



A safer future

Dr Jim Glockling gives an overview of the FPA's Safe Futures Campaign and highlights its key objectives

THE FPA is the UK's national fire safety organisation – a not-for-profit company that is hopefully both trusted and viewed as an authority on all matters 'fire', covering life-safety and business resilience interests with close relationships with all key stakeholders. And it is through our close relationships with fire and rescue services, insurers, government, risk engineers, surveyors, loss adjusters, laboratories and standards organisations, that we believe we are uniquely positioned to form opinion of emerging challenges and what needs to change to deal with them appropriately.

It is of course understood that most of what we find gets dealt with by the researching, production and provision of best practice guidance, which can be adopted or insisted upon to a greater or lesser degree in accordance with the risk appetite of the end user, their governing authority, or insurer. However, in certain situations, the issues stubbornly persist and our belief is that only through regulation will an effective remedy be found.

Need for change

Changing Building Regulations is not a straightforward matter – engagement may only be made on the grounds of set categories. According to the Building Regulations Advisory Committee (BRAC): 'The powers to make building regulations are contained in the

Building Act 1984, as amended by the Sustainable and Secure Buildings Act 2004. Building regulations may be made for the purpose of: securing the health, safety, welfare and convenience of persons in or about buildings; furthering the conservation of fuel and power; preventing waste, misuse or contamination of water; furthering the protection or enhancement of the environment; facilitating sustainable development; and furthering the prevention or detection of crime.'

Having polled the RISCAuthority membership, the key elements deemed worthy of promoting in this campaign are:

- solving the automatic fire alarm (AFA) issue
- increasing mandation for, and benefit of, sprinkler systems in warehousing
- adapting Building Regulations to be more appropriate to addressing emerging issues with some modern methods of construction (MMC), specifically fire spread in voids, and fire ingress from externally set fires

The marrying up of these campaign work streams with the categories on which you are permitted to engage with Building Regulations, as described in the paragraph above, is not immediately obvious. Common to all three streams is a Business and Property Protection (Resilience) element, but surprisingly that's not in there and, while it is highly probable that at some time in the future, lives will be lost or injuries incurred as a result of an AFA non-response or excess

fire spread in an MMC building with combustible structure/insulation/cladding, current statistics do not show a problem.

The key to engage therefore requires a more creative approach:

- it is commonly reported that 50% of fires are the result of arson, a criminal activity, so these work streams are relevant to the category of 'furthering the prevention or detection of crime'
- those MMC that rely greatly on combustible building materials contain a higher fire load and can be considered a greater fire risk; therefore it is reasonable to assume that mitigation strategies and the attitude and appetite of risk transfer agents such as insurers may alter accordingly, and it might seem relevant to address this under the category of 'securing the health, safety, welfare and convenience of persons in or about buildings'
- the destruction of key commercial infrastructure in fire is known to lead to job losses and social deprivation; therefore their protection with sprinkler systems could similarly be addressed under the heading of 'securing the health, safety, welfare and convenience of persons in or about buildings'
- sprinkler systems are known to use significantly less water in the suppression of a fire than that occurring from fire and rescue service intervention, and they also never allow the fire to grow to a size that destroys the building; therefore the case for the wider mandation of sprinklers can be made on many grounds including preventing waste, misuse or contamination of water, and furthering the protection or enhancement of the environment

While this might feel like fighting with one hand tied behind your back, the more these issues are considered, the less a specific category of Business and Property Protection is required.

Work streams

Unwanted and False Alarms

Every effort to 'manage-out' the AFA problem has failed. With over 95% of generated alarms being false, many fire and rescue services understandably no longer turn out for them without additional actions being taken (such as calling 999). Some insurers no longer recognise their presence as beneficial to the protection of business and property; and users, amid threats of fines for inappropriate summoning of the rescue services, are deactivating them. Those in the vicinity of them no longer believe they will be anything other than false, which impacts on their speed of evacuation. Some installers are advising the public – following evacuation – to go back in and check there really is a fire, which obviously runs contrary to everything I remember from school alarm rehearsals.

The entire process has failed, wastes vast sums of money when all factors are considered and one day will almost certainly be at the heart of a life-loss event – I think we can take increased financial fire loss as read. It is our belief that the unifying factor is the single point (smoke or heat) detector head. Smoke detectors, by far the prevalent means of alarming for fire, will alarm on many interferences other than fire, such as steam from kettles and showers (false alarms), and non-fire related smoke such as from toasters and smoking (unwanted alarms). In most engineering/design applications, such system 'design flaws' would be considered entirely unacceptable, but for some reason they are allowed to perpetuate within the UK built environment, supported to a large extent by our own Building Regulations.

It's not as though we are without alternatives. Most major detection manufacturers now produce, at commercially viable prices, triple point detectors that through detection of more than one fire fingerprint species (heat, smoke, carbon monoxide, infra-red), can robustly detect fire and are difficult to fool.



In many installations, changing to such detection heads requires little more than the will and a reprogramming of the alarm panel. Our request to the BRAC therefore is to amend regulation to ensure that commercial properties, which include schools, hospitals and apartment blocks, are in the future protected by detection systems that are at least 80% believable, rather than 95% unbelievable. This will do away with the myriad 'coping strategies', which are complex, costly, confusion causing and only exist to support inadequate and outdated equipment.

Mandation of fire sprinkler systems in warehousing

The conclusion of a study conducted by the Centre for Economic and Business Research (CEBR) overwhelmingly demonstrated benefit in cost and environmental savings for the UK in the installation of sprinklers in warehouse sizes far smaller than the 20,000m² currently mandated. The study – the most detailed ever conducted and commissioned by the Business Sprinkler Alliance (BSA) – showed that 73% of the avoidable costs are concentrated in warehouses under 10,000m² and that the 20,000m² UK threshold was inconsistent with international best practice, in which Germany, Netherlands, Belgium and France have threshold ranges from 1,000 to 5,000m².

The CEBR describes this situation as a 'market failing', where the evidence alone should ensure wider use of sprinkler systems, but for some reason it does not happen. To the insurance industry it was always obvious that a strong case would be returned by such a study – it is after all what sprinkler systems were originally invented for. Our request to BRAC, therefore, is for regulation to be changed to ensure UK trade and industry is better protected by the provision of sprinkler systems in new warehousing of a size more akin to our European cousins. This process could be encouraged with tax and building rates incentives – incredibly, sprinklered warehouses currently incur higher business rates.

Modern methods of construction

It's our belief that the Building Regulations fail to address adequately some issues emerging with the introduction of specific new building methods. The key areas are in material choices (often combustible and principally in the support of the sustainability agenda), key design details (such as combustible voids), and the scope of responsibility of our Building Regulations (failure to address fire ingress from outside and the absolute separation of life safety and building protection remits). Combustible materials are becoming prevalent in the structure, insulation and cladding of buildings and their only protection from points of potential ignition or fire spread are thicknesses of plasterboard, and fire stopping packing (often ill-installed and sometimes not present).



The 'on-paper' fire safety case in respect of Building Regulations conformity is easy to make, but our experience tells us it requires installation tolerances that are virtually impossible to guarantee on the building site and absolutely critical to the performance of the building when on fire – yet are not inspectable by any prospective insurer or inspector. A most worrying revelation has been the ease with which fires may break into some MMC building types via plastic vents and fittings that require less than a five-second application of a flame from a cigarette lighter. By no stretch of the imagination should this be seen as acceptable, yet influencing the external envelope of the building remains largely off-limits for our regulations as they stand, which cater mostly for fires starting from within.

Our request to BRAC, therefore, would be to address these issues through Building Regulations to the point where future MMC buildings may be insured with equivalent levels of confidence as more traditional masonry structures.

Conclusion

We feel there is a body of evidence that makes each and every one of these work streams suitable for BRAC's attention. The AFA situation is needless and easily solved; the sprinklering of smaller warehouse sizes needs to be considered in the context of a shrinking fire and rescue service and greater environmental controls; and MMC requires frank acceptance that there are tolerance limitations within the building industry that are unable to support dependent fire mitigation measures in some building construction types. If you agree on one or all of these points, please fill out the enclosed postcard and help get them on the agenda for review ■

Dr Jim Glockling is technical director of the FPA and director of RISCAuthority. For more details, view page 5