

## High-risk environment case study



# The authenticity imperative for high-risk environments

### Location:

High-risk environments where product performance is critical to safety, including nuclear and mining industries.

### Challenge:

Provide high-risk environments with reasonable assurance that parts will perform their intended safety functions when required to do so.

### Solution:

Verify the authenticity of electrical products used in high-risk environments, such as molded case circuit breakers (MCCBs), using tools and technology available in the marketplace. Source electrical products from channels that can ensure traceability to the original manufacturer throughout the supply chain.

### Results:

By leveraging anti-counterfeiting technologies on its products, Eaton can help industries operating in high-risk environments improve the accuracy and ease with which inspectors are able to verify that new electrical equipment is authentic. This provides industries with reasonable assurance that parts will perform their intended safety functions.

*"We cannot stress enough how imperative it is that there be proper awareness and training on the need for authentic electrical products in high-risk environments."*

*Joseph Beene, Electrical Components product line manager, Framatome*

*"The presence of counterfeit products in the supply chain is an increasing concern for WESCO's customers and supplier partners. WESCO shares this concern and is committed to doing its part to help detect and prevent the purchase and sale of counterfeit products."*

*John Engel, Chairman, President and Chief Executive Officer for WESCO*

### Challenge

Counterfeit electrical products, many of which are intended to serve as protective devices, are unsafe lookalikes. By definition, a counterfeit is a product that uses, without authorization, the trademark, service mark or copyright of another intended to deceive prospective customers into believing that the product is genuine. Even the trusted marks of independent certifications have been counterfeited.

In 2015 alone, the U.S. Customs and Border Protection reported nearly 29,000 seizures of counterfeit products—a 25 percent increase from 2014. The MSRP value of such seized counterfeit goods totaled approximately \$1.35 billion.

Such counterfeit products, including circuit breakers, ground fault and arc fault interrupters, and surge protective devices, are often made without regard for electrical safety or even meeting minimal performance specifications.

As a result, using counterfeit products can lead to a high risk of failure or malfunction. These failures can cause electric shock, overheating or short circuits, which often lead to equipment failure, fires or explosions that can cost workers their lives and cause substantial property damage.

This danger is compounded in high-risk environments, including the nuclear and mining industries.

These environments rely on electrical equipment for everything from lighting to the proper operation of equipment installed in safety-related systems. If any disruption of or reduction in the quality of electricity were to occur, the outcome could be less than desirable for the safety of employees and the surrounding community.

That's why it is mission critical for high-risk environments to ensure proper safeguards are in place to maintain quality of electrical power and protect the facility's electrical equipment. It is of utmost importance that these electrical products work as intended and undergo proper testing to meet safety and performance requirements to prevent less than desirable occurrences from happening.

"In light of the globalization of our supply chain and the importance of helping our customers deliver on the Nuclear Promise, commercial nuclear power facilities face a unique challenge and responsibility, especially when it comes to the reliability of safety-related applications," said Framatome's Joseph Beene.

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“It is incumbent upon plant owners to recognize the risks, remain vigilant and implement appropriate measures to prevent, detect and effectively control counterfeit, fraudulent, suspect and used items from their trusted sources of supply.”

### **Solution: The authenticity imperative**

To combat the problem of counterfeit and suspect electrical products in high-risk environments, it is essential that organizations leverage available tools and technologies to ensure the authenticity of the products they procure.

Eaton has taken a leadership role in raising the awareness of suspect, counterfeit and potentially unsafe electrical products in the marketplace. Eaton has also taken steps to mitigate these issues affecting manufacturers of electrical products. In 2015, Eaton introduced laser-marked labels, now on a line of high volume-type molded case circuit breakers (MCCBs). These high-quality, permanent markings require more sophisticated technology to manufacture and are designed to prevent tampering or relabeling of the product. Thus, they help organizations like WESCO, MSHA and other consumers authenticate new products or more easily identify any unsafe modifications of a circuit breaker, throughout its life cycle.

Information laser-marked directly onto the circuit breaker includes ratings, specifications and product information. With information included on the label, customers can authenticate the breaker using Eaton's Molded Case Circuit Breaker Authentication (CBA) tool. The CBA tool, first launched in 2011, is designed to assist customers in detecting if Eaton's MCCBs, up to 400 amperes, are counterfeit.

By using information applied on the circuit breaker at the time of production, the CBA tool is intended to immediately assist in verifying authenticity. Recent enhancements to the tool include a UPC Barcode Reader, that allows users to access information about Eaton standard products from their smart phones, including industrial and residential miniature circuit breakers and control products. The tool is accessible via any web or mobile browser at [www.eaton.com/counterfeit](http://www.eaton.com/counterfeit).

“The original equipment manufacturer traceability and verification enabled by Eaton's Circuit Breaker Authentication tool offers Framatome's customers additional assurance that the products we supply are genuine and came directly from Eaton's facilities,” said Beene. “We cannot stress enough how imperative it is that there be proper awareness and training on the need for authentic electrical products in high-risk environments. Eaton's efforts in this area support Framatome's Counterfeit and Fraudulent Item (CFI) initiatives and provide an additional layer of safety assurance for our customers.”

The laser-marked labels also help inspectors visually verify and reference that breakers were serviced by Eaton more effectively and efficiently.

### **Solution: Traceability in the supply chain**

The U.S. Code of Federal Regulations drives commercial nuclear power plants in the U.S. to use products and services exhibiting the highest quality when public health and safety are concerned. The U.S. Nuclear Regulatory Commission encourages vendors, suppliers and licensees to collaborate in order to verify the quality of items through a variety of methods. Such methods include extensive inspections of an item's critical physical characteristics and rigorous performance testing.

There is a higher risk of counterfeits if one cannot trace the path of commerce to the original manufacturer. Because of this, Eaton has been collaborating with organizations, such as the Electric Power Research Institute (EPRI), distributors such as WESCO International, Inc., and nuclear channel partners like Framatome, to help ensure traceability in the supply chain.

“WESCO is committed to providing our customers with authentic products through authorized suppliers and proper channels of distribution,” said John Engel, Chairman, President and Chief Executive Officer for WESCO. “The presence of counterfeit products in the supply chain is an increasing concern for WESCO's customers and supplier partners. WESCO shares this concern and is committed to doing its part to help detect and prevent the purchase and sale of counterfeit products. All WESCO employees have a responsibility to help ensure that our customers receive authentic products through authorized sources of supply.”

Using only authentic, quality electrical products is similarly important in the mining industry, where electrical equipment is regularly used in tight-quarter environments. Even a small electrical malfunction can escalate quickly when compounded with the small spaces and more complex exits of a mining environment. Eaton regularly collaborates with the Approval and Certification Center of the U.S. Department of Labor's Mine Safety and Health Administration (MSHA) to train mine safety and health inspectors and technical support personnel of the administration to identify potential counterfeit products.

“MSHA inspectors evaluate mining operations against an extensive list of codes and regulations intended to protect the safety of the personnel on site,” said Richard O'Hanlon, electrical engineer, MSHA.

“Collaboration from manufacturers, including technology and tools to help authenticate their products and participation in training programs, help to provide efficient inspection of electrical products. Eaton plays a leading role in this collaboration.”

### **Result**

In high-risk environments, the safety and reliability of electrical equipment is mission critical. It is of utmost importance that proper safeguards are put in place and followed to ensure electrical products work as intended to maintain quality of electrical power and protect the facility's electrical equipment.

By buying authentic and leveraging new technologies on Eaton's products to confirm authentication, professionals in nuclear power plants, mines and other high-risk environments can receive reasonable assurance that parts will perform as intended and will activate safety functions when required to do so.

High-risk environments pose safety concerns by nature. There is no need to have the added danger of potential non-genuine electrical products when ensuring authenticity can help avoid counterfeit equipment altogether.

*“Eaton's efforts in this area support Framatome's Counterfeit and Fraudulent Item (CFI) initiatives and provide an additional layer of safety assurance for our customers.”*

*Joseph Beene, Electrical Components product line manager, Framatome*

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