

# sprinkler focus

British Automatic Fire Sprinkler Association

**bafsa**

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IN THIS ISSUE

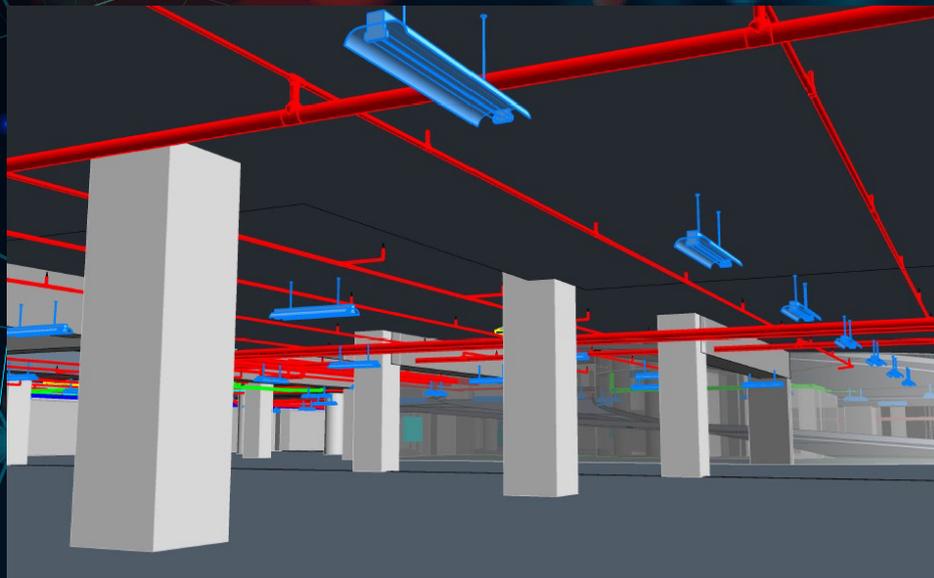
## Sprinklers will protect those who cannot protect themselves

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residential buildings

Life safety &  
fire protection

Community care





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## Contents

- 1 **Stardust Night Club & Grenfell Tower**  
*Keith MacGillivray asks how long do people have to wait to get answers*
- 2 **In the pipeline**  
*Latest news from around the UK*
- 8 **Life Safety and Property Protection**  
*Is it time the presumptions were questioned asks Stewart Kidd?*
- 12 **Care in the community & supported living**  
*Ian Gough reflects that many vulnerable persons are denied the protection they need*
- 14 **High rise residential buildings fire safety works**  
*Ritchie O'Connell poses the question... Who pays?*
- 15 **An independent review of water mist for Wales**
- 16 **The European perspective**  
*Alan Brinson, EFSN*
- 17 **Keep going... Don't settle for less**  
*Tom Roche, BSA*
- 18 **Why should you invest in training & education?**  
*Ruth Oliver provides some sound answers*
- 19 **So why is CPD important?**
- 20 **Sprinklers Saves**
- 21 **If only...**
- 22 **From the sprinkler head**  
*BAFSA members news; products & services; case studies; seminars*
- 28 **Calendar**
- 28 **A day in the life of... A sprinkler installer**

Front cover image courtesy of Project Fire

Sprinkler FOCUS is the biannual magazine of the British Automatic Fire Sprinkler Association. It is the only UK publication which has automatic fire sprinklers at its core with current news, features and opinions along with case studies and product updates.

British Automatic Fire Sprinkler Association

**bafsa**

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# The Stardust Fire and the Grenfell Tower Fire

## ... REMEMBERING THE MANY WHO WERE LOST AND THOSE WHO ARE LEFT BEHIND

On 14th February 1981, a fast moving fire tore through the Stardust night club in Artane, North Dublin in Ireland. This would be the single worst fire in Ireland's history and would result in forty-eight fatalities and two hundred injured; the dead and the injured were mainly young people. Due to the severity of the fire and the heat produced, five of the victims were not identified until 2007; twenty-six years later when improvements in DNA identification made it possible to identify the individual remains.

A tribunal of inquiry into the cause of the fire took place later in 1981, however the families of the deceased rejected the findings. There then followed a thirty-eight year campaign to have a fresh inquest into the Stardust tragedy.

On 25th September 2019, the Attorney General informed the families of the deceased that a fresh inquest would be held into the deaths of their family members due to an "insufficiency of inquiry" at the original inquests some thirty-eight years previously.

On 30th October 2019, the report into Phase One of the Grenfell Tower Inquiry was published, two years and four months after the fire. Phase two of the inquiry will commence in 2020.

While the publishing of the report into Phase One is very welcome, particularly by the relatives of the deceased and the survivors, the Report tells them nothing of why the fire spread so quickly and why the materials cladding the building were chosen. Indeed the history of the building is scarcely mentioned in the report, this is all being saved for Phase Two of the Inquiry.

In the main, the report covers the actions of the Fire and Rescue Service and of those trapped in the building.

The view of many is that this inquiry is taking too long and that insufficient action has been taken to date, to rectify problems in other high-rise buildings across England.

The focus on the actions of London Fire Brigade on the night, rather than how the building became in such a perilous state is seen by many as being the wrong way round?

Jeremy Corbyn speaking in the debate on Grenfell Tower in Parliament on 30th October said, "It was not the Firefighters who deregulated building safety standards; it was not the Firefighters who ignored the concerns of tenants; it was not the Firefighters who ignored the coroner's report and failed to put sprinklers into high-rise blocks; and it was not the Firefighters who put flammable cladding on Grenfell Tower."

Similarly, the Fire Brigades Union said, "Before any Firefighter arrived that night, Grenfell Tower was already a death trap."

How long will the people of Grenfell United have to wait in order to get answers to their questions as to why this tragedy happened? One can only hope it is not as long as those who lost their loved ones in the Stardust Fire on Valentine's Day 1981?



Keith MacGillivray MBE  
Chief Executive BAFSA

## In the Pipeline

### A step forward on the horizon



In early September the government announced plans which should see thousands of residents living in safer homes under proposals that would see sprinklers installed in new high-rise blocks of flats.

The government is consulting on reducing the building height for when sprinklers are required from the current 30 metres (approximately 10 floors) and above to 18 metres (approximately 6 floors) or other relevant thresholds.

And a new Protection Board is being set-up immediately with the Home Office and National Fire Chiefs Council to provide further reassurance to residents of high-risk residential blocks that any risks are identified and acted upon.

The Communities Secretary has made up to £10 million a year of funding available to support the Board who will provide expert, tailored building checks and inspections, if necessary, on all high-risk residential buildings in England by 2021.

The Board will operate until a new building safety regulator is established to oversee the new regulatory regime for buildings and legislation on a new building safety regime is introduced.

Their work will ensure building owners are acting on the latest safety advice and keeping residents updated and that interim measures are in place in all buildings with

unsafe aluminium composite material (ACM) cladding.

This work will be informed by current data collection work of local authorities to identify types of cladding on high-rise residential buildings, for which government is providing an additional £4 million funding.

The Secretary of State for Housing, Rt Hon Robert Jenrick MP said: "I have listened to concerns on sprinklers from residents and building owners and our proposals are an important step forward in shaping the future building safety standards.

The new Protection Board will make sure building owners don't flout the rules, as well as ensuring fire safety risks in other buildings are being addressed".

The 12-week fire safety consultation on sprinklers and other measures forms part of the first proposed changes to building regulations in England covering fire safety within and around buildings.

BAFSA comment : It should be noted though that the recommendation falls short of the recommendation by the Royal Institute of British Architects, which calls for installation of sprinklers in all new and converted residential buildings, hotels, hospitals, student accommodation, schools and care home buildings of 11 metres or above in height, and retrofitting to existing buildings when refurbishment occurs as 'consequential improvements' or where a building is subject to 'material alterations'.

The Ministry of Housing, Communities and Local Government (MHCLG) estimates that reducing a height threshold of 18 metres, if implemented, would mean 1,970 new build residential buildings would be fitted with sprinkler systems over the next 10 years; reducing further to, for example, 11 metres would mean 15,940 new buildings fitting systems over 10 years and would deliver "life, health and property benefits" to their occupants.

### Extra care taken

Housing 21, the largest provider of extra care housing in England, has revealed it has installed sprinklers in all of its buildings that are over six storeys high. The group which owns and manages around 21,000 properties, said it has taken the measure at six of its sites as part of a series of actions to tackle fire safety in the wake of the Grenfell Tower tragedy. However, in its annual report, Housing 21 said "none of the buildings above six storeys had "cladding issues" that had been identified as a "risk".



### Approved Document B consultation

In December 2018, the government issued a call for evidence on the technical review of Approved Document B of the building regulations. A summary of the responses to the call for evidence has been published alongside this consultation. At the time of going to press, there are a couple of weeks left for you to have your say as the consultation will run until 28th November 2019. You may respond by completing an online survey.

Alternatively, you can email your response to the questions in this consultation to [ADBconsultation@communities.gov.uk](mailto:ADBconsultation@communities.gov.uk).

Written responses should be sent to: Building Safety Programme  
Ministry of Housing Communities and Local Government  
4th Floor, Fry Building, 2 Marsham Street, London SW1P 4DF

### Advocacy Award



FM Global has awarded its second annual International Codes and Standards Advocacy Award to Iain Cox, chair of the Business Sprinkler Alliance (BSA) and vice chair of the National Fire Sprinkler Network (NFSN).

The award recognises Iain's commitment to promoting technical competence within the UK's fire safety community, his efforts to promote the benefits of automatic fire sprinklers and changing building regulations to accept their increased use.

"At FM Global, we believe the majority of property loss is preventable, not inevitable," said Thomas A. Lawson, chairman and chief executive office, FM Global. "We applaud Mr Cox for going above and beyond his duties to promote, educate and advocate the use of automatic fire sprinklers in the UK".

## Sprinklers protect those who cannot protect themselves

Despite the best efforts of the Fire and Rescue Services in England the latest statistics show an increase in the number of actual fires occurring over the last twelve-month period.

### Incidents

The number of incidents attended increased by 2% over the previous year and 9% more than five years ago. These increases were mainly due to an increase in the number of fires attended, fires accounted for 32% of all incidents attended, while 40% were false alarms, non-fire incidents made up 28% of all incidents.

### Fatalities

It is pleasing to see that the number of fatalities from fire in England has decreased and 253 was the lowest since 1981/82. If you are a man you have a greater chance of dying in a fire than if you are a woman, the rate for men is 5.7 per million population whereas for women it is 3.2 per million.

As you get older the chances of you dying in a fire becomes greater, men aged eighty and over is 20.6 per million and women aged eighty and over is 14.5 per million.

### Causes

Almost all fire fatalities occurred in dwelling houses. The most common cause of fire in dwelling houses was cooking appliances, however the most common cause of fire with fire related fatalities was smoker's materials.

### Smoke Alarms

25% of dwelling house fires did not have a smoke alarm, this rose to 28% in houses where a fire fatality occurred.

The "failure rate," for mains powered smoke alarms was 21% and 38% for battery powered smoke alarms. This has been a consistent figure for nine years.

### Time of Day

46% of all fires occurred between 1600hrs and 2200hrs.

A surprising statistic was that fire fatalities occur almost equally between day and night hours.

Sadly, the figures for fire fatalities is still far too high, particularly when you look at the number of dwelling houses without a smoke detector or with a smoke detector that operates.

The case for fitting domestic sprinklers is a very strong one, sprinklers protect those who cannot protect themselves or escape from fire by their own unaided efforts, whether that be by physical disability, impairment through drink or drugs.

## A positive statement in support of sprinklers

In a circular, Chief Executive of the Construction Industry Council (CIC) confirmed: "The built environment professions working together as members of the CIC believe further action is required to improve the fire safety of buildings in the UK.

"Lives, stock and property are saved by the use of Automatic Fire Suppression Systems (AFSS), which include sprinklers. At present, England, Wales, Scotland and Northern Ireland differ in their requirements for sprinklers yet the incidence and science of fire knows no political or geographical boundaries.

"Harmonising building regulations across the nations of the UK regarding the installation of sprinklers would provide clarity to the industry and help protect the public.

"We support the installation of sprinklers in all new & converted residential buildings, hotels, hospitals, student accommodation, schools and care home buildings of 11m or above in height and retrofit installation to existing buildings when refurbishment occurs where a building is subject to 'material alterations'. We also support the installation of AFSS including sprinklers below this height on a case-by-case basis of risk assessment.

"Each of the professional bodies in CIC with members engaged in the commissioning, procurement, planning, design, engineering, risk assessment, regulation and control, construction, refurbishment and management of any of the building types mentioned in the paragraph above will actively bring forward guidance to their own professionals in line with this statement in the absence of government legislation.

"This will form the basis of CIC's policy on this issue, going forward."

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## In the Pipeline

# Review car park fire prevention requirements



In his covering letter to the Department of Transport (DoT) in response to the department's consultation on Electric Vehicle Charging in Residential and Non-Residential Buildings, Mark Hardingham NFCC Protection and Business Safety Committee Chair, wrote "As part of our submission for the Technical Review of Approved Document B, (ADB) NFCC has called for a review of the requirements for car parks to take account of the products and materials used in modern cars, and to consider additional requirements for automatic water suppression systems and structural safety above those specified in the current guidance.

"The NFCC is concerned to ensure the implementation of new requirements in the built environment is not taken in isolation, but forms part of the overall Building Safety Programme being led by the Ministry of Housing, Communities and Local Government (MHCLG) in response to the Independent Review of Buildings Regulations and Fire Safety. The standard of safety expected in car parks, (particularly covered car parks or those in basements) should not be undermined by the introduction of technology which did not exist when the original guidance was written.

"NFCC supports the drive towards zero emissions vehicles and agrees with the policy position(s) to require charging points in residential and non-residential buildings. However, we urge the government to undertake further work to ensure that Electric Vehicle charging does not have a negative impact on the fire safety of the public and of firefighters.



"Whilst the full technical review of ADB is still underway, NFCC consider that the proposal to introduce new requirements for EV in car parks should also consider the need to issue additional guidance detailing considerations that need to be made in order to comply with Part B of the Buildings Regulations 2010 and the Regulatory Reform (Fire Safety) Order 2005.

"The reviewed documents contain very little guidance on how the proposed EV charge points and supporting infrastructure can be safely integrated into the built environment, both for new construction and retrospectively. We can foresee numerous challenges with regard to firefighting and fire safety which should be addressed in the guidance provided to support the Building Regulations.

"Guidance has not kept pace with the extensive use of plastics in vehicles over the last 30 years or so, including plastic fuel tanks, which has significantly changed the way vehicles behave in fire. More modern vehicle design (such as EVs, incorporating high capacity batteries) cannot be subject to the same lag between a significant change in the fire load within buildings (such as basement car parks) and the guidance which is supposed to support their safe design. Where guidance does lag, it may be that buildings are quickly found to be prohibitively dangerous for both their occupants and attending fire crews. Research and innovation with battery technology continues to evolve which means that consideration should be given to how future technologies (e.g. sodium based batteries) may behave in a fire and therefore potentially impact on the built environment as noted elsewhere. Therefore, the expectation

of the chargepoints as set out within this consultation, needs to be linked to significant review of guidance such as ADB to consider the impact of EVs in and around buildings, with particular focus on:

### Structural fire protection ...

for example a building such as that in the Liverpool Echo Arena fire is only required under current guidance to perform to a minimum of 15 minutes structural fire protection, as it was open sided. It appears that the structure in this case was built with significantly higher protection than the minimum, yet still there were significant structural failures during the fire. While the structural fire protection requirements for car parks in basements is greater than 15 minutes, they do not account for the fire load of cars with extensive plastics, and nor for the future extensive use of EVs.

### Suppression ...

because of the out of date appreciation of fire load of modern vehicles ADB states that "Car parks are not normally expected to be fitted with sprinklers". We believe that suppression such as sprinklers is vital, and should be mandated, to allow the suppression and control of fire development to allow for both safe means of escape for occupants (including persons with disabilities) and to allow fire crews to be able to access the basement levels for firefighting. Basement fires are the most onerous in terms of firefighting and can quickly exceed (by many hundreds of degrees) conditions which firefighters can possibly descend in to. Current and future battery technologies and how they may react in both a fire and to the means of suppression should be properly considered, to ensure that suppression is to an appropriate level. The use of suppression in areas of EV charging should also take account of the need for automatic electrical cut-off in the event of a sprinkler activation to prevent additional hazards relating to water and electricity. Following a review of this aspect of ADB, where retrospective installation is required in existing car parks, it may be necessary to mandate increased fire protection measures which should include the installation of suppression systems to account for the change in fire load.



courtesy of Merseyside FRS



## Fire overwhelms buildings and businesses

The lasting effect of a destructive fire which engulfed plastics manufacturer Total Polyfilm's site in Bamber Bridge in 2016 is undeniable as the £50 million turnover business has gone into administration with the loss of 200 jobs.

The fire in the unsprinklered building took 60 firefighters to control and resulted in a total loss of the factory and the smoke and environmental pollution disrupted residents and the local business community. The factory was fully operational a year later but it took an additional seven months to complete the restoration and the relocation. Despite considerable effort the company never fully recovered.

By contrast, a fire in a similar plastics manufacturer in February of 2016 in the west country caused minimum damage and operations resumed after 24 hours – a sprinkler system had controlled the fire.

The inclusion of a sprinkler system within a robust fire prevention approach will protect investments, jobs and the lives of the firefighters engaged in extinguishing building fires

### CPD certified

An online CPD certified presentation looking at the benefits of automatic fire sprinklers has been created by the BSA to provide an awareness of the beneficial impact that incorporating sprinklers can have and how they can add value to building design.

The 25 minute long video entitled 'Property Protection & business Resilience : Automatic Sprinklers – Background and Benefits' addresses how sprinklers work; typical myths and misconceptions; cost and regulations and also looks at the impact fire has on businesses and how sprinklers can aid the design process.

This CPD module can be viewed here:  
<https://www.business-sprinkler-alliance.org/about-sprinklers/property-protection-and-business-resilience-automatic-sprinklers-background-and-benefits/>



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## In the Pipeline

### Noteworthy endeavours



The last six months has seen significant activity in respect of the standards which govern automatic fire suppression systems.

#### EN 16925 2018 Domestic and residential sprinkler systems

This document has been published as an EN but was only published as a BS EN in June 2019. It contains a National Forward expressing regret that the responsible CEN WG did not make more use of the content of BS 9251 and the experience gained in their use. There is a lengthy Normative Annex A which reflects UK classification of building types and height restrictions (the standard only covers systems installed in buildings up to 4 storeys or 18m in height) and also additional resilience measures to be used in higher-than-average risk profiles. Annex A also contains more demanding minimum design criteria which are in line with those developed in BRE Testing. There are also additional requirements for use where sprinklers are being installed as compensatory features under UK building standards and a prohibition on pre-action and dry systems

#### Future of BS 9251:2014

This standard remains available for use until such times as it is withdrawn by BSi. A working group set up by BS committee FSH/18/2 has started to review the standard in the light of the publication of BS EN 16925 with a view to retaining its use to provide guidance for sprinklers in residential buildings above 18m in height. It is hoped that a draft of the amended standard will be available for public comment by April 2020.

#### BS EN 12845:2015/A1

This amendment, published in August amended Clause 21 by removing the requirement for 'an independent inspector'.

The new clause, supported by a new Annex Q (Informative) says:

##### 21 Periodic system inspection

The sprinkler system shall be periodically inspected by a qualified person at least once a year (see Annex Q). The inspection report shall assess whether the system is in accordance with this standard, with regard but not limited to maintenance, operation and adequacy for the risk involved. A list of deviations shall be issued for action.

Annex Q says:

##### Periodic system inspection

When performing periodic inspection, it is recommended that the system inspections are undertaken by an independent body, e.g. not the system owner, building occupier, system installer (or competing installer) or service and maintenance provider (or competing service and maintenance provider).

The qualified person is a designated individual, suitably trained, competent through knowledge and practical experience and with the necessary instruction to enable the test and examinations to be carried out."

Note that the FPA have not amended the equivalent clause in TB 203.2.4.1.

#### prEN 14972 Fixed firefighting systems. Water mist systems

Extensive work is taking place on this multi-part standard. The existing TS EN 14972 Part 1 is being converted to an EN standard but concerns have been expressed and the second enquiry resulted in more than 500 comments and a negative vote from the UK.

At the time of writing it is not clear what when (or if) the draft will be confirmed. A number of the individual parts of the suite are close to completion and some have been published:

BS EN 14972-8 Fixed firefighting systems - Water mist systems - Part 8: Test protocol for machinery in enclosures exceeding 260 m<sup>3</sup> for open nozzle systems

BS EN 14972-16:2019 Fixed firefighting systems. Water mist systems. Test protocol for industrial oil cookers for open nozzle systems

prEN 12259: Fixed firefighting systems — Components for sprinkler and water spray systems — Part 12: Pumps is out for comment.





## Minimum requirements published for London

London Development Panel 2 set up by the Mayor of London provides land for housing and other developments. In conjunction with the LFB, the Panel has published Minimum Requirements for fire suppression systems in the following types of buildings:

- All purpose-built blocks of flats (including conversions, student accommodation and hotels)
- All homes where vulnerable people live
- All buildings housing vulnerable residents, such as care homes or sheltered accommodation
- All schools
- All buildings/conversion of any type that are of 18m in height or more

See: [london.gov.uk/what-we-do/housing-and-land/land-and-development/london-development-panel-2](https://london.gov.uk/what-we-do/housing-and-land/land-and-development/london-development-panel-2)



After a three and a half year closure and an £80 million renovation incorporating classic Edwardian interiors combined with bespoke, leather-padded writing desks, low ottomans and tiered chandeliers it is disappointing to learn that the University Arms Hotel in Cambridge has not taken similar care over protecting its sleeping guests who, although protected by all required fire safety measures, will not have the benefit of automatic fire suppression whilst they sleep soundly in their bedrooms.

Proof of sprinklers were provided in this photograph! It was subsequently confirmed that “we do not have sprinklers in all of our rooms but rather in the rooms next to the stairwells”. BAFSA can report that these were installed after a fire which destroyed the top floor of the hotel and closed it for more than a year.

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# Life Safety and Property Protection

IS IT TIME THE PRESUMPTIONS WERE QUESTIONED?  
ASKS STEWART KIDD, SPECIAL PROJECTS ADVISER, BAFSA



**DEREGULATION AND NEW LEGISLATION**  
It has been the stated policy of the Conservative Government since coming into power in 2010 to 'reduce the burden of unnecessary regulation on industry and commerce'. Even before that date, all Labour and Conservative administrations have always maintained a view that fire regulations should be related only to countering the risks to people.

In 1994, as a first step in tackling the perceived 'over-regulation' in fire protection of buildings the Government set up an inter-departmental Review Body consisting of representatives of all Government Departments with an involvement in fire

safety matters. The author was appointed to a sit on an external 'contact' group which was intended to ensure that the conclusions reflected more than just civil service views.

The report of the Review Body examined all fire safety arrangements then in place, and recommended modernisation and rationalisation of the legislative and organisational framework. The Review recommended that general fire safety in the workplace (then covered by the Fire Precautions Act 1971 which required fire certification for certain specified premises) should fall under the same legislative regime as process fire safety (governing fire risks

arising from manufacturing processes), i.e. under the Health and Safety at Work etc. Act 1974. The Home Office, which was then responsible for fire safety, rejected this recommendation, 'as the Department still considers that a separate legislative vehicle for general fire safety is more appropriate'

**PROPERTY PROTECTION VS. LIFE SAFETY**  
Paragraph 99 (page 25) of the report of the Review Body says, while discussing the principles of fire safety legislation:

"... the law is there to protect life; property protection is a matter for the individual..."

Many groups, including the FPA, the Loss Prevention Council and the insurers, then and subsequently have questioned the appropriateness, reality and accuracy of this statement which seems to be one of those 'universal truths' which have been accepted without question for many years. The then-director of the FPA commented on the proposals pointing out that:

'A great deal of other UK building-related legislation is not directly related to life safety - for example: matters connected with energy conservation; security; non-safety portions of plumbing and electrical and matters connected with glazing and noise abatement.

'It should also be noted that while (to paraphrase the report) some life safety measures may contribute to property protection, a properly protected building will always also be inherently life safe.

The FPA urged a 'fundamental review of the assumptions that the public interest is only served by an attention to life safety issues. A broader interpretation of 'life safety' coupled with greater awareness of the environmental impact of fires demands that a more holistic approach to fire safety be adopted'.

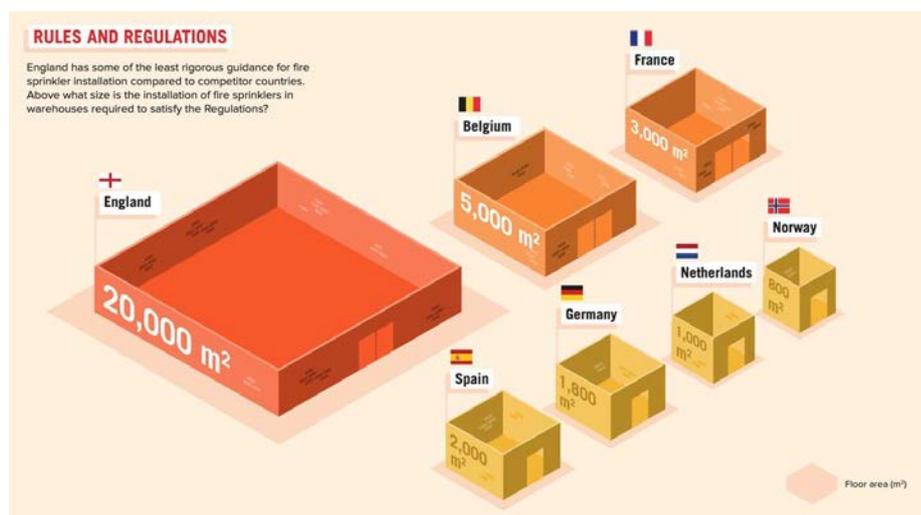
The FPA also noted '...that fire losses currently result in insurance claims of more than £650m (paid by Association of British Insurers (ABI) members). This, we feel demonstrates the need for a proper review of the impact of fire losses on the nation. We contend that it is no longer possible for the Government to write these off as 'a matter for the owner and his insurers'

#### WHAT HAS HAPPENED SINCE THEN?

In 2006, the introduction of the Fire Safety Order (and equivalent legislation) moved the burden of regulatory compliance to employers from the fire and rescue service. The then Deputy Prime Minister claimed that the cost savings achieved by re-allocation of resources in the fire service could be directed towards more constructive aims such as fire prevention and fire safety education. Sadly, the economic recession which started in 2008 imposed massive cuts on fire service funding and manpower and there was no 'FSO bonus'. In reality, the administrative burdens imposed by the FSO were transferred to employers and far from 'not being a consultant's charter', the Order has generated a massive increase in the number of fire safety consultants to whom employers are turning to undertake their fire risk assessments.

The perception of the House of Commons, based on the contents of the Regulatory Impact Assessment (RIA) was, to say the least naive:

'It is important to note that the existing Fire Precautions (Workplace) Regulations already provide for a risk assessment-based approach to fire safety in virtually all places where people are employed to work. Accordingly, there is very little by way of new burdens'.



It continues with reference to the cost implications of compliance with the proposed new legislation:

'...most (65%) of employers would fall into the lower cost bracket where the estimated costs average £196'.

#### COST OF FIRE

Interestingly, the RIA calculates the 'overall economic consequential cost of fire in England and Wales for 2001 at £786 million' - this can be compared with the estimated saving (to businesses of removing fire certification) of £1.65 million. This should be more fairly compared with the ODPM's own 2000 assessment of the economic cost of fire in England and Wales which it puts at £6.793 billion. The total quoted was, at the time, 1% of the GDP of England and Wales. This should be compared with the anticipated savings as a result of the introduction of the new fire safety regime of 'between £46.5 million and £137.65 million'.

As far as can be ascertained, no data has been published in respect of the real costs (and any benefits) of the 2005 legislation.

To summarise: The Government introduced new legislation to reduce the burdens of managing fire safety in industry and commerce from the public sector by transferring it to employers, grossly underestimating the cost impacts on that sector. At the same time, there were significant cuts in the resources which were available to the fire and rescue service. The private sector responded by contracting its obligations to a burgeoning consultancy sector. Government did nothing to deal with the ongoing significant impacts of fires on industry and commerce remaining consistently to the view that this is a matter for property owners and insurers and taking comfort from the relatively small number of fire deaths in buildings other than dwellings.

#### HOW BUILDINGS ARE PROCURED

A significant factor in respect of property protection which is invariably disregarded by Government is the way modern industrial buildings are procured. Many (perhaps most) warehouses and factory units are speculatively built by property companies often funded by pension funds and other investment companies. When a project breaks ground, it is probable that the eventual occupier will not be known - perhaps even the end use will not be clear as there is little distinction today between large single storey buildings used as factories as compared to storage occupancies. Indeed, during a building's lifespan, it may change uses several times. Equally, the historical concept of a storage building is very different from today's massive 'fulfilment centres' which are filled with conveyors, flying bridges and robots.

The need for and design of fire suppression will not only be dictated by the end use of the building but such minutiae as the type of shelving to be installed. It would be therefore impossible for a compliant sprinkler system to be installed in a speculative building - almost inevitably, the system would have to be modified when the tenant occupies the building.

Given that installing fire suppression systems during construction is much more cost effective than adding it to an existing building it can be seen that it's only where a company is designing its own new buildings that the project can incorporate optimum fire protection at the earliest design stage.

#### ABOLITION OF LOCAL BUILDING ACTS

In 2012, the new Coalition government decided to fulfil one of its stated objectives, of reducing regulatory burdens, by repealing all local building acts which until that time had provided fire authorities with additional powers in respect of the fire protection of large buildings.

Arguing that most implementations of the acts (which existed in 23 areas) was related to the provision of sprinklers and smoke ventilation in car parks, large warehouses and tall buildings, the Department of Communities and Local Government relied on a 2005 report from the BRE which showed that ‘Local Acts have no statistically significant impact as far as life safety aspects are concerned’.

Sadly, other conclusions in that report appear largely to have been ignored. ‘For warehouses and car parks, Local Acts are beneficial in reducing property losses’. It is equally sad that the BRE report (but not the decision to abolish local acts) predates the November 2007 fire at a large vegetable packing and storage facility in Warwickshire which costs the lives of four firefighters.

Ministers who read beyond the Conclusions would have been pleasantly surprised to read of the significant value of sprinkler protection in warehouses:

The results for warehouses can be summarised as follows:

- The risks are significantly lower with sprinklers present
- The risks (especially property and business) increase with warehouse area
- Compartment height has little influence on the risk
- For areas up to 20,000m<sup>2</sup>, the life risk with sprinklers is less than that for an area of 1000m<sup>2</sup> without sprinklers
- For areas of 40,000m<sup>2</sup>, the life risk with sprinklers is less than that for an area of 7000m<sup>2</sup> without sprinklers

One issue which English Ministers really should consider is the huge disparity in the

permitted sizes of unprotected warehouses. Given that Approved Document B is only an approved Code of Practice and not legislation, even the limits set in this for unprotected open warehouse spaces of 20,000m<sup>2</sup> is often circumvented by ‘fire engineering studies’.

When this is compared with other European countries, significant questions are raised, not least about the dangers which firefighters face when dealing with fires in large warehouses. Another BSA infographic makes this disparity very clear.

**MODERN METHODS OF CONSTRUCTION**  
In an attempt to speed up construction, cut costs and improve quality, there is significant interest and support by Government and others to use what are sometimes called ‘modern methods of construction. The BRE says that this takes:

“construction processes away from the building site. The advantages of a factory-based process are the controlled conditions, which can be significant given the vagaries and unpredictability of the UK’s weather”. However, one of the inevitable consequences of this approach is that the elements of construction tend to be lightweight and modular, to allow transport and lifting. There also tends to be a perspective which asks, ‘how little do we need to install to comply with the Building Regulations’? So rather than constructing fire barriers from breeze block, we find increasing use of lightweight board - or even ‘fire rated sheeting’ used as a substitute for cavity barriers. Perhaps the most significant switch in construction methods is the wider use of timber framing. While there have been a number of spectacular construction

site fires in buildings of this type, it’s in the finished building that the greatest risk lies for to provide adequate fire separation, all the elements of structure have to remain intact for the life of the building. The omission of a sealing strip, an intumescent sausage or an improperly installed footing on a gypsum board can all lead to the rapid spread of fire and loss of the building.

Recent (Summer 2019) highly destructive fires in a Premier Inn (Bristol) and a Holiday Inn (Walsall) together with a very large fire in the Beechmere retirement complex in Crewe surprised observers not only with the extent of the destruction but the speed of fire spread. A dispassionate observer might be forgiven for concluding that in all three cases, the building design failed, and it was only a matter of luck that there were no injuries. In the case of the Crewe fire, the officer in charge of the attendance decided to abandon the ‘stay put’ policy and evacuated the 130 residents of the building at a very early stage.



courtesy of Avon FRS

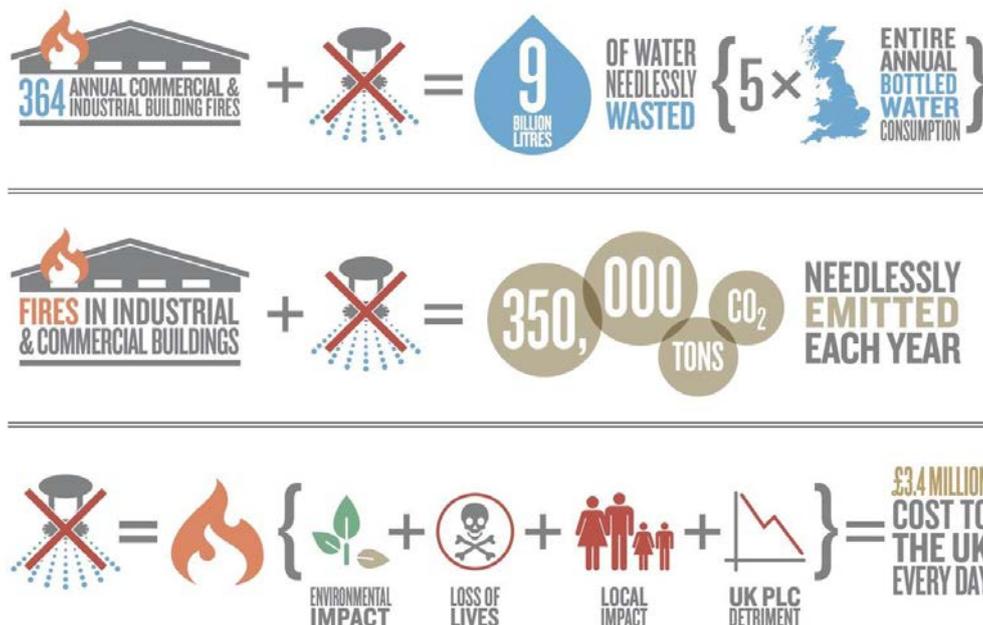


Figure 1

In all three cases we have buildings that presumably were compliant with the Building Regulations, but which failed as structures in a very public way. In the case of the two hotels, both belonged to large chains and presumably their loss will have had little impact on their bottom lines - obviously there was significant local impact including air quality issues, road closures and of course staff impact. The impact of the Beechmere fire was more immediate requiring the owners, Avantage Housing to provide temporary accommodation and other care for the vulnerable residents together with longer term re-housing. It's not clear from statements by Avantage that the rebuilt complex will be protected by an AFSS - perhaps something to be discussed with their insurers.

Whatever else emerges from the debates on modern materials is that 'just compliant' construction would benefit greatly from integral fire suppression not only for life safety and property protection but as an additional measure to compensate for circumstances when a key passive compartmentation element fails or is damaged.

**OTHER IMPACTS OF MINIMUM BUILDING PROTECTION**

The insurers and the FPA have long been aware of the impact of automatic fire suppression systems (AFSS) in reducing fire losses but the greatest clarity of the value of AFSS in property protection has been demonstrated in the publications issued by the Business Sprinkler Alliance. In particular two of these contain major contributions to the debate: The financial and economic impact of warehouse fires which was produced by Cebr and An environmental and cost benefit analysis for fire sprinklers in warehouses produced by BRE Global. A useful and lucid infogram based on data from the latter is show at Figure 1. This demonstrates the non-financial impact of fire in large warehouses, sadly, Government would appear to consider the environmental impacts of fires and the impact on local communities as part of the issues which are for the property owner to consider.

Other impacts of property fires are self-evident if one chooses to look at the present situation. Fires in commercial premises, even when insured, can lead to the closure of business, loss of jobs, impacts on national resilience from loss of unique design and manufacturing capability and migration of skilled personnel when a business owner chooses to take the insurance pay-out and move his factory to Ireland (Real Crisps fire, Newport, South Wales 2013) or Poland (Findus Frozen Foods fire, Long Benton, Newcastle 2009).

At its most extreme, the effects of a major fire can impact on national defence as was the result of two serious fires at the Command Ordnance Depot at Donnington in 1983 and 1988. Anecdotal evidence suggests that some of the army's operational ability was impaired as a result of the 1983 fire and that it was only because of a decision to disperse some spares and stock to different sites that prevented significant impairment of the UK's ability to take part in the successful liberation of Kuwait in 1991.

It's also worth noting that both fires released asbestos dust and fragments over 15 square miles of countryside. The MoD have since settled a number of claims (including for death) from residents who subsequently developed mesothelioma.

**CONCLUSIONS**

There can be little doubt that traditional approaches to 'life safety protection measures' and 'property protection measures' are no longer valid. The widespread failures of compartmentation (both traditional and 'modern') must be challenged. The wider environmental, economic and human impact of fires also demands that the Building Regulations be amended to take into account the wider consequences of fire. It's no longer enough to look at the problem and decide that it's too hard for today and it can be safely left to the insurers.



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# Care in the Community & Supported Living



IAN GOUGH, TECHNICAL ADVISOR, BAFSA

THE 2019 BAFSA annual general meeting and dinner will be my second visit to Liverpool this year. In July, I had the pleasure of speaking to Liverpool City Council Building Control Team and invited guests on the topic: 'Residential Sprinkler Standards and Building Regulations'; but, at their request, with a particular emphasis being given to the protection of 'vulnerable persons'.

This was the second time BAFSA has provided such a lecture (which suggests that a similar one in February 2018 must have gone well) and was again held in the impressive Cunard Building with its inherent distraction of an adjacently berthed luxury liner taking on excited passengers and preparing to sail.

What was slightly different this year, however, was that officers from Merseyside Fire and Rescue Service were also asked to provide a presentation on a related topic and their chosen subject focussed on the growing problems associated with 'care in the community' or, to be more precise, 'supported living' schemes. Apparently more people in

Merseyside are being cared for in this way than anywhere else in the country and their talk raised some interesting points- especially in relation to 'risk assessment', the relatively recently published 'Specialised Housing Guide' and elements of BS 9251:2014 Fire sprinkler systems for domestic and residential occupancies – Code of Practice – particularly Annex B.

In short, many physically disabled or people suffering from severe forms of mental illness (including, fire officers know from experience, individuals who have an 'unhealthy fascination with fire') can now be found living in everyday dwellings and cared for, either by staff who may 'live in', or carers who visit periodically. However, most of the properties inhabited by such people will be existing housing stock rather than purpose built structures and will thus often evade the attention of the building inspectors and requirements of building regulations. This poses challenges for us all – including the fire sprinkler industry.

## Health Policy

Care in the Community, (also called "Community Care" or "Domiciled Care") is, in official terms, the policy of treating and caring for physically and mentally disabled people in their homes rather than in an institution. Institutional care was widely criticised during the 1960s and 1970s, but it was not until 1983 that the Government adopted a new policy of care after the Audit Commission published a report called 'Making a Reality of Community Care' which outlined the advantages of domiciled care. Its general aim was a more cost effective and caring way of helping people with mental health problems and physical disabilities, by removing them from impersonal, often Victorian, institutions and caring for them in their own homes.

Initially, 'supported living sites' as they became known needed to be registered and the Care Quality Commission (CQC) became responsible for this. However, in order to make more properties available for use, and also to allow people to remain in their own homes, the decision was then made to deregulate them. It is therefore Local Authority Commissioning Teams who ensure that a care provider provides the 'personal care package' for the user of services – but the service user ultimately takes on responsibility for their accommodation. Responsibilities for fire safety can therefore be quite confusing and standards of protection vary.

## Fire Safety Standards

Other forms of residential care, are to varying degrees, well regulated so that the risk of fire is both assessed and managed. Furthermore, over the years a plethora of guidance documents have evolved to advise on appropriate standards of fire safety, thus providing suitable benchmarks for all concerned, including service providers and authorities having jurisdiction. It therefore comes as something of a surprise to find that in the vast majority of properties



providing ‘supported living’, little more than a domestic smoke alarm will be found. Indeed, Merseyside Fire & Rescue Service discovered one such situation where four persons were found bed-bound in one bungalow!

### HTM 88

But back in 2001, the Department of Health’s NHS Estates published ‘Fire Precautions in Housing Providing NHS-Supported Living in the Community’ - an update of Health Technical Memorandum (HTM) 88. This document provided recommendations and guidance to address the special requirements of fire safety in community-based premises providing supported living for people who have learning difficulties or mental illness, including those with physical handicaps.

Importantly, HTM 88 was specifically intended for use in premises owned or occupied by NHS trusts, or premises that were rented to provide supported living accommodation by a trust. The document advocated an excellent standard of fire protection for both existing and new build premises. It is also particularly remarkable for being the earliest fire safety guidance document one can find that recommended fire sprinklers as a compensating feature for an open plan residential building. It really was ahead of its time.

Of course, few if any of the homes under discussion here will now come under the NHS umbrella as NHS Estates no longer exists. In addition, the guidance had no statutory force and properties are now either privately owned by the service user, or rented from either a private or social landlord. This may therefore explain why, in recent years, scant regard seems to have been taken of HTM 88.

### Specialised Housing Guidance

Nevertheless, in an effort to address the changing landscape of social care, in 2017 the National Fire Chiefs Council (NFCC) published: ‘Fire Safety in Specialised Housing’. Its recommendations relate to various forms of sheltered housing, extra care housing, and also supported housing for people with common characteristics, such as learning disabilities and mental health problems. At over 300 pages it can make for heavy reading but covers a wide range of accommodation types from flats to HMOs.

Pleasingly, the guide strongly recommends sprinkler or water mist protection for all new sheltered and extra care housing, and for high risk supported housing (although what constitutes ‘high risk supported housing’ is not at all clear and it would be helpful to define this in more detail). However, it goes on to state: “If a pump is required for the supply of water to the sprinkler or water mist system in specialised housing, the pump should be

duplicated,..” and also “There should be a suitable standby power supply for the pumps, comprising secondary batteries of sufficient duration to operate the system for the minimum duration over which the system is required to operate.”

This NFCC document therefore sets out with many sensible suggestions – especially in recommending sprinklers - but unfortunately insofar as supported living schemes are concerned, creates difficulties for those recommending or specifying the installation of automatic fire suppression systems by demanding duplicate pumps and standby power supplies.

Surely a case here of belt, braces and a piece of string!

Moreover, relevant standards for the design and installation of automatic fire suppression systems, unfortunately, also all fall short in offering a sensible solution.

### Sprinkler performance, reliability and resilience for systems installed in the homes of vulnerable people

In order to address situations where residents with a higher than average risk profile are housed, Annex B of BS 9251: 2014, provides additional advice for sprinkler systems installed in the homes of vulnerable people (almost identical guidance can be found in BS EN 16925:2018<sup>1</sup> and BS 8458-1<sup>2</sup>).

Specifically, Annex B advises that additional measures might be needed as part of the system design, including but not limited to any of the following:

- increasing the duration of application and/or the resilience of the water supply;
- upgrading the system to a higher category or to BS EN 12845;
- arrangements to maintain system integrity during maintenance or repair;
- provision of a back-up power supply to pump(s);
- additional pumps to provide redundancy;
- remote monitoring of critical system components;
- automatic test facilities;
- installation of a fire and rescue service inlet to supplement the water supply.

Ideally of course, water for a sprinkler system in a single dwellinghouse will be taken directly from the water main using the normal available pressure. However, we know that for many existing houses and for a variety of reasons this is not always a practical solution; consequently, either a boosted supply or pumps and tanks will be necessary.

With equally good intentions therefore, the advice provided seeks to ensure the safety of vulnerable persons by encouraging the installation of more resilient systems; unfortunately, this lends support to the



recommendations in the Specialised Housing Guidance for “duplicate pumps and standby power supplies” - the net effect being: preventing sprinklers from being installed in supported living risks.

### Conclusion

Merseyside Fire & Rescue Service believes that the safety of vulnerable persons from unwanted fires, in supported living schemes, is a growing problem but one that is hidden away. After all, seen from outside, ‘supported housing’ is no different to any other type of housing – it’s just that the people inside change.

However, we do know that in ‘sheltered housing’ the numbers of fires and deaths from fire are disproportionate to the number of sheltered housing properties - thus demonstrating the high risk from fire for occupants of this type of premises. Surely this must be similar for supported living schemes.

Frustratingly, a lack of detailed statistics and reliance on anecdotal experience thwarts any serious attempt to address the issues with legislation. Nonetheless, fire officers in Merseyside are trying to get sprinklers installed in more of these homes – especially the ‘high risk’ properties - and are making strenuous efforts to encourage all involved to do so. Sadly, because of the significant costs that will be incurred if current guidance is followed, their attempts are not bearing fruit and they seem pessimistic about future take up.

Bizarrely, therefore, many vulnerable persons are being denied the chance to be protected by a domestic fire sprinkler system because of unsubstantiated fears of system failure. We may have to think again about the advice that is published.

1 BS EN 16925: 2018, Fixed firefighting systems – Automatic sprinkler systems – Design, installation and maintenance.  
2 BS 8458-1:2015, Fixed fire protection systems – Residential and domestic water mist systems – Code of practice for design and installation.



# High rise residential buildings fire safety works...

RITCHIE O'CONNELL, BAFSA REPRESENTATIVE IN WALES,  
ASKS: WHO PAYS?



TWO RECENT BBC Wales programmes have highlighted a problem in the funding of remedial structural fire safety works in buildings in Cardiff and Swansea.

The two buildings, Meridian Tower in Swansea (the tallest building in Wales) and the Celestia complex in Cardiff are both subject to enforcement action requiring significant fire safety remedial works.

The Celestia complex encompasses 450 flats across seven high-rise blocks which were built between 2005 and 2007.

South Wales Fire and Rescue Service are reported to have issued an enforcement notice on the responsible person(s) for

the Celestia complex, and the recent BBC programme referred to the following failures

- “very poor or non-existent” compartmentation measures, which are design features meant to stop fire spreading internally
- “missing or defective” external fire cavity barriers
- some use of timber cladding and insulation that does not meet the required standards

The 29 storey Meridian Tower located at Meridian Quay Swansea includes 123 flats and is subject to an improvement order from Swansea City Council.

The improvement notice orders internal “compartmentation” improvements to ensure fire cannot easily spread from one flat to another, and external firebreak improvements which involve replacing brickwork.

In both buildings the costs have been passed to the individual tenants, many of whom are very concerned about both the costs - which many are unable to afford, and the uncertainty about their safety. Speaking to the BBC one of the tenants of the Celestia complex stated: “We always had a stay-put policy, we were told the flats were safe to stay in until we were rescued,” she said. And all of a sudden the advice was, ‘no, we need



to get out' because with the fire-stopping missing the fire can spread from apartment to apartment more quickly than we would have anticipated."

Julie James, the Minister for Local Government and Housing, when discussing the forthcoming Welsh Government white paper on fire safety, stressed that "taxpayers shouldn't foot the bill for defects in private high-rise residential buildings and there was a moral responsibility for owners and developers to fix any issues or risk damage to their professional reputations"

Whilst there may be a moral obligation on the owners and developers to pay for the remedial works, this does not at the moment translate into tangible offers of funding, and people remain at risk in buildings which have been identified as unsafe.

Leanne Wood AM also recently highlighted the issues of who pays for high-rise safety – particularly in light of the Grenfell disaster – saying some families were effectively stuck in buildings deemed unsafe as they can't sell on and nobody has taken responsibility for fixing defects. She suggested a possible deterrent to avoid this in the future:

"Minister, I think one thing that could happen is that there could be a change in planning law, to ensure that, especially the big developers who've profited from these frauds – and I use that word deliberately – can have their previous records taken into account as material considerations within the planning system. You've been on record as saying that some of these new developments will be the slums of the future....Do you agree with me that it's time for a windfall tax on these large firms, to pay for the restitution of the defects caused by poor development? "

Whilst the Minister felt that the imposition of a windfall tax was outside the powers of the Senedd, it is clear that there is dissatisfaction amongst Welsh Government regarding this issue.

The estimated bill to make good the defects at Meridian Tower is £5m. Based on the BAFSA Callow Mount report to retrofit a sprinkler system into each of the flats would cost approx. £906 per flat, in total less than £120,000 so why isn't this being considered as an option? Whilst this would not address the issues entirely it would represent a significant increase in the residents' safety and peace of mind.

This is clearly not just an issue for Wales, 28 months on from the Grenfell fire there are still people living in high rise developments which are patently unsafe. Some are tenants who are unable to be rehoused, others are owners who can neither afford to foot the bill, nor sell their flats.

Whilst I am sure that many of us would agree in principle with the Minister's assertion that the taxpayers should not foot the bill for defects in high-rise residential blocks, will it take another Grenfell before the Governments, both UK and devolved, take action? This author is firmly of the opinion that the defects should be addressed, and suppression systems fitted in these buildings immediately, out of the public purse if necessary and local authorities then take action to recoup the money from those responsible.

The general approach in the UK to unsafe structures is the property owner will be located and instructed to arrange for the structure to be removed or repaired within an agreed timescale. In the case of immediate danger, building control surveyors may employ an emergency contractor to carry out the necessary works, usually on the same day, and then recover the costs from the property owner.

In a week where we have seen the Fire and Rescue Service pilloried for the Grenfell Tower disaster (in my opinion grossly unfairly), it seems entirely incongruous that there is a very real chance this could happen again tomorrow.

Who will be blamed if money is the sole reason this is allowed to happen again?

## An independent review of water mist for Wales

The Welsh Government has commissioned a report from the BRE on water mist systems in residential and domestic applications. This report, due in the autumn, will provide an independent review of water mist systems. The principal authors of the report will be Dr Corinne Williams and Dr Louise Jackman both of the BRE.

Drs Williams and Jackman have previously authored similar research (BRE 2006) which was intended to provide guidance to " ...approving authorities, e.g. building control bodies and fire safety officers, to detail current knowledge, improve education about systems, to dispel myths/misunderstandings and to assist them in assessing water mist systems in residential buildings that they may be faced with."

Since the introduction of the Domestic Fire Safety (Wales) Regulations 2013, BAFSA is frequently asked by 'authorities having jurisdiction' (AHJs) for information about sprinkler systems and water mist systems, and the release of the updated research will be welcomed by many parties.

There is a common misconception that, as Approved Document B (ADB) (Wales) 'calls up' only British standards 9251 and 12845 that only sprinklers are permitted under the domestic fire safety regulations, this however is not the case; paragraph 2.4 of ADB vol 2 (Wales) offers the following:

"Where an automatic fire suppression system is specifically required or recommended within this document it should be provided throughout the building or separated part and be designed and installed in accordance with an appropriate, fully implemented, technical standard".

At the time the Approved Documents were published, there was no fully implemented technical standard for water mist in residential and domestic properties. BS 8458:2015 Fixed fire protection systems. Residential and domestic water mist systems. Code of practice for design and installation is now available and whole building systems installed to this standard meet the criteria set out in ADB and are therefore wholly within scope.



# From a European perspective

Alan Brinson EFSN reflects ...

**ACROSS EUROPE, SPRINKLER MARKETS ARE BOOMING AS MORE NEW BUILDINGS ARE FITTED WITH SPRINKLERS, A POSITIVE TREND LARGELY DUE TO REGULATORY CHANGES. BEYOND THE UK, IRELAND HAS PUBLISHED A PROPOSAL TO PERMIT OPEN-PLAN FLATS WITH SPRINKLERS, BASED ON BS 9991. SPAIN IS CONSIDERING SPRINKLERS AS AN ALTERNATIVE TO REFUGES IN EXISTING BUILDINGS AND IN FRANCE A RESIDENTIAL MARKET IS AT LAST EMERGING. WHILE IN MOST COUNTRIES UNDERGROUND CAR PARKS ARE SPRINKLERED, FOLLOWING THE FIRES IN LIVERPOOL AND CORK SOME AUTHORITIES ARE CALLING FOR SPRINKLERS IN ABOVE-GROUND CAR PARKS.**

SPRINKLERS OFTEN COMPETE with other fire safety concepts, such as ventilation or passive fire protection. New design concepts and sprinklers help sprinklers compete. Yet many regulators will not accept innovations until they are codified in national standards. European standards become national standards in all 35 members of CEN so are the fastest way to promote new technology across Europe.

Over the past year we have made huge progress, helped by the secretariat support of Björn Schaumburg, a former DIN expert funded through the EFSN by the sprinkler industry. We have completed a read-through of the second revision of EN 12845 and it is on track for the CEN enquiry (national comment stage) early in 2020. Before that the first amendment to revision one, which removes third party references to the requirement for annual inspections, will soon be published.

EN 12845 is silent on seismic bracing. While this may not be an issue in the UK, elsewhere in Europe guidance is much needed. Rather than wait for the finalisation and publication of the second revision of EN 12845, CEN will first issue a Technical Report. This can be done faster and a draft should soon be circulated for enquiry.

EN 16925, the residential sprinkler system design, installation and maintenance standard, has been published and several countries have prepared national annexes to clarify how it should be applied in their jurisdictions. EN 12259-14, the residential sprinkler component standard, has passed the CEN formal vote (last step in the process) and should also be published in a few months. It is referenced in EN 16925.

EN 12259-9, deluge valves, has been published as a non-harmonised standard and complements TS 14816, the technical specification for the design of water spray systems. EN 12259-12, the pump component standard, will soon be out for the CEN formal vote. It is referenced in prEN 17451, the pump set installation standard, which is about to be circulated for the CEN enquiry.

So much for sprinkler standards. European water mist standards are also moving forwards:

- prEN 14972-1, the water mist system design, installation and maintenance standard, has passed a second CEN enquiry and is expected to be sent for formal vote this year
- EN 14972-16, a fire test protocol for water mist systems to protect industrial oil cookers, has passed the formal vote and will soon be published
- EN 14972-8 and EN 14972-9, fire test protocols for water mist systems to protect machinery spaces exceeding and up to 260 m<sup>3</sup> respectively, are out for formal vote
- EN 14972-3, a fire test protocol for offices, schools and hotels has passed the CEN enquiry

Although water mist systems have been sold since 1991, water mist is not yet subject to the quality controls that enabled British sprinkler systems to achieve 93% reliability. The EFSN believes water mist:

- Systems should be installed in accordance with published standards
- Design concepts should be tested to full scale in accordance with published standards
- Components should be third-party tested in accordance with published standards
- Installers should be third-party accredited

The above standards will help with 1) and 2). CEN is also working 3), starting with standards for water mist check valves, strainers and filters. In the UK, I would hope that one outcome of the Hackitt report into the Grenfell Tower disaster will be that it will no longer be acceptable for unaccredited companies to install fire safety systems. Installers should follow the example set by BAFSA members.

Change does not happen by itself. In the UK it is happening thanks to the efforts of BAFSA, the BSA, NFSN, EFSN and others. Today there are focussed sprinkler campaigns running in Belgium, France, Germany, Netherlands, Norway, Poland, Sweden and the UK. Following a successful conference in Madrid in March the EFSN is recruiting someone to lead sprinkler campaigns in Spain. Looking further ahead the EFSN will be involved in a series of events in Italy, with a conference booked for 2021 in Rome.

A lot is going on in our world. On 6-7 May the EFSN will host a major conference in Amsterdam, with 50 speakers and 350 delegates. Come along to hear the latest, to network and enjoy Amsterdam. I look forward to seeing you there. For more details and to register see [firesprinklerinternational.com](http://firesprinklerinternational.com)

[eurosprinkler.org.uk](http://eurosprinkler.org.uk)

# Keep going – don't settle for less

WRITES TOM ROCHE OF THE BSA

A year ago, we wrote about the impending announcement of a technical review of Approved Document B (ADB) in England and the need to raise our voice and be heard on the subject. That technical review is underway. The key message here is that we need to see this through and push to support the benefits of automatic sprinklers in protecting life, property and the environment.

We can see how the BSA has been successful in promoting several key issues to the sprinkler community into this review via the Call for Evidence. The response to this has highlighted the need to review property protection, automatic sprinklers/compartimentation and trigger thresholds. We are now in the midst of the first consultation which includes the reduction from 30m to 18m in the height of residential buildings at which automatic sprinklers will be required. We expect a lot more to come.

Other work by the BSA from prior years on consultations has also proven to be effective. It may have flown under the radar for some but the clarification of the Approved Document B, which landed in July 2019, saw automatic sprinklers more clearly referenced and recognised. The BSA take this as a sign for the future.

On the political front the BSA continues to make our voice heard as we engage with MPs to highlight recent fires in their constituencies. We are actively working to broaden our political discussions and understanding of the processes around the review of Building Regulations to be more effective.

We used this earlier in the year following the Shurgard fire in Croydon to help to gain support for a position on property protection from several MPs. This has been reinforced by several large commercial and residential fires across the year. This is a key platform to continue this message in the technical review of our guidance.

The connections we have generated stood us in good stead to counsel caution following a significant industrial fire in a sprinklered building in Andover. It was later revealed in the Hampshire Fire and Rescue Authority report that the automatic sprinklers had been prematurely interrupted at an early stage in the fire. This helped us put this event into context.

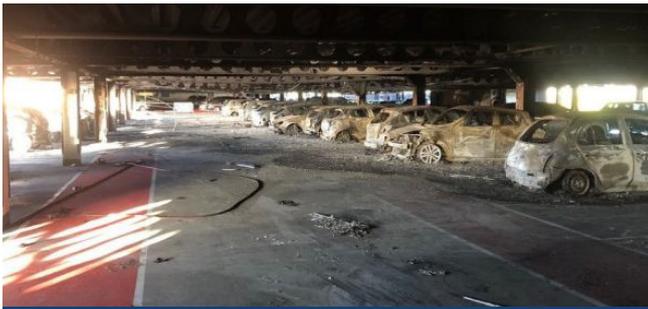
The BSA continues to take the message to practitioners and markets. We took a stand at Firex to promote the consideration of sprinklers. We took a stand at the Charter Association of Building Engineers (CABE) conference for the second time. Each event has offered us the opportunity to promote our thoughts on sprinklers within the wider industrial and commercial building space but also to bust the myths around the use of automatic sprinklers.

To continue to combat the myths on sprinklers the BSA has worked to deliver key pieces that are animated and information. The first has been to supplement our successful paper publications with an online version of our z-card to highlight the operation of sprinklers. Our next and perhaps most important online offering has been "Property protection and business resilience: automatic sprinklers – background and benefits". This online video tutorial has gained recognition from CIAT and CIBSE for continued professional development. It has been viewed by over 6,000 people from a broad range of interests across the Built Environment.

Returning to the opening theme and as noted above the opportunities for change arising from a technical review are with us now. We need to continue to use our collective voice to promote positive change for the inclusion of automatic sprinklers. What is clear is that this will rely heavily on the evidence that can be brought to bear to support our position.

The BSA is ready to take on that challenge.

[business-sprinkler-alliance.org](http://business-sprinkler-alliance.org)



## Car park fire : Cork

WHEN A CAR caught fire in the multi storey car park of the Douglas Village Shopping Centre in Cork over 55 cars were destroyed and serious structural damage to the building was subsequently recorded.

Superintendent O'Sullivan of the Garda said technical teams were able to trace the source of the fire to a people carrier from the damage to the roof area immediately overhead which suggested it was the longest burning area in the

The blaze then quickly spread to other cars in the area.

"It was one of the most severe fire incidents that we've had in Cork but also one of the most severe incidents in a multistorey car park in Ireland. Cars are parked very close together in multistoreys and once fire spreads from one car to two or three, it's very hard to control."

The shopping centre is home to some 50 shops and while most of the damage was in the car park, the retail ground floor suffered collateral incidental smoke and water damage.

More than 145 cars trapped in the multi-storey car park had to be craned out but the intensity of the fire damaged the structural integrity of the car park's steel support beams and sections must now be demolished amid safety concerns. The loss of hundreds of parking spaces wouldn't just hit the centre but Douglas village itself.

Re-construction is expected to take until mid 2020 to complete.

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# Why should you invest in training and education?



TRAINING IS NOT MERELY IMPORTANT TO A COMPANY, IT IS ESSENTIAL. SO WHAT DOES TRAINING AND DEVELOPMENT MEAN TO AN ORGANISATION? ASKING THIS SEARCHING QUESTION IS RUTH OLIVER, BAFSA SKILLS & QUALIFICATIONS ADVISER

BAFSA IS DEDICATED to ensuring that sprinkler systems are installed to the highest professional standards and has taken full ownership of the responsibility to develop and nurture fire sprinkler installer competence through qualification. With a nationally recognised qualification, Level 2 Certificate in Fire Sprinkler Installation, available to fire sprinkler installers along with an industry Skillcard, BAFSA is encouraging investment in training and education of the installer workforce.

Training provides an ideal opportunity to expand the knowledge base of employees, but many employers in the current climate find development opportunities expensive. Employees attending training sessions miss out on work time which may delay the completion of projects. However, despite these potential drawbacks, training and development provides both the individual and organisations as a whole with benefits

that make the cost and time a worthwhile investment. The return on investment from training and development of employees is really a no brainer.

## So what are the benefits?

Improved employee performance – the employee who receives the necessary training is more able to perform in their job. The training will give the employee a greater understanding of their responsibilities within their role, and in turn build their confidence. This confidence will enhance their overall performance and this can only benefit the company. Employees who are competent and on top of changing industry standards help a company hold a position as a leader and strong competitor within the industry.

## Improved employee satisfaction and morale

The investment in training that a company makes shows employees that they are valued.

The training creates a supportive workplace. Employees may gain access to training they wouldn't have otherwise known about or sought out themselves. Employees who feel appreciated and challenged through training opportunities may feel more satisfaction toward their jobs.

## Addressing weaknesses

Most employees will have some weaknesses in their workplace skills. A training programme allows you to strengthen those skills that each employee needs to improve. A development programme brings all employees to a higher level so they all have similar skills and knowledge. This helps reduce any weak links within the company who rely heavily on others to complete basic work tasks. Providing the necessary training creates an overall knowledgeable staff with employees who can take over for one another as needed, work on teams or work independently without constant help and supervision from others.

**Consistency**

A robust training and development programme ensures that employees have a consistent experience and background knowledge. The consistency is particularly relevant for the company’s basic policies and procedures. All employees need to be aware of the expectations and procedures within the company. Increased efficiencies in processes results in financial gain for the company.

**Increased productivity and adherence to quality standards**

Productivity usually increases when a company implements training and qualifications. Increased efficiency in processes can ensure project success which in turn will improve the company turnover and potential market share.

**Increased innovation in new strategies and products**

Ongoing training and upskilling of the workforce can encourage creativity. New ideas can be formed as a result of training and development.

**Reduced employee turnover**

Staff are more likely to feel valued if they are invested in and therefore, less likely to change employers. Training and development is seen as an additional company benefit. Recruitment costs therefore go down due to staff retention.

**Enhanced company reputation and profile**

Training makes a company more attractive to potential new recruits who seek to improve their skills and the opportunities associated with those new skills.

The importance of training your employees – both new and experienced – really cannot be overemphasised.

Training can be of any kind relevant to the work or responsibilities of the individual, and can be delivered by any appropriate method.



**So, why is CPD important ?**

Continuing Professional Development (CPD) exists to ensure that an individual enhances their skills and abilities once they have formally qualified. Typically, academic qualifications have already been completed at this stage and an individual is now working within their specific industry activity. CPD is important as it helps to ensure that further learning is progressed in a structured, practical and relevant way to guarantee that there are applied efficiencies in learning. CPD allows an individual to focus on what specific skills and knowledge they require over a short-term period, say 12 months, in order to be confident there is recognisable improvement within their proficiency and skill sets.

**The purpose of CPD**

In an ever-increasing globalised and competitive society, the importance of Continuing Professional Development cannot be overstated. The world’s industries are evolving creating exciting opportunities but also challenges. CPD enables an individual to regularly apply attention to important areas of development and take action to reduce any shortfalls in knowledge. Equally, an individual must see CPD as a way to remain competitive with his or her peers, and as an opportunity to differentiate themselves at moments where this may be required, such as in job interviews or in tenders for new work and business acquisition. As more people become professionally qualified with similar qualifications, CPD becomes more important as a means of separating yourself from the pack.

A planned approach to CPD allows an individual to put themselves in charge of their own career development and work-related ambitions. A personal empowerment of learning brings with it an increase in confidence and resulting abilities, all of which correlate to an improvement of capability for their employment environment.

**Importance of CPD for Employers**

The responsibility for completing Continuing Professional Development lies ultimately with the individual, often within the context of a membership and involvement with industry professional bodies or institutes. However, more and more employers are taking a proactive and supporting role with the CPD required by their employees.

Aside from industry associations, the importance of CPD within the general enterprise is growing, as more employers see the benefits of more highly skilled, motivated and committed workforce. There is a common misunderstanding with some employers that CPD takes significant time which may result in periods of “out of the business”. However, the availability of more flexible CPD suited for business requirements has increased significantly in recent years, with the introduction of online learning, short courses and half-day workshops, as well as distance learning and educational exhibitions. These can provide CPD learning seminars alongside new business revenue and networking opportunities.

**FOR EXAMPLE, IT COULD INCLUDE:**

- On-the-job learning
- Mentoring schemes
- In-house training
- Individual study

**“Education is not the learning of facts, but the training of the mind to think” – Albert Einstein.**

# Sprinkler Saves

## JULY



### 11th : Retail, Suffolk

Suffolk FRS were mobilised to a commercial kitchen fire in a unit contained within a multi-occupied shopping centre. The BS EN 12845 sprinkler system operated via 1 quick response sprinkler head which not only suppressed but extinguished the fire prior to the arrival of operational crews. The sprinkler system was isolated, the head replaced and recharged/ fully operational within 2 ½ hours.



### 15th – Recycling centre: London

A fire at Veolia's recycling centre off the Old Kent Road was likely caused by a wrongly-disposed lithium battery, the company said and issued a warning to Southwark residents to safely dispose of their waste after the fire, to which four fire engines and 25 firefighters were called. There were no injuries but 500kg of recyclable materials were damaged as a result of the fire. The centre resumed normal service by 0300 the next day.

**“As well as limiting fire damage and being potentially life-saving devices, sprinklers and other fire suppression systems help with business continuity by minimising disruption and allowing businesses to get back to normal as soon as possible,” said an LFB spokesperson.**



### 15th – Multi storey residential block: Winchester

Firefighters were called to Earle House in Winchester following reports of a fire in a bin store area which may have been started by a discarded cigarette... Two crews from Winchester and one from Eastleigh attended. Fire chiefs say the sprinkler system was set off, helping to keep the fire under control until their arrival and the crews extinguished it.



### 19th – School: Northumberland

A fire which appeared to have broken out in a CAD laser cutter (still under investigation) in a design classroom at the Bede Academy North in Blyth caused smoke detectors and break glass call points to activate, prior to the sprinkler system operating and containing the fire to the room of origin. Following the redirection of the sprinkler head access to the ground floor corridor sprinkler area isolated and the remaining parts of the premises covered with fire sprinkler protection again. Approximately 1 hour after the fire the school was returning to 'normal' business, with the ground floor corridor sprinkler area isolated and the remaining parts of the premises covered with fire sprinkler protection again. By the afternoon the sprinkler head had been repaired by a sprinkler engineer and the whole system was in operation again.



### 19th – Flat: Birmingham

A kitchen fire in a flat in Coppice House, a tower block in Birmingham caused a sprinkler activation which restricted fire damage to the oven grill and the plastic control knobs for the hob. There was smoke damage to the whole of the kitchen but water damage was minimal due to quick response time from West Midlands Fire Service, assessment of situation and their isolation of the sprinkler system. Only one appliance from WMFS was required due to the sprinkler activation.

## AUGUST



### 5th : factory, Hull

When a fire broke out on site, more than 400 staff were evacuated in less than three minutes from the Hull factory of offsite specialist Walker Modular. Five fire engines were called to the scene after the alarm was raised at the bathroom pod manufacturer. The company had liaised with the fire service when designing the factory and all the fire suppression systems and alarms worked perfectly.



### 16 : Office block, London

Sprinklers have saved an office in Paddington Central from being destroyed. A security guard at the block that called the London Fire Brigade after the sprinkler system activated and controlled the

fire spread and a smoke alarm sounded and five fire engines and around 35 firefighters attended the scene. The incident was over seven minutes later.



### 23 : Warehouse, London

Six months after a blaze destroyed its robot-controlled depot in Hampshire, four fire engines were called to Ocado's robotic warehouse in Erith. It took 25 firefighters more than three hours to bring it under control. A conveyor belt and external motor were damaged, the London Fire Brigade said. The cause is being investigated. A fire brigade spokesman added that a sprinkler system helped to suppress the fire.



### 28 : flat, Essex

The alarm from a smoke detector in the kitchen of a flat on 14th floor of a block of 222 flats gave residents early warning on the fire floor and although the building had a stay put policy, a number of residents chose to evacuate. A sprinkler operated in the flat of origin and extinguished the fire. Automatic ventilation allowed smoke to clear from the building and Essex FRS handed responsibility back to the housing association for salvage of water damage to surrounding flats.



### Warehouse, South Yorkshire

A fire in clothing in the warehouse area of an Asda supermarket activated the sprinkler system and by the time crews arrived the fire had been extinguished. Damaged was confined to around 2m<sup>2</sup> and estimated to be at £400. There was some business interruption of a few hours. This is in stark contrast with other shop/warehouse fires that have resulted in substantial losses (especially the recent B&M fire).



### Bradford Textile Engineering Works

Following a fire in a Bradford textile engineering works which originated in a refrigerator, the sprinkler system activated and all but fully extinguished the blaze. Due to the amount of wood, acetylene cylinders, the works van, gas forklift etc. inside the building they believed it was possible the building could well have been lost if not for the sprinkler system.

# IF ONLY ...

**AUTOMATIC FIRE SPRINKLERS  
HAD BEEN FITTED**

## Endangered building gutted by fire

An Grade II-listed mansion built in 1869 has been “completely gutted” after a fire tore through the derelict building in Lancashire. Horncliffe Mansion was originally built as a private dwelling and although it had been derelict for a number of years it was previously used as a retirement home, wedding venue and restaurant.

A spokeswoman for the Victorian Society said the building had been nominated to be featured in the group’s Top 10 Endangered Buildings campaign. She added: “But of course now it is too late as the interior looks as though it has been completely gutted and the historic fabric has been ravaged.”

## School fires still creating chaos in communities



courtesy of Greater Manchester FRS

2019 marked the ten year anniversary of a devastating fire at Thomas Fairchild School in Hoxton, London. At the height of the incident, 15 fire engines and more than 100 firefighters attended the scene and crews remained at the school for more than 10 hours.

The school was closed for almost three years after the fire while it was rebuilt and the school’s 300 pupils were schooled at two different locations.

This year alone, London Fire Brigade have attended 57 fires in schools in the capital and shocking new figures released by the Brigade show that not a single school had an automatic fire suppression system (AFSS) fitted.

**“We want sprinklers to be mandatory in all new school builds and for all schools to be retrofitted with sprinklers during major refurbishment” LFB**

Charlie Pugsley, Deputy Assistant Commissioner for Fire Safety, said: Millions of pounds are wasted every year repairing fire damage in London’s schools when the sprinklers could have prevented the spread of fire.

“This is not just about saving money; when a school is closed it disrupts a child’s education, impacts on the local community and affects parents by closing breakfast and after school clubs.

I find it staggering that such a simple safety measure is so easily omitted from the designs.”

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## BAFSA Design Courses

In June this year BAFSA began delivering a suite of Design Courses to tie in with the LPCB Examinations and Reviews for LPS 1048 Companies, the courses are also open to non-LPS 1048 Companies, however they are unable to sit the examination.

Since June eighty three engineers have taken part in the courses and seventy-six have sat the examinations. The courses have taken place in London, Manchester, Birmingham, Glasgow and Malta.

The courses available are the BAFSA **Basic Sprinkler Design Course**, this course runs over five days with the examination being taken the following week.

The course follows the syllabus for the Basic Design Competence Review and leads to the formal assessment of the competency of designers to design sprinkler protection using pre-calculated design principles and water supplies.

It is recommended that the engineer has some experience in the sprinkler industry and is familiar with the principles involved in sprinkler system design and the terminology involved.

The next course is the **Fully Hydraulically Calculated (FHC)**, which follows on from the basic course and runs for four days and is followed by a two day examination and review.

The **Intermediate Course** lasts for two days and is followed by a one-day examination.

The **Inspectors and Commissioning Course** consists of two days input followed by a one-day examination and review followed by a practical commissioning examination on one of the candidate's own live projects.

At present those who are not LPS 1048 Scheme Members will receive a Certificate of Completion at the end of each course. However, it is planned to issue CPD Certificates for future courses in 2020.

Since commencing the courses, each one has been fully booked and in some cases over-subscribed, in particular the Basic and FHC Courses.

We are currently planning our programme for 2020 and will be sending it out to all Members before the end of November 2019.

Members are advised to book up early for all courses in order to ensure you get a place on the course of your choice.

## From the sprinkler head

A ROUND-UP OF NEWS FROM BAFSA & ITS MEMBERS

### Wembley Park regeneration project

A SUSTAINABLE AND SOCIAL NEIGHBOURHOOD



The Wembley Park regeneration project in North West London covers 85 acres and includes the SSE Arena Wembley, 7,000 new homes, 8,640 new jobs, 7 acres of parkland and communal sky gardens. The residential spaces are designed to be multi-purpose where living, working, playing and entertainment are part and parcel of the urban community. The newly built high-rise complexes have been purposeful designed to enhance social value, creating a vibrant, sustainable and social neighbourhood.

110 of Project Fire's residential Zonecheck's, a compact CPVC flow-switch testing device, were installed across E03 and E05 residential areas. E03, or Canada Gardens, includes 750 new homes, 25% of which are affordable housing... The complex is home to the tallest building in Wembley Park. E05 has 458 new build apartments with 25% specifically built for families, the largest number in Wembley Park. The project includes coffee bars, sofa areas, shared kitchens, dining areas, work pods and sun terraces.

All buildings within E03 and E05 are connected via ground level communal gardens

and employment spaces. Shared areas and multi-purpose residential buildings are part of the wider Wembley regeneration master plan to create inclusive and close-knit communities across Wembley Park.

J&J Fire Engineering have an impressive resume of working on projects with a strong focus on sustainability, most notably their recent work on IKEA's Greenwich BREEAM 'Outstanding' store, and their part in the Wembley Park regeneration is no different.

The mixed-use developments in E03 and E05 include wet and dry risers, water supplies, commercial sprinkler and ordinary hazard systems as well as residential sprinklers. The 110 residential Zonechecks are installed throughout the risers to enable remote flow-switch testing on each floor with no disruption to tenants.

The Project Fire development team designed this latest product to provide a low cost and easy-to-use solution for residential properties that overcomes the typical space restraints associated with these types of buildings.

Project Fire  
Projectfire.co.uk

## From the sprinkler head

A ROUND-UP OF NEWS FROM BAFSA & ITS MEMBERS

### Protecting St Francis Tower

THE 3RD TALLEST BUILDING IN IPSWICH

The 16 storey St Francis Tower, originally named Franciscan Tower, comprises 116 flats, and stands at 172 feet tall. The building was built in the early 1960s in a modernist design with eight flats on each floor. The project was not well received and in the 1980s and 1990s the development was partially revamped, and the rest was destroyed, eventually the all concrete building was re-cladded and renamed to St Francis Court in the 1990s. As a result of Grenfell, tests were undertaken on the external cladding and it proved to be unsafe. After meetings between the building management company (BMUK) and Suffolk Fire & Rescue Service, it was agreed that the cladding would be removed.

Nationwide won the contract to provide a turnkey service to design, install, commission and handover a new life safety system within the premises".

A dedicated Tenant Liaison Officer was appointed for the duration of the project giving a single point of contact to address concerns too, co-ordinate flat availability and keep all involved parties up to date.

To allow a quicker install with a minimal amount of disruption NFS opted for the use of sidewall sprinklers - sprinklers which are fitted on the wall and hidden in boxing as opposed to ceiling fixed. This method is popular on projects of this type due to the reduction in



coring that would be needed to drill through solid concrete floors. Sidewalls offer the same high level of protection and are either concealed in bespoke surface fitted trunking or cored through the flat walls, showing only a flush fitting cover-plate.

Surface fixing in projects of this nature overcome a variety of issues; installation time is decreased, no risk of compromised fire stopping as a result of excessive drilling/coring, white plastic trunking is unobtrusive and, importantly for projects with tenants in residency, disruption is minimised.

Without compliance a life safety system is of little value to either the client or the tenant. As would be expected the system was designed, installed and certified to BS9251:2014 and be FIRAS accredited and the works were completed in 12 weeks.

Nationwide Fire Sprinklers  
nationwidefiresprinklers.co.uk

### Sprinklers take centre stage

IN EXCITING NEW ENTERTAINMENT SPACE



With internal flexibility now a core demand of so many new building projects, the design and delivery of the new Riverside Studios in London has successfully managed to combine a range of entertainment options into a new exciting space. This new build, on the banks of the River Thames, has been carefully designed to offer a free-flowing area that can be transformed to meet any demands for theatre, studio, cinema, music, dance, comedy, art, comedy, art, events or hospitality needs.

In a development of this nature, fire protection becomes even more of a focus of attention and Grundfos Pumps worked in collaboration with Vipond Fire Protection to deliver the required solution.

Every building in the UK needs to comply with a designated fire hazard criterion that relates to the building usage, these are defined by a relevant insurance body and relate to the combustibility rating of the items within that building. The demand in this instance was classified as an OH 3 which encompasses buildings with a highly combustible load and this demand is now being managed by Grundfos OH3 electric fire sets, supported by control panels, a jockey pump, that work in tandem with a 16-channel remote alarm panel.

So, with lights, cameras and plenty of action guaranteed, Grundfos are pleased to provide the quiet assurance, that should the need arise, the fire demands will be covered.

GRUNDFOS  
grundfos.co.uk/fire

### New hospital in Finland

PROTECTED BY HIGH PRESSURE WATER MIST

Marioff have announced it will deliver and commission a HI-FOG high pressure water mist systems for the new Päijät-Häme Central Hospital in Finland in the first half of 2020. The new building is under construction and parts of the current hospital structure, built in 1976, will be replaced. The HI-FOG system will protect the entire 33,600m<sup>2</sup> building, including wards, operating theatres, ICU and clinical labs and is supplied with a HI-FOG electric pump unit and 2,300 sprinklers.



MARIOFF  
marioff.com

## From the sprinkler head

A ROUND-UP OF NEWS FROM BAFSA & ITS MEMBERS

### TYCO® Rapid Seal Adapter

THE SIMPLE SOLUTION FOR VITAL PROTECTION



The new TYCO® Rapid Seal Adapter from Johnson Controls offers an effective, easy-fit method for installing sprinkler heads into piping systems – making it simpler, faster and more cost effective than ever to install potentially life-saving equipment.

With an innovative straight-thread design, the Rapid Seal Adapter allows for a quick, leak-free installation of sprinkler heads into the pipe, without the need for thread tape or sealant – helping to save valuable time and money on the jobsite.

A 100% CPVC sprinkler head adapter, manufactured with Lubrizol BlazeMaster® compound, the Rapid Seal Adapter features no brass or lead – eliminating the need for dezincification in hard water applications and ensuring compliance with governmental standards for low-lead equipment in plumbed sprinkler systems.

The Rapid Seal Adapter's versatility and compatibility across all system components makes it suitable for use with a range of sprinkler configurations, including 90° elbows, straight adapters, and spigot options.

Rapid Seal is also UL, C-UL, FM, NSF/ANSI, and LPCB certified, and is covered by Johnson Controls' industry leading ten-year limited warranty, giving building owners complete confidence in their sprinkler installation.

The task of protecting people and property from the effects of fire is incredibly important, but it needn't be complicated. With the new TYCO® Rapid Seal Adapter, vital fire protection is as simple as turn, tighten, done.

Johnson Controls  
tycofpp.com/rapidseal



### Dry Riser test pump set

MANY ADVANTAGES OVER COMMONLY USED SOLUTIONS

Following a special customer request, and some subsequent design tweaks, Sale Engineering (SEP) is now able to offer Dry Riser test pump set utilising the Grundfos CRi1-23, a single-phase 230v vertical multistage pump, just 1.1kw yet capable of producing up to 14 bar pressure – more than enough to satisfy 12 bar pressure/leak testing. This design offers several advantages :

- Pressure switch ensures pump runs only to your pre-determined set pressure, cutting in again only if required
- No need to carry, manoeuvre and start (or try to!) heavy petrol-driven pumps
- Pump set can be fed by vehicle-mounted water tank or external supply
- No need to remove pump set from vehicle to carry out testing routines
- Test sequence can become a one-person task instead of multi-person
- Increased reliability and easy maintenance using off-the-shelf parts familiar to most fire sprinkler engineers
- 1" and 2" outlets allowing feed into 1" drain or 2" push-on fitting, whichever is preferred or available

SALE ENGINEERING  
firesprinkler.co.uk



We would like to set the record straight and ask you to note that in the BAFSA 2019/2020 Yearbook these three BAFSA Members' contact details were incorrect and should have read as follows:

#### CMT Engineering Limited

Corngreaves Road, Cradley Heath, West Midlands B64 7DG  
Tel: 01384 563200  
Fax: 01384 563225  
Email: sales@cmt-engineering.co.uk  
Web: cmt-engineering.co.uk

#### Integr8 Building Services Ltd

203-205 High St, Orpington, Kent BR6 0PF  
Tel: 01689 422 423

Email: enquiries@i8.london

Web: i8.london

Facebook: /Integr8 Building Services Ltd

Twitter: @integr8london

Instagram: @integr8.london

LinkedIn: integr8london

#### Project Fire Products Ltd

Pasturefields Industrial Estate,  
Pasturefields Lane, Hixon ST18 0PH  
Tel: 01889 271140

Fax: 0845 2800116 (efax)

Email: andrew.fisher@projectfire.co.uk

Web: projectfire.co.uk

LinkedIn: linkedin.com/in/  
project-fire-4a4523167/

Forum: ww.safe4or.life

Twitter: @projectfireltd

## Significant milestone

FOR AN ORGANISATION WHICH IS GROWING AND LEARNING

It has been more than 12 months since CMT Engineering completed the acquisition of International Tube & Fittings (ITF) and in that period the organisation has grown and learnt with the help of its customers achieving a significant growth in business. CMT has increased stock levels significantly and expanded the stock profile to better reflect demands whilst endeavouring to ensure there is a constant flow of products available for customers.

CMT Engineering  
cmt-engineering.co.uk

## From the sprinkler head

A ROUND-UP OF NEWS FROM BAFSA & ITS MEMBERS

### Full bore drain model

DESIGNED FOR THE CPVC RESIDENTIAL MARKET

The recently launched Zonecheck is designed specifically for the CPVC residential market to offer a low cost solution that is easily installed into smaller residential risers and voids. The carefully considered, compact footprint of the product has been designed with two applications in mind - a flat model for tight voids and a narrow one especially for riser cupboards.

As a specialist manufacturer Project Fire often holds technical discussion sessions with their customers and industry experts, and in order to improve and develop solutions to better meet the industry's needs, it was decided to add a full bore drain version to the existing line up. Each model can now be supplied with either a 15mm or full bore drain, this allows further maintenance requirements detailed in BS9251 and BS EN 16925 to be carried out easily.

Project Fire  
Projectfire.co.uk



### Right at home with FireSAFE

COMPACT, CONSUMER AND INSTALLER FRIENDLY

The Grundfos FireSAFE domestic range delivers a compact, consumer and installer friendly response to the growing demand for domestic fire suppression systems as well as meeting the legislative demands that new homes in Wales must meet.

Designed to ensure flexible installation and easy maintenance, these models comply with BS9251:2014 and are WRAS approved. Each unit comprises of a dedicated controller and Grundfos CM pump mounted in a tamper resistant metal enclosure. The enclosure comes in two sizes, both of which are dimensioned for easy installation in domestic environments.

This range can be used in a variety of domestic installations including houses, apartments, sheltered and student accommodation, care homes and small hotels. Larger properties could benefit from specifying larger FireSAFE Residential products.

Offering a great range of features such as simple installation and commissioning, a compact size, minimal maintenance, combined with their advanced system controller and in-built self-test makes these the ideal solution in many situations.

Grundfos Pumps  
grundfos.co.uk

### Better service & stronger relationships

Following a period of exceptional growth over the last 18 months the shape of one of BAFSA's newest members, Integr8 Building Services Ltd (i8) has changed in a very positive way. To enable us to better service our customers and build stronger relationships, additional members to the team over the last quarter of 2019 have included a design managers and 4 new design team members; 11 personnel in the Projects team plus a commercial director and a pre-construction director.

i8 have completed several high profile contracts including the ICL White City Campus and Universal Music in Pancras Square and currently has more than 7 major contracts underway in London and surrounding counties.

The company not only has a commitment to commercial competency and success but also is passionate about its social



The ROYAL MARSDEN  
NHS Foundation Trust



responsibilities supporting The Royal Marsden Hospital, the Purple Community Fund and Prostate Cancer UK.

Integr8 Building Services  
i8.london

## From the sprinkler head

A ROUND-UP OF NEWS FROM BAFSA & ITS MEMBERS



### Sprinklers save the day

John Newman of Residential Sprinklers Wales (RSP) has told us of a kitchen fire, which also set off the gas boiler, extinguished by one sprinkler. The Fire and Rescue Service took 25 minutes to get to the location during which time the fire would have undoubtedly destroyed much of the property. In fact damage was limited to the kitchen area.

RSP Wales  
sprinkler.wales



### Tragedy averted in Manchester

A blaze caused by an elderly resident who had been smoking in bed in his flat in Manchester's Barton Village was extinguished by the sprinkler system which responded as designed, dousing the fire, saving the resident's life and preventing the fire from spreading within the 57-flat, 10-storey tower block. The resident reportedly suffered minor burns; no one else was injured.

The fire was quickly extinguished thanks to a retrofit fire protection system installed in 2018 by Protect24 using BlazeMaster® CPVC piping and fittings and Springhead Sprinklers Ltd.

The property's residents were involved with the retrofit project from the start. Property management provided a liaison programme that helped them understand the need for the project, the work schedule and the minimal inconvenience it would cause; and offered the ability to ask questions prior to and during the schedule.

Less than two years after that programme was initiated and the work completed, it's a given that all involved are thankful for the property management investment in a sprinkler system – truly a life-saving act.

BlazeMaster CPVC is proud of the role it played in saving a life at Barton Village and in protecting life and property at many other new construction and retrofit projects throughout the UK and Building management spokesman, Mark Lowe, Assets Director, ForHousing Group confirmed "This single situation has made the investment worthwhile."

Lubrizon – Blazemaster  
blazemaster.com

### Successful seminar in Rochester

Over 80 delegates, from 4 counties attended the first seminar to be held in Kent by BAFSA for more than 10 years. Hosted by Kent Fire & Rescue Service in their Kent Road Safety Experience, the seminar's dynamic programme kept the audience of Housing Associations, Local Authorities, BAFSA members and Fire & Rescue colleagues in their seats from start to finish.

With a theme of "protecting our communities from fire" thought provoking and original presentations were made by Paul Grimwood of Kent FRS: "Travelling fires in large open plan spaces"; Waste & Recycling

– the FRS perspective delivered by Gary McRobb, National Tactical Adviser (TACAd Waste) and to close the day, "Choosing to install sprinklers to protect our residents": Sarah Watkins, Places for People.

15 delegate chose to stay on and discover Kent FRS' Road Safety Experience which uses powerful stories, exciting interactive experiences and information from experienced road safety experts to encourage young people to look at the potential consequences of a road accident from all perspectives – and to provide essential road safety skills for all.



Another well received demonstration of the effectiveness of sprinklers

# A Skillcard for Fire Sprinkler Installers

SKILLcard stopped accepting new applications for the Fire Sprinkler Installer CRO card in June 2019 with new applicants able to apply for a blue SKILLcard for which the Level 2 Certificate in Fire Sprinkler Installation qualification is available. Existing card holders can, at this time still renew their Fire Sprinkler Installer CRO card. This renewal route will close on 31st January 2020. However, when considering renewal, cardholders should choose to undertake the new qualification which will enable them to apply for a blue SKILLcard.

However, BAFSA remains keen to continue its journey into education and is not resting on its laurels. In August Dame Judith Hackitt's Building a Safe Future Review Report was released and Point 29 of the Executive Summary is an area where BAFSA has already recognised, invested significantly and developed and introduced the following:

- Third Party Certification of Companies
- Level 2 qualification (Certificate in Fire Sprinkler Installation)
- Industry Skillcard for Fire Sprinkler Installers supported by L2 qualification

So, whilst we may pause and reflect on the successful development work undertaken, none of us should not become complacent as there is further work to be done, particularly in embedding the qualification in the minds of those in senior management positions who have the responsibility of training and development of the workforce in their remit.

With the long awaited introduction of the new blue Skillcard for fire sprinkler installers there is a requirement for the applicant to hold a Level 2 qualification (Certificate in Fire Sprinkler Installation).

The introduction of this new Skillcard and the phasing out of CRO cards is happening in order to deliver the Construction Leadership Council's (CLC) 2025 vision. SKILLcard is a partner card scheme of CSCS and is authorised to carry the CSCS logo. SKILLcard is committed, alongside all CSCS partner card schemes, to deliver to the Construction Leadership Council's (CLC) 2025 vision. As a result, card schemes carrying the CSCS logo including SKILLcard, must only certify those occupations with nationally recognised construction related qualifications, i.e. Level 2 Certificate in Fire Sprinkler Installation.

For further insight into the work undertaken by the BAFSA Skills & Development, along with vital information regarding available courses, visit <https://www.bafsa.org.uk/skills-qualifications/>

For further information on the Skillcard please visit: [skillcard.org.uk/search?search=fire%20sprinkler](https://skillcard.org.uk/search?search=fire%20sprinkler)



Whilst we reflect and consider the above it is worth remembering that BAFSA requires continued input from members to ensure that the members vision remains at the heart of future developments.

Looking forward to 2020 thought needs to turn to Continuing Professional Development and ensuring that those competent engineers have opportunities to maintain their competence.

We recognise that these projects will take time and there is no quick fix when addressing either workplace competency or recruitment requirements and, if BAFSA is to ensure that these project developments are meaningful and to be of value to the sector, then it is important that time is taken to have the necessary discussions with industry representatives. Should you wish to be involved in these discussions then please contact [qualifications@bafsa.org.uk](mailto:qualifications@bafsa.org.uk)



# Calendar

## 2019 NOVEMBER

26 : seminar, London  
*BAFSA with London Fire  
Brigade*

## 2020 FEBRUARY

26 : seminar, St Ives  
*BAFSA with  
Cambridgeshire F&RS*

## MARCH

18 : seminar, Stone  
*BAFSA with Staffordshire  
F&RS*

## JULY

1 : BAFSA Golf & Challenge  
Day, Mottram Hall

## SEMINAR DATES TO BE CONFIRMED

Dorset –  
*BAFSA with Dorset &  
Wiltshire F&RS*

Lancashire  
*BAFSA with Lancashire  
F&RS*

Wales

Scotland

For more information go to  
[bafsa.org.uk/events](http://bafsa.org.uk/events)



It is 0630, the alarm has gone off and I am up and making a cup of tea, ready for the day ahead. I have already spoken to my assistant installer and told him I will be over in the van in 15 minutes to pick him up and head over to the job.

I have also doubled checked that I have the Risk Assessments and Method Statements (RAMS) along with the drawings in the van. Today we are starting a new job so need to be on site by 0800 for the Principle Contractor's Induction immediately followed by the M&E Contractor's Induction. This will probably take up the first morning of the job, but provides us with essential information regarding the location of the Fire Alarm Assembly Points as well as the Environment, Health & Safety Rules and Regulations for the site and where the Site Amenities are located.

Inductions finished, I have received a call from our delivery driver – he is near site and just calling ahead to ensure we have an area prepped for him to drop off the materials and pipework for the project. I managed to get a chat with the Site Manager prior to leaving the site cabins and he showed me where they have arranged for us to make a "lay down" area for our materials and pipework. There is also an area with power for our screwing machine.

Once the materials arrive, I must check what has been delivered matches the delivery note making sure that nothing has been missed off. I have also just had a call from the hire company with the good news that our mobile elevating work platform (MEWP) is going to be delivered today.

Next up I go on to the site and walk the pipe routes with the drawing and just check everything is going to go in as planned and I can begin marking out our starting points. Working in close proximity to other trades, I must have close communications

with the other contractors' site supervisors. The drawings we get are co-ordinated at design stage back in the office but there are often slight modifications that are required on site to ensure all services fit in the best possible way.

If a major deviation from the drawing is highlighted then I need to notify either the Contracts Engineer or the Design Engineer in the office, as the designs I have on site have been submitted for approval to the client and have been accepted.

Any changes to the proposed design need to be recorded and approved by the client before any works can take place as there could be cost implications associated with the modifications.

While I am walking the job looking at the drawing, I have asked my assistant installer to pull out the brackets and start making them up, this will mean cutting Unistrut and Screwed Rod and making them up with Nuts and Filbrows as per the designers bracket sketches on the drawing. When I have completed my walk around it is time to get on the MEWP and start installing the brackets and mains pipework, ensuring all bracket locations are as per the drawings.

It's now coming up to 1630 and end of the working day for us. Before we leave site we must ensure all our tools are packed up and in the site tool box which is to be locked so all our tools are safe; ensure the work and lay down areas are tidy; move our MEWP to a suitable location and chain this up for the night - as well as ensuring I have put it on charge so it is ready for the following day.

Before we leave site, it is also important that we sign out, following the signing in and out procedures set out in the earlier induction.

And homeward bound for a welcome end of day cup of tea.

# Historic buildings burnt to the ground



## Galleries & libraries destroyed by fire



## Sprinklers protect our heritage from fire

British Automatic Fire Sprinkler Association

**bafsa**

Preserving our treasures for future generations

[bafsa.org.uk](http://bafsa.org.uk)

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