



A BSI White Paper

Fire industry compliance: **from burden to opportunity**

A BSI White Paper for manufacturers operating in the
global fire detection and suppression industry

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Snapshot

- The market for fire detection and suppression products is large, global and diverse
- Regulatory compliance represents a major challenge for fire industry manufacturers operating in the UK, Europe and beyond
- The number of relevant regulations is extensive, covering areas including the certification of products for quality, safety and fitness for purpose, the health and safety of workers, and the responsible management of the environment
- Manufacturers supplying this important sector have no choice but to comply with regulations if they are to meet market requirements
- But compliance also opens up market opportunities for manufacturers, while management systems support bids and tenders
- Certification to standards brings a host of additional benefits, including enhanced efficiency, brand reputation, competitiveness and overall business performance
- The onus is on firms to take steps to manage regulatory challenges efficiently and take advantage of the opportunities it presents
- BSI has the knowledge at hand to assist with certification to meet key product and management system standards, helping you manage your compliance requirements smoothly and turn compliance from burden to business opportunity

Introduction: **Coping with compliance**

The market for fire detection and suppression equipment is large, global and diverse. It encompasses many manufacturers and products in multiple regulatory jurisdictions. UK manufacturers, for example, will often strive to sell their products beyond their own borders into Europe and further afield, including to the Middle East, south-east Asia and Australia.

In terms of regulations, this means each manufacturer having to deal with a multitude of different standards, according to the nature of their products and where they intend to market and sell them.

Keeping abreast of, and complying with, changing regulations in the UK, EU and across the world forces both large and small manufacturers in the fire industry to divert time, energy and resources away from their core activities. Regulations represent an onerous burden, costing them large sums of money on compliance or, worse, blocking their access to important markets.

But there is also a positive side to regulations. Despite the red tape involved, regulations are a necessary fact of

commercial life, ensuring minimum quality standards, product safety and fair competition.

Ultimately, many manufacturers will be well advised to comply with the relevant regulations for each product in any given market and take advantage of their ability to comply fully and efficiently to grow their business profitably.

Help for manufacturers is at hand. Certification to key product and management system standards can provide the tools to help clear the regulatory hurdles required to enter new markets. Compliance opens up opportunities for manufacturers in European and international markets, potentially boosting sales, profits and brand reputation. Health and safety and environmental management systems give companies the framework to help them meet their legal requirements and support tender opportunities.

This BSI White Paper for Business considers some key regulatory challenges affecting the fire detection and suppression industry and shows how BSI offers solutions to them.

Specifically, it considers compliance with regulations relating to:

- **Product certification** – where fire industry manufacturers must **CE mark** products under the Construction Products Regulation (CPR) and The Pressure Equipment Directive (PED). The **BSI Kitemark** offers specifiers of fire products and construction industry contractors a much higher level of product assurance, and gives manufacturers the ability to differentiate their products
- **Management system standards** – where certification to standards such as BS OHSAS 18001 (likely to be superseded by ISO 45001) for **Occupational Health & Safety** and ISO 14001 for **Environmental Management** enables fire industry manufacturers to adhere to regulatory requirements efficiently, improve their health and safety record and boost their 'green' credentials

Product Certification

CE marking



Manufacturers are responsible for CE marking, which is mandatory for many products – including fire safety and suppression products – sold within the European Community.

The 'CE' mark is a European regulatory mark indicating a product's "fitness for intended use" and compliance with European Union (EU) legislation. As such, it signifies that appropriate, reliable safety information is being declared for it. The EU introduced CE marking to allow goods to be traded across borders without having to be reassessed or adapted for each separate market within the EU.

By CE marking, manufacturers can offer customers a measure of reassurance about the quality and safety of their products. The CE mark on a product means that a manufacturer claims that it conforms to minimum legal requirements – for instance, in respect of health and safety or environmental controls – as laid down by EU regulators.

"Fire industry manufacturers must cope with all the complexities involved – and that's where BSI specialists can lend support," says Wells.

Construction Products Regulation (CPR)

CE marking is key to fire industry manufacturers supplying certain types of products into Europe. Under the CPR, manufacturers must CE mark any of their products covered by a harmonized European standard (HEN) or a European Technical Assessment (ETA). Even within Europe, however, there are many variations in national regulatory requirements relating to different products in different markets. A harmonized standard is a European standard developed by a recognized European Standards Organisation: CEN, CENELEC, or ETSI.

The CPR covers a vast array of construction products including fire protection and suppression equipment. As Bob Wells, Global Head of Personal Safety, BSI, explains, "Safety critical products built into the fabric of a building, such as fire detection and alarm equipment, due to the nature and function of the products, require rigorous, independent testing and third party assessment of factory production control by a Notified Body in order to be CE marked."

According to Wells, these products tend to be at system one in the CPR, which requires initial type testing of the product and initial factory production control (FPC) visits to the manufacturing facility, followed by ongoing FPC visits on an annual basis, rather than at a lower system available in the CPR, which at its minimum can be self-declaration by the manufacturer to meet minimum legal requirements with no intervention by a Notified Body.

BSI's status as a Notified Body for many European Directives and Regulations, including the CPR, enables it to offer third party

testing and FPC assessments, where products require it. BSI has one of the largest scopes as a Notified Body under the CPR and can offer support for fire industry manufacturers wishing to CE mark their products, including fire alarms and smoke detectors. The level of involvement of BSI is determined by the system of assessment and constancy of performance detailed in each standard and relevant to the intended use.

The CPR harmonizes the methods of assessment and testing, the means of declaration of product performance and the systems employed for the assessment and verification of constancy of performance.

Limitations to CE marking therefore remain for both fire industry manufacturers and their customers: manufacturers that produce to rigorous standards cannot rely on a CE mark to demonstrate the superior quality or safety of their products; while their customers, such as building contractors, cannot be certain that a CE Mark really does signify fitness for their intended purpose.

"A CE-marked product that can be sold legally anywhere in the EU will not necessarily be acceptable for a building owner requiring to demonstrate due diligence against the Regulatory Reform (Fire Safety) Order 2005 when carrying out a fire risk assessment, or allowable for a specific purpose under national building regulations," says Wells.

The Pressure Equipment Directive (PED)

The PED is a fundamental piece of European legislation relating to the safety of pressure equipment throughout Europe. As far as the fire industry is concerned, it relates primarily to fire extinguishers and cylinders included in systems containing fire-extinguishing media for fire suppression purposes.

Now 17 years old, the PED is being replaced in alignment with the EU's 'New Legislative Framework', which aims to streamline and simplify the rules for putting pressure equipment on the market in the face of increasing competition from fraudulently certified equipment.

A new fluid classification came into force in the UK in June 2015, and other changes are expected to come into force in July 2016.

For more details on the changes, [download BSI's whitepaper](#).

The BSI Kitemark



Some manufacturers go further than CE marking, by certifying their products to the BSI Kitemark, which gives a higher level of assurance that a product will do what it claims and will continue to meet the standard to which it was originally manufactured. It helps differentiate well-made fire protection products from those of a lower standard – or indeed counterfeit goods. Buyers look for the BSI Kitemark because it's a sign of quality, safety, trust and reliability.

The BSI Kitemark is a voluntary, independent third-party certification. To achieve it, a manufacturer must have a comprehensive quality management system based on ISO 9001, or a recognized factory production control system combined with initial product-type testing and regular audit testing. The BSI Kitemark shows that BSI has verified the quality of its products and processes.

Wells explains, "Most of the CE marking we do in fire detection and suppression equipment involves an initial type test of

the product, typically followed by ongoing quality system management review. With the BSI Kitemark, however, there is more verification that the product meets the standard, as it requires regular factory visits, typically twice a year, and ongoing product audits once or twice a year."

He adds, "If we're already conducting CE marking on fire protection products then, depending on the product, it may not be a big step to add a BSI Kitemark, at least in the early stages."

Ultimately, certification of fire products to the BSI Kitemark enables manufacturers to sell more of them. Certification to, and display of, an independent BSI Kitemark provides a much stronger statement of product quality than a CE mark, giving manufacturers the ability to differentiate their products – and providing customers with genuine assurance of product quality and fitness for purpose.

Access to global markets

Certification by BSI can help manufacturers gain access to global markets beyond Europe.

While there's a legal requirement to have products CE marked in Europe, there are also some markets globally where CE marking is recognized and enables entry.

A manufacturer's minefield

Bob Wells observes that for many fire industry manufacturers, "compliance really is a minefield". For example, he says, a CE mark placed on a product covers all the Directives and Regulations that apply to it, and there can be several relating to a single product. Some of these Directives and Regulations – in electrical testing, for example – may require self-declaration, whereas others will require certification by a Notified Body like BSI.

There are also global markets where CE marking will not gain access, but the BSI Kitemark will. The BSI Kitemark is widely recognized around the world, not just in the EU, giving products a high level of credibility in the eyes of potential export customers, such as trade specifiers or sporting associations that are looking for a higher level of product assurance than CE marking alone.

"Testing and certification to BSI's Kitemark has been shown to help organizations access new business, tenders and markets," says Wells. "We have a number of customers who will Kitemark their fire products if the market in which they are sold – perhaps in the Middle East or parts of Asia – requires it," says Wells.

The Middle East

There are specific challenges for particular markets beyond Europe.

Several Middle Eastern countries, for example, now have specific regulatory requirements for involvement in major infrastructure projects. The United Arab Emirates (UAE) requires its own specific certifications, for instance, most of which are based around the requirements of independent third party certification bodies – and other Middle Eastern countries are adopting similar principles.

This has resulted in ever-changing requirements for manufacturers to ensure they are compliant. And there are different levels of acceptance across different Middle Eastern countries – with authorities in Saudi Arabia, for example, often citing different requirements from those of UAE.

For manufacturers looking to gain access to these markets, products with a BSI Kitemark enable them to demonstrate that they have met the often-stringent criteria. The BSI Kitemark, which is accepted in UAE, Qatar, Kuwait, Saudi Arabia and Oman, has also been proven to help organizations increase customer satisfaction, and

enhance reputation, whilst increasing the quality of products and reducing waste.

The objective of UAE has been to ensure that fire products entering their marketplace have high-level reputable certification beyond manufacturers' claims and beyond CE marking, which in many cases is just assurance of basic safety. As a result they have created an approval scheme to which manufacturers can then apply to show that their product certification process meets the required standards (see box 'Understanding the UAE').

In practice, some of the steps required by the approval scheme have proved complicated and costly for manufacturers and certification bodies to comply with. But BSI can help. It has regional offices in UAE with a team of experts responsible for product certification activities. They work closely with the authorities in all the regions of UAE, and Middle East generally, and can offer local advice and guidance to support Kitemark certificate holders where necessary.

Understanding the UAE

Acceptance of fire products entering the UAE has changed over the last few years and, following a review by the Fire Labs Approval Committee (Civil Defense) into the acceptance of products entering the UAE, a formal framework for the compliance of products has been agreed.

Under the new guidance, BSI's Kitemark continues to meet the strict criteria required for products entering the UAE.

In August 2014, the Fire Labs Approval Committee set out the rules for product approval at a workshop in Dubai and invited all the major testing and certification bodies to attend. BSI had strong representation at this event from both local and UK offices, helping to develop a clear framework that allowed the certification bodies to meet their requirements without risking infringement of UKAS accreditation.

This resulted in the UAE Civil Defense publishing a list of acceptable certification bodies and test labs covering a range of products from each body, which is updated on a regular basis.

Once manufacturers have been issued with a BSI Kitemark certificate, they will then have to provide a Civil Defense

Certificate of Conformity (CoC), templates for which are available from BSI or from Civil Defense directly. A manufacturer may choose to complete this CoC for themselves, or have BSI complete the CoC on their behalf. Whichever option is chosen, the certification body has to sign and stamp the document to prove authenticity.

In addition to the provision of a BSI Kitemark certificate and the CoC, the Civil Defense may also ask to check the model references on an online database to ensure the paper documents provided are correct. BSI has created a fully searchable database to support clients in this process and this can be accessed using the following link www.bsigroup.com/kitemarkdirectory

Rob Hine, Head of Commercial Engagement, BSI comments: "The market requirements for products in the Middle East are always dynamic. Over the last two years the acceptance process for fire safety and emergency lighting products has been constantly changing, leaving most manufacturers confused and frustrated. These new guidelines will make the requirements much clearer and better regulated and we're pleased to have been involved with the committee to agree the framework."

Other global markets

BSI's aim is to know what is required to access a particular market and then help manufacturers by offering a certification service that will fulfill that requirement.

Often this will be for a brand new product that is designed for a specific market, but it can also be for an existing product that has further potential sales in new areas of the world. This scenario might involve testing to an international 'ISO' standard, in addition

to an existing European 'EN' standard, for example. "This is not necessarily a major leap and can be very cost-effective if BSI has already provided certification to the EN," says Wells. "It will invariably cost a lot more to start the whole process again from scratch."

Wells continues, "We can also often certify to national standards that are recognized in the relevant country or regulatory jurisdiction, such as Benchmark, a BSI-owned certification mark for the Australasian market.

He adds, "And we can take a product and test it to a number of standards for different marketplaces at the same time, without the need for repeat testing. We would advise manufacturers, where possible, to try and future-proof international opportunities for their products. Gaining multiple certifications from the outset can offer significant savings when combined upfront.

When no standards are available

BSI is also often able to assist manufacturers with the challenging issue of achieving certification of new products for which no current standards are available against which to certify them. This can also apply to innovations or modifications to existing products, such as the use of different materials, which are also not covered by current standards.

"Standards naturally have a time lag," says Wells. "As a result, manufacturers of new or adapted products are concerned about how to bring them to market when there are no standards to bring them to market with."

In fact, if no established standards are appropriate for a product, BSI can often use other specifications or technical documents, such as trade association specifications or its own publicly available specifications (PAS), "as long as they're robust, developed by consensus and publicly available, and we can run a valid certification scheme to them," he says.

Wells adds, "If there is a need in the fire industry, then we will happily collaborate to help pool resources to create certification schemes to support manufacturers' requirements – and such schemes may eventually evolve into new standards."

Management System Standards

Occupational health and safety

To ensure a safe and healthy workplace – and compliance with the law – fire industry manufacturers need a robust system to identify hazards, estimate risks and put in place appropriate measures to reduce or mitigate them. And for many years the well-established occupational health and safety standard BS OHSAS 18001 has been suitable for companies of all sizes that want to set up formal procedures to manage health and safety risks.

BS OHSAS 18001 helps manufacturers to manage these risks by specifying requirements for an effective health and safety management system. It takes a risk-based approach – enabling organizations to decide what they need by reviewing their risks and evaluating the effectiveness of current controls.

ISO 45001 likely to replace BS OHSAS 18001

From October 2016, BS OHSAS 18001 is likely to be superseded by a new international standard, ISO 45001.

BSI took the lead in instigating ISO 45001, proposing its development and pushing for co-operation between multiple stakeholders, including employer bodies, trade unions and national certification bodies.

Trevor Dodd of BSI explains that, like its predecessor, ISO 45001 will continue to enable manufacturers of fire protection and suppression equipment to develop and implement a policy and objectives that take into account both legal requirements and information they collate about occupational health and safety risks.

"But ISO 45001 will be international in scope, reflecting a new agreement on its content among over 50 countries involved in development," says Dodd. "This is a major change from BS OHSAS 18001, which, though often applied internationally, has never reflected cross-border national standards body consensus."

Dodd, who represents the Association of British Certification Bodies (ABCB) on the UK committee (HS/1) and the OHSAS Project Group in multinational discussions on developing the standard, says that,

while the requirements of ISO 45001 have not yet been finalized, it looks certain to display several key characteristics.

He says the new standard will:

- Be firmly based on BS OHSAS 18001, with care being taken in its development not to lose any of the sound principles of its predecessor
- Follow the same template – or 'high level structure' (HLS) – as all new or revised ISO management system standards. As such, it will share a common format, text, terms, definitions and other similarities with other standards, such as ISO 9001 for Quality and ISO 14001 for Environment (both revised from September 2015), enabling ease of understanding and seamless integration of standards
- Incorporate some "stretched" requirements in the area of leadership and commitment demonstrated by senior management
- Include enhanced requirements in the area of participation of, and consultation with, the workforce
- Enhance and clarify requirements in the areas of communication, continual improvement and outsourcing/procurement

Environmental management

ISO 14001

There are multiple legal requirements for fire industry manufacturers in relation to their use of water, raw materials and energy, their creation of pollution and emissions, and their waste management procedures. The management of hazardous materials, covered by the REACH regulations, is particularly relevant.

Fire industry manufacturers must stay up to date with environmental legislation and remain compliant, as breaches can lead to fines and prosecution. Implementing and maintaining an ISO 14001 system enables them to take account of legal requirements.

ISO 14001, revised in September 2015, is an internationally accepted standard that outlines how to put an effective environmental management system in place. It is designed to help businesses remain commercially successful and grow, without overlooking their environmental responsibilities. An ISO 14001 system provides the framework for fire industry manufacturers to meet increasingly high legal and regulatory requirements as well as customer expectations of corporate responsibility.

The benefits of certification to ISO 14001 include:

- Creating the framework needed to meet legal and regulatory obligations
- The ability to demonstrate compliance, winning stakeholder and customer trust and expanding business opportunities
- Prompts communication of relevant information on legal and other requirements to employees and interested parties
- Improved efficiency, reduced waste and energy use and lower costs

Wrap Around Support Services from BSI

In addition to helping organisations gain a variety of certifications and standards, BSI aids companies in how they manage, maintain and improve on those standards as well as the business in general. These support offerings include Software and Training.

Entropy™ Software

Web based business improvement software solution that helps companies of all shapes and sizes in improving visibility, enhancing performance and driving business growth. Comprised of two core modules Compliance Management and Knowledge Management as well as a mini compliance module Action Management. They function either independently or as a whole to help companies maximise their effectiveness in the areas of internal inspections, non-conformity management, document control, training & competency, management reviews, legal register, customer complaints, supplier assessments and the corrective action process.

Benefits of the web based application include:

- Access 24/7 from anywhere with an internet connection
- Single system visibility for staff and management, both locally and globally
- Critical data at your fingertips. Being proactive than reactive
- Reduce in time of chasing people up due to system automation, email notification and escalation
- Streamlined efficient process where everyone is following the same way of doing things

- Virtual extra member of staff where headcount and resource is at a premium

As Joanna Lewis, Head of Entropy Sales puts it "Entropy allows an organization to have high visibility, traceability and accountability. It helps them stay compliant."

BSI Training

BSI provides top quality staff training.

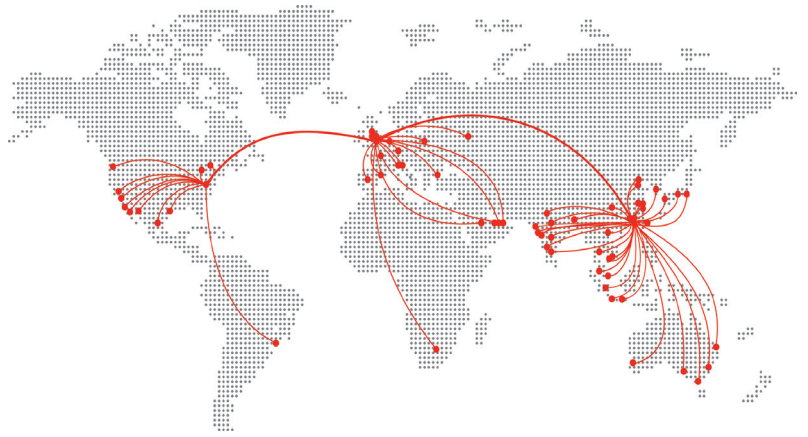
It has one of the widest ranges of standards-related training available, including the key area of the management of occupational health and safety, but also covering many other compliance-related fields.

BSI's experienced team of expert tutors works with manufacturers in the fire industry across the world. They:

- Help clients understand how to embed standards into their organization
- Know the thinking behind a management system standard – and use that understanding to inform and inspire staff
- Train the assessors who check clients' compliance with standards – so they know what training must achieve
- Are often experienced assessors themselves
- Know how people work and can change habits that may have set in over time
- Use proven learning techniques to inspire and turn enthusiasm into tangible results

Why choose **BSI**?

BSI has stood the test of time as the business standards organization that equips businesses with the necessary solutions to turn standards of best practice into habits of excellence. Formed in 1901, the first product to be BSI Kitemarked was in 1903. BSI was the world's first national standards body and a founding member of the International Organization for Standardization (ISO).



Over a century later it continues to facilitate business improvement across the globe by helping its clients drive performance, manage risk and grow sustainably through the adoption of international management systems standards, many of which BSI originated. With over 80,000 clients in 172 countries, BSI's standards inspire excellence across the globe.

"BSI is continually reinvesting to meet manufacturers' needs," says Bob Wells. "For example, our Hemel Hempstead laboratories have recently undergone a £5m refurbishment, creating a state-of-the-art product testing facility. We've also bought capability in gas and electrical product testing, to add to personal safety and construction product testing."

He continues, "Then there's the experience of our people. Our test engineers have vast experience, with many having been involved in compliance or quality assurance in manufacturing industry. We sit on industry bodies and trade councils, committees and Notified Bodies – so we can offer customers unrivalled depth of expertise."

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