQ received e-mails from the U.S. Army about reported issues (non-functionality of counterfeit fire extinguishers) in April 2012.

According to Army sources, there have been reports of dry chemical hand-held fire extinguishers falsely labeled as having been manufactured by authentic manufacturers that have been found at various military bases outside the continental U.S. in the past year. The notification further stated that the representative of the fire extinguishers' manufacturer stated that there may have been some infiltration of counterfeit fire extinguishers into the U.S. The reported counterfeit dry chemical fire extinguishers found in the U.S. military bases discharge a yellowish-colored, unknown powder and are filled with air. The powder does nothing to suppress fires, and the air simply adds oxygen to the flames.

Counterfeit Fire Sprinklers

On December 5, 2011, UL and Loss Prevention Certification Board (LPCB) issued a notification regarding fire sprinklers that bear a counterfeit UL and LPCB certification mark. The official UL Release 11PN-45 is publicly available in ADAMS at Accession No. ML122610134.

According to UL Release 11PN-45, the counterfeit fire sprinklers are of the upright and sidewall type, with a glass bulb heat-sensitive element and can be identified by the following:

- marked on wrench boss of the frame: FIREX
- marked on deflector: UL and LPC

The notification states that the counterfeit fire sprinklers bear unauthorized UL and LPC marks by an unknown manufacturer. The UL notification also states that it is unknown if these fire sprinklers comply with any safety requirements.

On April 30, 2012, UL and LPCB issued a notification regarding fire sprinklers that bear a counterfeit UL and LPCB certification mark. The official UL Release 12PN-20 is publicly available in ADAMS at Accession No. ML122610134.

According to UL Release 12PN-20, the counterfeit fire sprinklers with glass bulb heat-sensitive element, Model GL5661, can be identified by the following:

- marked on wrench boss of the frame: TOP
- marked on thermal bulb: JOB F5
- marked on deflector: 155°F 68°C SS-1U 2011 GL5661

The notification states that although the sprinkler deflectors are marked with GL5661, and the thermal bulbs are marked "JOB F5," the sprinklers were not manufactured or labeled by Globe Fire Sprinkler Corporation and the thermal bulbs were not manufactured by Job, GmbH or its affiliates or agents. The UL notification also states that it is unknown if these fire sprinklers comply with any safety requirements. The notification further states that counterfeit fire sprinklers are marked with the same model number and constructed similar to a fire sprinkler model that is authorized to bear the UL and LPCB marks. The counterfeit sprinklers are marked "TOP," on the wrench boss of the fire sprinkler frame. The sprinkler model GL5661 that is authorized to bear the UL and LPCB marks is not marked "TOP."

On June 15, 2012, UL issued a notification for the U.S. and Canada regarding fire sprinklers that bear a counterfeit UL mark. The official UL Release 12PN-05 is publicly available in ADAMS at Accession No. ML122610134.

According to UL Release 12PN-05, the counterfeit fire sprinklers are the upright and pendant Model T-ZSTZ-15, with a glass bulb heat-sensitive element and can be identified by the following:

- marked on wrench boss of the frame: UL and TYCO
- marked on thermal bulb: JOB F5
- marked on deflector: 2011 T-ZSTZ-15-68°C

The notification states that neither Tyco International, Inc., nor its affiliates or agents, manufactured or labeled the sprinklers marked with the word "TYCO," nor were the thermal bulbs marked "JOB F5," manufactured by Job, GmbH. The UL notification also states that it is

unknown if these fire sprinklers comply with the UL safety requirements for the U.S. and Canada. The company states that sprinklers Tyco manufactures that are authorized to bear the UL mark do not have "UL" and "TYCO" marking on the wrench boss.

On July 13, 2012, UL and LPCB issued a notification for the U.S. and Canada regarding fire sprinklers that bear a counterfeit UL and LPCB certification mark. The official UL Release 12PN-32 is publicly available in ADAMS at Accession No. ML122610134.

According to UL Release 12PN-32, the counterfeit fire sprinklers with glass bulb heat-sensitive element, Model TY3151, can be identified by the following:

- marked on wrench boss of the frame: GLOBE
- marked on thermal bulb: JOB F5
- marked on deflector: TY3151 SU 155°F/68°C SU

The notification states that the fire sprinklers were not manufactured or labeled by Tyco International, Inc., or Globe Fire Sprinkler Corporation; and the thermal bulbs were not manufactured or labeled by Job, GmbH, affiliates or agents. The UL notification also states that it is unknown if these fire sprinklers comply with any UL safety requirements. The notification further states that the counterfeit fire sprinklers are marked with the same model number and constructed similarly to fire sprinklers that are authorized to bear the UL and LPCB marks. The counterfeit sprinklers are marked "GLOBE" on the wrench boss of the fire sprinkler frame. The sprinkler model TY3151 that is authorized to bear the UL and LPCB marks is not marked "GLOBE."

Counterfeit Fire Sprinkler Pipe Hangers

On September 15, 2012, UL issued a notification for the U.S. and Canada regarding fire sprinkler pipe hangers that bear a counterfeit UL and ULC mark. The official UL Release 12PN-33 is publicly available in ADAMS at Accession No. ML13004A107.

According to UL Release 12PN-33, the counterfeit fire sprinkler pipe hangers Model ($\frac{3}{4}$ " AU-100) can be identified by the following:

- $\frac{3}{4}$ " (AU) in a circle followed by – 100

Certification Issues with Cable Rating Program

On September 12, 2012, UL issued a notification regarding changes to an electrical cable-rating certification program. The official UL Release 12PN-51 is publicly available in ADAMS at Accession No. ML122760246.

The UL Release 12PN-51 states that UL recently conducted research on an array of current products and systems originally certified under UL 2196, "Tests for Fire Resistive Cables" and Underwriters' Laboratories of Canada (ULC)-S139, "Standard Method of Fire Test for Evaluation of Integrity of Electrical Cables," and has determined that they no longer consistently achieve a two-hour fire-resistive rating when subjected to the standard Fire Endurance Test of UL 2196 or ULC-S139. The UL notification further stated that UL and ULC will not be able to offer certification to the current program related to these standards and that manufacturers are no longer authorized to place the UL or ULC mark on the following products:

- UL classified fire resistive cable (with the label "FHJR")

- ULC listed fire resistant cable (with the label “FHJRC”)
- UL listed cable with “-CI” suffix (circuit integrity)

UL Release 12PN-51 also informed recipients that UL has removed all electrical circuit protective systems constructed with fire resistive cable from its certification directory. To date, UL is not aware of any field failures with currently installed systems.

BACKGROUND

NRC regulations require nuclear facilities to have a fire protection program to assure public health and safety. These programs describe features necessary for fire protection such as fire prevention, detection, and suppression. The purpose of the fire protection program is to ensure nuclear material is safely treated and to minimize radioactive releases to the environment in the event of a fire.

Fire-protection equipment reliability and performance capabilities are a primary feature of defense-in-depth and must be maintained to achieve effectiveness in preventing fire damage to structures, systems, and components important to safety. The counterfeit fire protection equipment or fire protection equipment associated with certification issues discussed in this IN may not be able to perform their intended function.

DISCUSSION

Although NRC is unaware of any issues at licensed facilities involving counterfeit equipment or cable fire-testing certification, the NRC is using this IN to heighten awareness and inform licensees of these issues.

Counterfeit fire protection equipment such as the fire sprinklers, fire hose and dry chemical hand-held fire extinguishers listed above, if used in a nuclear facility, may prevent or inhibit fire protection measures that are important to worker or facility safety.

Certain electrical cables with fire-resistant jacketing described above may no longer be certified to their designated fire resistance rating. Licensees should be aware that applications in which these labeled fire-rated cables are used, such as to meet the requirements of 10 CFR Part 50, Appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979,” may not achieve their design capability.

Licensees can detect counterfeit components as part of the procurement control process before they are used at a nuclear facility (see IN 84-52, Supplement 1, “Inadequate Material Procurement Controls on the Part of Licensees and Vendors,” (ADAMS Accession No. ML082170556)).

Licensees can monitor and communicate with listing organizations, manufacturers, and government resources to maintain awareness of counterfeit components and certification issues. This IN and others, such as IN 2007-19, “Fire Protection Equipment Recalls and Counterfeit Notices” (ADAMS Accession No. ML071090170), include information on various listing organizations, manufacturers, and government resources that monitor the use of counterfeit products. Also, IN 2012-22, “Counterfeit, Fraudulent, Suspect Item (CFSI) Training Offerings,” (ADAMS Accession Nos. ML12137A248 and ML12318A216) informs licensees and certificate holders of a sampling of entities that offer training on how to detect potential counterfeit, fraudulent, and suspect items that may enter the supply chain. That IN also lists available training resources for educating personnel involved in NRC-regulated activities on current trends in CFSI and techniques to prevent the use of CFSI parts.

Commercial listing organizations, government organizations that report counterfeiting, and other resource websites include, but are not limited to, the following:

- Electric Power Research Institute, <http://my.epri.com>
- Factor Mutual Global, <http://www.fmglobal.com>
- Government-Industry Data Exchange Program, <http://www.gidep.org>
- National Intellectual Property Rights Coordination Center, <http://www.iprcenter.gov/referral>
- Underwriters Laboratories, Inc., <http://www.ul.com>
- U.S. Consumer Product Safety Commission, <http://www.cpsc.gov>
- U.S. Defense Logistics Agency, <http://www.dla.mil>
- U.S. NRC, <http://www.nrc.gov/about-nrc/regulatory/allegations/safety-concern.html>

CONTACT

This IN does not require any specific action or written response. Please direct any questions about this matter to the technical appropriate contacts listed below or the appropriate NRC project manager.

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

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