

## **Factors Impacting Certification of Workplace Equipment by Nationally Recognized Testing Laboratories (NRTLs)**

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### **OSHA—Introduction**

***By MaryAnn Garrahan***

The OSHA portion of this manuscript is purely introductory in an effort to identify and educate the reader on existing regulatory standards and programs that provide increased safety to the workplace. The subsequent sections, written by ASSE Safety Symposium panel members/authors Robert Baker and Doug Geralde, are not necessarily endorsed by OSHA, but are included in the combined manuscript to provide the workplace with examples of issues and suggested recommendations. Accordingly, each section is independently subtitled to ensure appropriate separation from OSHA introductory content.

To ensure the protection of workers from injuries, OSHA requires that certain products or equipment (e.g., electrical equipment) meet the requirements for approval by a Nationally Recognized Testing Laboratory (NRTL). There are several factors that may seriously influence workplace perceptions of the certification and safety of these products. This paper focuses on two such factors that may be jeopardizing the safety of equipment in workplaces. These factors include the use of counterfeit marks and the potential voiding of an original mark's validity due to repairs to the equipment. NRTLs are third-party (i.e., independent) organizations recognized by OSHA because they have demonstrated the capability to perform safety testing and certification of particular types of products. NRTLs are non-government organizations, and provide their testing and certification services to the manufacturers of a wide range of products used in the workplace. To ensure that each NRTL is qualified to approve products used in the workplace, OSHA established the NRTL Program. The regulations for the program, including the

requirements for NRTL recognition, are at 29 CFR 1910.7. OSHA's recognition of an organization as an NRTL assures that it is:

1. Independent of the product's manufacturer, supplier and vendor.
2. Capable of testing and certifying the product using specified product-testing standards, and
3. Regularly evaluated by OSHA for compliance with OSHA's requirements and policies regarding the NRTL Program.

OSHA evaluates an NRTL's capability by reviewing its testing and certification procedures, as well as its quality assurance program. OSHA recognizes an NRTL for testing and certifying specific products. The scope of recognition specifies:

1. The product-testing standards which an NRTL can use to test and certify products;
2. The types of test results that an NRTL may accept from other organizations (including manufacturers); and
3. Which of the NRTL's testing facilities (or "Sites") are covered by OSHA's recognition.

NRTL testing must utilize a U.S. consensus-based test standard, developed and maintained by a U.S. standards-developing organization (SDO). An NRTL may use an international test standard (i.e., developed through a multi-country consensus process) if a U.S. SDO makes the international test standard consistent with applicable U.S. codes and requirements.

A number of OSHA standards contain requirements for "approval"<sup>1</sup> of specific products and equipment by an NRTL. The requirements for NRTL approval of electric equipment, which is the type of equipment most often requiring NRTL approval, are in 29 CFR 1910.303(a) and 29 CFR 1910.307(c). As a result of these requirements, most electric equipment used in the workplace must be NRTL-approved. This approval generally consists of *testing and certification* of a product by the NRTL. The requirements protect workers by helping to ensure that the products and equipment they use, or are exposed to, in the workplace are safe.

When certifying a product, each NRTL authorizes the manufacturer to apply the NRTL's registered certification mark to the product. Generally, the manufacturer applies the mark to the products when they are initially manufactured. If the certification is done under the NRTL Program, this mark signifies that the product has been tested and certified by the NRTL, and that it complies with the requirements established by the NRTL and one or more appropriate product safety test standards. Users of the product can generally rely on the mark as evidence that the product complies with the applicable safety requirements.

There may, however, be certain situations when a mark appearing on new or used equipment or product is not valid or legitimate because the mark is counterfeit or the original mark is no longer valid due to equipment repair, where the equipment attributes necessary to meet the original NRTL approval standards may have been intentionally or unintentionally "changed" during the repair process.

Employers are responsible for using approved equipment containing valid or legitimate NRTL approval marks. The use of unapproved products or equipment could cause a serious hazard to workers, and would be a violation of the OSHA standard requiring NRTL approval of the equipment or product. Thus, employers must understand and implement appropriate work

processes addressing such factors impacting the validity or legitimacy of original (counterfeit) or ongoing (post-repair) equipment approval marks.

OSHA developed and posted on its Web page a safety and health information bulletin (SHIB) entitled “*Certification of Workplace Products by Nationally Recognized Testing Laboratories.*” This SHIB provides general information so workers, employers, and manufacturers understand the potential safety and health hazards that may arise due to the use of improperly tested and certified equipment and to describe actions to take to prevent these hazards (See “Additional Sources of Information”).

## **Maintaining Certification of Repaired or Reconditioned Equipment**

***By Robert Baker, Consultant to Emerson Process Management***

To understand how to maintain certification compliance of repaired or reconditioned equipment, particularly when used in hazardous (classified) locations, one should first understand a very simple difference between “repaired” and “reconditioned.”

Within industry, reconditioned equipment may have a multitude of names or descriptions (e.g. refurbished, remanufactured, salvaged, surplus, or new surplus), but fundamentally all involve used or possibly new surplus equipment that is ultimately *resold* after whatever necessary steps are involved to make it operable and acceptable to a purchaser. *Note:* The process of making the equipment saleable may involve some range of repair; however, the distinguishing element is the subsequent *change in ownership* for these types of equipment.

Whereas repaired equipment is equipment that is restored to operating condition but ownership is retained by the original owner. Examples are where equipment is repaired either by an end user’s in-house shop or equipment is sent to a third-party shop, which restores the equipment to operating condition and returns the *same identical equipment* back to the end user.

*Note:* The use of the terms “repair” or “repaired” and “recondition” or “reconditioned” equipment, throughout the balance of this section, are meant to reflect the definitions and inclusions noted above.

One could readily deduce that *any changes* made to NRTL-approved equipment, whether intentionally or even unknowingly, that would result in the equipment no longer meeting the required design attributes necessary for the original NRTL approval, may result in the equipment no longer being acceptable for use in applications requiring such NRTL approval. Of particular importance would be applications in process plant areas classified as hazardous locations.

Of the fifteen (15) NRTLs currently listed on OSHA’s Web site, six (6): the Canadian Standards Association (CSA), FM Approvals, Intertek Testing Services, MET Laboratories, SGS U.S. Testing Corporation, and Underwriters Laboratories, have scopes of recognition that include test and certification of electrical equipment for use in hazardous locations. My experience in the process control industry has been with two of the predominant NRTLs, testing and certifying process instrumentation for use in hazardous locations, and my comments will focus exclusively on these two organizations. In response to manufacturer inquiries, both FM Approvals LLC and CSA established and communicated their positions (in the public domain and/or to Emerson

Process Management) on repaired or reconditioned equipment that originally bore their respective NRTL approval mark. For example:

#### FM Approvals, LLC

*“It is FM Approvals’ position that only the original manufacturer of the approved product or an FM Approved remanufacturer, whose facilities are part of FM Approvals follow-up audit program, can remanufacture a product and reissue the FM Approvals certification mark. Any suggestion, practice or inference to the contrary is wrong and must cease.”*

*Further: “Any salvaged, remanufactured or new surplus electrical instrument cannot be labeled or relabeled as FM Approved for use in a classified hazardous location unless the refurbishing/new surplus supplier entity is audited and approved by FM Approvals LLC, for the specific type of instrument.”*

*“Absent the above being met, the device can carry the FM Approvals certification only if the product has been resubmitted and approval granted by FM Approvals. Failure to follow these guidelines will invalidate the FM Approvals certifications. In such instances the FM Approvals mark shall be permanently removed from the product (including the nameplate).”<sup>2</sup>*

#### CSA

*“This is to confirm our position regarding the use of our certification mark in refurbishing, remanufacturing, or servicing of CSA certified products.*

*The CSA Certification Mark when applied to products signifies that the product met all applicable requirements at the time of original manufacture. The scope of CSA certification does not include subsequent modification, remanufacture or rework of products once they have left the factory. CSA does not have a program that reviews refurbishing, remanufacturing, or servicing of your previously certified products.*

*It is our position that the inference or representation that refurbished or remanufactured products bearing the original CSA certification mark are certified, is misleading and a misrepresentation even if the product is marked “reconditioned”. It is our understanding that such products are subject to inspection and approval by the provincial/territory regulatory authorities having jurisdiction.”<sup>3</sup>*

While these positions represent the policy of two NRTLs, the four other NRTLs presumably have similar policies as they relate to repaired, refurbished, or remanufactured equipment.

Suffice it to say that industry does not typically have an adequate understanding of the potential issues created when dealing with repaired or reconditioned equipment that was originally NRTL approved for use in hazardous (classified) locations.

Equipment that may no longer meet NRTL approval attributes presents an increased risk of igniting potentially explosive atmospheres. End users, not the equipment manufacturer and/or repairer, are responsible for equipment compliance within their plants per OSHA and other regulatory requirements.

Thus, end users should establish work processes and appropriate specifications for the repair of such equipment and/or for the procurement of reconditioned equipment, to ensure that the appropriate NRTL-approval certification attributes are maintained or reconfirmed, meeting regulatory requirements.

Adding to end users' confusion is the reselling of reconditioned equipment with the original nameplate still affixed (containing the original NRTL certification mark(s) and approval descriptions that were on the equipment when it left an NRTL-approved manufacturer or repair facility). Often, such equipment is repainted to look like new, with marketing claims that the equipment is equivalent to new, or that it "meets or exceeds" the original manufacturer's specifications.

Whereas this resold equipment may be operationally acceptable, but it may no longer meet design specifications necessary for regulatory compliance. Even for repaired equipment, end users and third-party repair shops typically do not have access to original equipment manufacturing (OEM) design specifications or special manufacturing procedures necessary to ensure continued compliance with NRTL-approval requirements. Thus, inspections and re-certifications by NRTL-approved facilities are recommended and possibly required to ensure continued NRTL approval and regulatory compliance.

Over a two-year period in 2006 and 2007, Cheryl Gagliardi of FM Approvals teamed with Robert Baker, consultant to Emerson Process Management, in a joint effort to better educate industry on the issues noted above. Much of the information presented by Mr. Baker in the ASSE 2010 panel presentation originated from such joint presentations at safety and process control symposiums, including:

- OSHA VPPPA National Meeting, Aug 2006<sup>4</sup>
- Mary K. O'Connor Process Safety Symposium, Oct 2006
- Emerson Users Exchange, Oct 2006
- Texas A&M Instrumentation Symposium, Jan 2007

Further industry communication by Mr. Baker was via trade journal articles and presentations at:

- FM Global Insurance, Site Inspector Training, Dec 2006
- Process Plant Safety Symposium (PPSS), Apr 2007
- Emerson Users Exchange, Oct 2007

The joint presentations communicated FM Approvals LLC's position on FM-approved equipment for use in hazardous (classified) locations, and Mr. Baker's recommendations to industry addressing procurement, identification, risk assessment, abatement (including noncompliant equipment already installed), and ongoing plant awareness. A manuscript supplied in conjunction with the Mary K. O'Connor Process Safety Symposium presentation was subsequently published in the *Journal of Hazardous Materials*.<sup>5</sup> The following material (remainder of this section) was a part of the published manuscript.

#### **FM Approvals LLC (Cheryl Gagliardi):**

FM Approvals is recognized under OSHA's NRTL program, and the FM Approvals certification mark is an accepted mark for equipment used in hazardous (classified) locations.

The FM Approvals certification mark is a statement of conformity that a product is in compliance with defined standards at the time the product leaves the *manufacturing and/or repair facilities audited and approved by FM Approvals (hereinafter referred to as an FM Approved facility)*. A manufacturer can have multiple facilities audited by FM Approvals, allowing all of them to mark product with the FM Approvals certification mark. Once approved equipment is in use, continued compliance with applicable codes and standards becomes the responsibility of the

end user. The installation and maintenance of the equipment is critical to the approval. All instructions provided by the manufacturer must be followed throughout the life of the equipment.

Changes made to the equipment after it has left an FM Approved facility may unknowingly affect the equipment's continued compliance to the standards which it was certified to. A "change" can include equipment that is refurbished, remanufactured, reconditioned, salvaged, new surplus or repaired.

FM Approvals defines repair as "work performed to the unit that would bring it back to its original condition approved by FM Approvals." In other words, *product compliance with the applicable standards has been reconfirmed*. This definition is taken from FM Approvals Standards Class 3606:1998, *Repair Service for Process Control Equipment Used in Hazardous (Classified) Locations*, and Class 3605:1994 - *Repair Service for Communication Equipment Used in Hazardous (Classified) Locations*. Such "repair" includes refurbished, remanufactured, reconditioned, salvaged or new surplus devices when the "work performed to the unit would bring it back to its original condition approved by FM Approvals." *Product compliance with the applicable standards has been reconfirmed*.

#### Requirements for Repairing FM-Approved Equipment for Use in Hazardous (Classified) Locations

Equipment bearing the FM Approvals certification mark can be repaired in several ways, which reconfirms *product compliance with the applicable standards*.

- **OEM:** The most obvious is returning the equipment to the original equipment manufacturer (OEM). The "manufacturer" can be any OEM-owned or OEM-authorized facility (including repair facilities) that is audited by FM Approvals. They have the design control and knowledge of the original FM Approvals certification requirements and can return the equipment to its originally certified condition and mark it with the FM Approvals certification mark.
- **Third Party:** A second option is having the equipment repaired by a third-party repair facility that is FM-approved in accordance with class standard 3606. Such approval will be specific to product brands and models, with the repair facility audited by FM Approvals specifically for those product brands and models. A third party can meet the requirements of FM Approvals class 3606 only with cooperation from the OEM. It will be the OEM who will authorize and supply the third-party repair facility with the necessary proprietary intellectual property, such as documentation, testing procedures, quality assurance requirements, etc., as well as OEM replacement parts, allowing the device to be restored to its originally certified condition.
- **End User:** The repair can also be performed by the end user if they are FM-approved in accordance with class standard 3606. The same requirements listed above for a third-party repair facility would apply to the end-user repair facility if it is to be FM-approved.

#### Issue: Inability to Distinguish Complaint vs. Noncompliant Equipment

The inability to distinguish between compliant and potentially noncompliant equipment can be challenging for the end user. There are potential safety and regulatory compliance risks. Existing nameplates, with FM Approval certification marks, are typically left on repaired devices even when the repair facility is not FM-approved (as defined in prior section above).

FM Approval's preference is that the certification mark be removed from the product when the repair is done by a facility that is not FM-approved. There is no written requirement

mandating this, but remember that, as the end user, you bear the burden for equipment compliance to the regulatory requirements.

An incident requiring an investigation by OSHA may result in citations not directly associated with causing the incident. For example, an explosion in 2005 in the Gulf Coast resulted in the following citation: “The employer does not ensure the equipment is approved for the class of location and for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present.” This resulted in 167 individual items, each classified as “willful,” and carrying a fine of \$70,000 per item. This resulted in a total fine of \$11,690,000 for this company.<sup>5</sup>”

**Mr. Baker, Consultant:**

“Although the use of non NRTL-approved (non-compliant) electrical equipment in hazardous (classified) locations may not yet have *directly* resulted in a catastrophic, explosive incident to date, it may be naïve to assume an accident will not happen in the future.

However, safety experts have typically embraced the philosophy that “just because there may not yet have been an accident directly caused in the past does not mean that the combination of situations required to cause an accident will not occur in the future.”

So what are end users to do to increase plant safety and comply with regulatory requirements, especially in light of this paper’s identification of potential non-compliance issues associated with repaired or reconditioned equipment? The following recommendations can assist the end user in preventing the introduction of reconditioned or repaired equipment that may no longer be NRTL-approved.

**Reducing Process Safety Risks and Meeting Regulatory Requirements Equipment**

As an end-user having the responsibility to meet regulatory requirements, there are a number of actions you can take to better ensure purchase and installation of compliant devices.

First of all, ensure that product and/or service providers are appropriately qualified. By using the following vendor qualification methods, any anticipated application of potentially non-compliant equipment should become known and appropriate Management of Change (MOC) processes can be implemented prior to installation of any potentially non-compliant devices:

- a) Specify and purchase repaired equipment from facilities audited and inspected by the NRTL whose certification mark is on the product;
- b) Require proof from your supplier that the equipment is traceable directly back to the NRTL audited and inspected manufacturing or repair facility:
  - Request an NRTL signed report or certificate for the equipment brands and models the facility is approved for;
  - Demand documentation of updated audit inspections; and
  - Require facilities not audited and inspected by the NRTL to indicate such on all documentation including specifications, quotations, packing lists, and invoices.
- c) Request non-approved facilities to remove nameplates containing the original NRTL certification mark in order to eliminate future confusion. Replace with a nameplate no longer bearing the NRTL mark or approval descriptions.

Secondly, one should identify any potentially non-compliant devices that are already installed in the plant. The identification process consists of identifying existing, potentially noncompliant devices, including equipment currently installed and/or in stores inventory. Start with a manageable cross-section of equipment types such as instrumentation:

- a) Identify plant areas classified as hazardous locations;
- b) Identify equipment purchased from or serviced by facilities not audited and inspected by the appropriate NRTL;
- c) Cross-check purchases to plant areas (Tag #); and
- d) Verify suspect equipment via a walk-down.

Thirdly, perform a risk assessment on identified non-compliant equipment that presents a potentially eminent hazard and take appropriate action to abate the problem. Such risk assessment could be used to prioritize and establish timelines for abatement. For example, abatement of all non-compliant equipment could either be accomplished in full during turnaround(s) or could be addressed individually and opportunistically during normal MRO (maintenance, repair, other) operations:

- a) **Turnarounds:** Identify and abate all potentially noncompliant devices while process unit(s) are shut down;
- b) **MRO:** Consider using a rotational replacement of repaired devices (NRTL-approved):
  - Initially replace a small number of non-compliant devices with compliant devices sourced from an NRTL-approved facility;
  - Send non-compliant devices to an appropriate NRTL-approved facility for repair; and
  - Once returned, use the repaired devices as replacements for additional non-compliant devices and continue this rotational replacement until all non-compliant devices have been abated.

Finally, worker awareness and understanding is a key element in avoiding reintroduction and future installation of potentially noncompliant devices. One should maintain plant worker awareness of the necessary requirements for NRTL-approved equipment for use in hazardous (classified) locations:

- a) Ensure training is provided to all personnel involved with the specification and / or purchase of electrical devices, with training to include:
  - Identification of protection techniques and regulatory requirements for equipment installed in a hazardous (classified) location;
  - NRTL requirements for listing the equipment with the specific protection techniques;
  - Vendor qualification requirements such as those listed previously
- b) Ensure that personnel have appropriate access to acceptable, qualified vendor list(s).

### Summary

Over the last few years, there has been an increasing population of potentially non-compliant electrical instrumentation for use in hazardous (classified) locations introduced into the chemical process and refining industries.

Non-compliance often results from the repair of devices by facilities not approved by an NRTL. Such facilities typically do not remove the original manufacturer's nameplate containing an original NRTL certification mark. This creates the misperception that such devices are still compliant to NRTL approvals, as required by OSHA for use in hazardous (classified) locations.

Industry awareness of the regulatory and/or safety compliance issues should provide end users with the impetus to develop corporate policies and guidance directing inspection, engineering, maintenance, and procurement organizations to ensure the installation of compliant devices.

Going forward, stringent supplier qualification can be a straightforward and efficient preventive solution. For suspect equipment that is already installed, risk assessment, identification and appropriate abatement processes may be needed.

Such actions assist in creating a safe workplace and in demonstrating a proactive safety culture by reducing the probability of non-compliant devices being the focal point of a future, potentially significant incident.”<sup>6</sup>

## **The Threat of Counterfeit Product Approval Marks Warrants Aggressive Detection and Enforcement Action<sup>7</sup>**

***By Doug Geralde, CSA Group (Canadian Standards Association)***

“Counterfeit Product Approval Marks Threaten Mark Value and Undermine Confidence in Legitimate Products

Widespread use of counterfeit marks undermines the entire U.S. system of test standards, and testing and certification that has been put in place to protect the safety of product users and the interests of retailers, regulators, and product manufacturers.

If unchecked, proliferation of counterfeit approval marks can enable unsafe or otherwise deficient products to gain widespread access to the U.S. market. This can place consumers at direct risk of exposure to unsafe or deficient products and increase retailers’ risk of legal action, and unfavorable publicity should they unwittingly supply those products. Widespread counterfeiting can also jeopardize public confidence in products bearing legitimate approval marks, posing a significant threat to leading national brands and the profits of the companies behind them.

Proprietary, trademarked approval marks are among the most valuable brand assets of testing laboratories. Counterfeit marks pose a very real threat to the acceptance of these legitimate marks. Reduced acceptance represents a significant loss of brand equity, and could place a testing laboratory at a competitive disadvantage, ultimately resulting in significant loss of business.

### The Global Product Counterfeiting Threat

The threat of counterfeiting is not limited to product approval marks. The appearance of counterfeit products in the U.S. has increased dramatically over recent years. These products are often unsafe, compete unfairly with legitimate business and can damage legitimate manufacturers’ reputations.

Product counterfeiters often illegally display counterfeit approval marks on products as a part of their deception, to further gain the trust of purchasers and specifiers.

The ICC (International Chamber of Commerce) estimates that trademark counterfeiting accounts for about 6% of world trade and is worth an estimated \$350 billion annually.

In the mid-year report for 2005, the U.S. DHS (U.S. Department of Homeland Security’s Customs and Border Protection) reports that customs seized more than 64 million dollars’ worth of counterfeit products during 3,693 seizures. Electrical equipment, much of it intended for the U.S. workplace, alone accounted for over six million dollars worth.

The IACC (International Anti-Counterfeiting Coalition) reports the majority of counterfeit products come from Asia, primarily China, and that Eastern Europe has also become a

significant source. The manufacture and distribution of counterfeit products has been linked to organized crime.

A wide range of potentially unsafe products could have counterfeit approval marks, including the following:

- Counterfeit approval marks have been found on electrical products built using substandard materials and exhibiting compromised electrical spacing, both of which pose potential shock and fire hazards to U.S. employees.
- Safety footwear bearing counterfeit approval marks has been found to offer substandard toe protection. These shoes were also deficient in dielectric protection creating a potential shock hazard.
- Recently, circuit breakers bearing counterfeit approval marks were found in a hospital panel board supplying power to life-support equipment in the intensive care ward.

#### Who Buys Counterfeit Products?

Anyone could unwittingly purchase a counterfeit product or a product bearing counterfeit approval marks. These are the real victims of counterfeiting because they believe they are purchasing or specifying a legitimate product and are paying for the value they associate with that product.

While these people may be disappointed in the performance, reliability, and durability of the product, the real threat posed by many counterfeit products is in safety. If the product has not been tested and certified to meet applicable standards and does not bear legitimate approval marks, it could pose a serious fire, shock, or other hazard to the user and present a serious liability risk to retailers, distributors or others who may have supplied the product.

Some people actually choose to purchase counterfeit products under the assumption that they are paying less for products that are equal in value to the legitimate products they mimic. People who deliberately choose to buy counterfeit products are not victims. Instead, they support the criminally deceptive practices of counterfeiters by creating a built-in market for their goods. If consumers stopped using counterfeit products, counterfeiting would not disappear. However, in many cases, counterfeiting would be less profitable and more risky without these easy sales.

#### Approved Marks for the U.S. Market

The U.S. Government, through OSHA (Occupation Safety and Health Administration), has certified private laboratories to test and certify that products meet certain product safety standards. These laboratories are referred to as Nationally Recognized Testing Laboratories or NRTLs.

For a complete list of these laboratories and their approved marks, see “Additional Sources of Information” at the end of this paper for the OSHA Web site.

#### How Products are Properly Authorized to Display NRTLs Approval Marks

NRTL Laboratories allow the use of their approval marks only under licensed agreements with product manufacturers. The manufacturers are authorized to use the mark or marks on products that have been tested and certified to meet applicable standards for safety or performance, and whose manufacturing facilities are under periodic monitoring by the NRTL. A counterfeiter is one who uses one of these approval marks and does not have a licensed service agreement with one or

more of the NRTL Laboratories. Such an agreement provides for the display of an approval mark on a Web site, on packaging, in advertising media, or on the product.

#### How to Determine if a NRTL Approval Mark is Counterfeit

Sometimes, the appearance of the mark itself is an obvious indication that it is counterfeit. Most NRTL marks have distinctive graphic features that are often not accurately reproduced by counterfeiters. A common example is a difference in the proportion of the letters in the marks.

NRTLs supply licensed manufacturers with their approval marks' artwork or labels to ensure that their products are properly marked. Marks on products that deviate from these official designs should be viewed with suspicion.

Examination of products and their packaging can sometimes also indicate a counterfeit. For example, unclear printing on products, labels, or packaging or spelling mistakes can be an indication that the product is counterfeit and may have counterfeit approval marks. A discrepancy between the contents of the product package and the description on the package may also be a sign of counterfeiting. Missing product information or other package enclosures are another reason to be suspicious.

Significantly lower prices or a deal that is "too good to be true" can be a sign that a product is counterfeit. In addition, the availability of a product through an unauthorized distributor can indicate that the product is not legitimate and should not be used in the workplace."<sup>7</sup>

Summarizing, the following Quick Tips should assist in Identifying Counterfeit Items:

1. **Look for the Mark:** A system of standards exists for the testing and certification of products. Be wary of electrical, mechanical, plumbing, gas or other standardized products if they do not have a certification mark from a recognized NRTL.
2. **Inspect the Mark:** Legitimate certification marks have distinctive graphic features that are often not accurately reproduced by counterfeiters.
3. **Poor Spelling:** Look for misspellings and unclear printing on packaging , products, labels or instructions.
4. **Inferior Packaging:** Counterfeit packaging often has poor design or shows only partial illustrations. Examples are foreign newspapers used as packaging, questionable or meaningless markings, and wrong language, or spelling errors.
5. **Missing Items:** Check for missing product information or discrepancies between package contents and the items' description on the package. Also check for missing instructions, screws, and terminals.
6. **Know Your Source:** Buy only from reputable, well-known distributors or retailers.
7. **Significantly Lower Pricing:** This could mean it is counterfeit, so check it closely.
8. **Cheap Production:** If the "look and feel" is too tight and flimsy, it might just be a fake. For example, look for signs of used appearance, evidence of tampering/repairs, broken seals, scratches, obvious wear, corrosion, pitting, components with no certification markings, different material types, finishes and/or inconsistent colors."<sup>8</sup>

#### "Aggressive Action is Called For"

The threat posed by counterfeit approval marks calls for decisive detection and enforcement actions to defend the interests of employers, and businesses and consumers in general who rely on approval marks for assurance that products or components meet applicable standards.

Like leading manufacturers who have been victimized by counterfeiters, NRTLs have taken aggressive actions against unauthorized use of their marks. The NRTLs work with police, customs officials, electrical inspectors, and the International Anti-Counterfeiting Coalition here in the U.S. and abroad to fight against counterfeit products in the workplace.”<sup>9</sup>

## Endnotes

- <sup>1</sup> In OSHA standards, the words used to require approval include: approved, tested, certified, listed, labeled, and accepted.
- <sup>2</sup> Martell, Robert L., Assistant Vice President, FM Approvals Director, FM Approvals LLC, November 2003, January 2006.
- <sup>3</sup> Len Mitchell, Manager Special Investigations, Corporate Audits & Investigations, CSA Group, April 2004.
- <sup>4</sup> Cheryl Gagliardi, FM Approvals & Robert Baker, Consultant to Emerson Process Management, “Maintaining Certification Compliance of Equipment Used in Hazardous (Classified) Locations”, *OSHA VPPPA National Meeting*, Aug 2006 slide presentation.
- <sup>5</sup> Reprinted from *Journal of Hazardous Materials*, 2008 Vol. 159, Issue 1, Cheryl Gagliardi, FM Approvals & Robert Baker, Consultant to Emerson Process Management, “Maintaining Certification Compliance Of Equipment Used in Hazardous (Classified) Locations”, pages 116-118, Copyright 2008, with permission from Elsevier.
- <sup>6</sup> U.S. Department of Labor, OSHA: “Citation and Notification of Penalty”, September 21, 2005, OSHA National News Release. September 22, 2005.
- <sup>7</sup> White Paper: The Threat of Counterfeit Product Approval Marks Warrants Aggressive Detection and Enforcement Action. Developed through the OSHA and ACIL Alliance, 2007 <http://www.acil.org/associations/1304/files/OSHA2007FinalWhitePaper.pdf>.
- <sup>8</sup> Quick Tips for Identifying Counterfeit Marks: Developed through the OSHA and American Council of Independent Laboratories (ACIL) Alliance, 2007: <http://www.acil.org/associations/1304/files/OSHA%202007QuickTips.pdf>.
- <sup>9</sup> White Paper: The Threat of Counterfeit Product Approval Marks Warrants Aggressive Detection and Enforcement Action. Developed through the OSHA and ACIL Alliance, 2007 <http://www.acil.org/associations/1304/files/OSHA2007FinalWhitePaper.pdf>.

## Additional Sources of Information

Department of Homeland Security, Customs and Border Protection. ([www.cbp.gov](http://www.cbp.gov))

International Anti-Counterfeiting Coalition. ([www.iacc.org](http://www.iacc.org))

International Chamber of Commerce. ([www.iccwbo.org](http://www.iccwbo.org))

Occupational Safety and Health Administration (OSHA). “NRTL Directive: NRTL Program Policies, Procedures, and Guidelines.” (NRTL Directive – CPL 01-00-003 - CPL 1-0.3)

\_\_\_\_\_. NRTL Program website: <http://www.osha.gov/dts/otpca/nrtl/index.html>

\_\_\_\_\_. “NRTL Safety and Health Information Bulletins (SHIBs).”  
(<http://www.osha.gov/dts/shib/index.html#2010>)

\_\_\_\_\_. 29 CFR 1910.7, “ Definition and Requirements for a Nationally Recognized Testing Laboratory.” (<http://www.osha.gov/pls/oshaweb/>)

\_\_\_\_\_. “Frequently Asked Questions (FAQs) about the NRTL Program.”  
([http://www.osha.gov/dts/otpca/nrtl/faq\\_nrtl.html](http://www.osha.gov/dts/otpca/nrtl/faq_nrtl.html))

\_\_\_\_\_. “Types of products requiring NRTL approval.”  
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