

# sprinkler focus

British Automatic Fire Sprinkler Association

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NOVEMBER 2022

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sustainability



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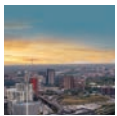
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In these times of political unrest and economic instability, we hope you will find this issue packed with consistent evidence and informed argument for fitting automatic sprinkler systems in order to save lives and communities; support business resilience and protect the environment whilst safeguarding firefighters.

*Keith*



Keith MacGillivray MBE MA BSc  
Chief Executive  
BAFSA

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British Automatic Fire Sprinkler Association

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# JOHN McCANN

## 1956 - 2022

It was with great sadness that BAFSA learned of the sudden passing of their Chairman John McCann on August 23rd, 2022, in Ballycastle, Northern Ireland.

John is survived by his sister Mary and brother-in-law Mickey. John's funeral took place in St Patrick's and St Brigid's Church in Ballycastle on 1st September 2022 and was attended by many friends and colleagues from the sprinkler industry in both the UK and Northern Ireland where John started his sprinkler career at the age of sixteen.

John had retired from Vipond Fire Protection Ltd only weeks before his passing and sadly never fully realised his dream of retiring fully to Ballycastle in Northern Ireland and completing the circle of going back to where he started in the 1970's. After working in Northern Ireland, John had moved to Canada and started with Vipond International where he remained for a few years, before moving to Scotland in 1998 to lead the purchase of A&A Fire, this was followed by the purchase of another sprinkler company in Ireland and in 2000 the businesses were renamed Vipond Fire Protection.

At that time the business employed just over fifty full time staff and had a turnover of a few million pounds. John took the turnover to over twenty million pounds and employing one hundred and twenty staff and indirectly another forty.

It was the training of new employees and providing work in the local area that gave John the most pleasure in the industry. He was also able to spot emerging talent in the industry and assisted many people to further their careers in sprinklers. John became the Chairman of BAFSA in 2015, and from the very start he had two main aims, to ensure it remained financially secure and to deliver more training to its Members. I was delighted that John gave me the opportunity to take this forward and we now have a successful training programme, and the Association is on a firm financial footing.

In my last conversation with John, he was telling me how much he had enjoyed touring the Highlands of Scotland with his sister and brother-in-law and now he was settling into living in Ballycastle, however he said he would have to buy a dog as everyone he met seemed to be walking their dogs and he felt a bit out of it. Sadly, John never got his dog, Rest in Peace John McCann.

*Keith MacGillivray, Chief Executive BAFSA*



# From the CE's desk

It was good to get together with over 220 BAFSA members and guests at our AGM, Meeting and Dinner at Marriott Forest of Arden in early November. This was our first face to face AGM and Dinner since 2019 as Covid had prevented us meeting for the last two years.

It was also a great opportunity to introduce Alasdair (Ali) Perry our new Chief Executive.

After a very successful recruitment campaign which attracted over 46 applicants, BAFSA Council Members interviewed and selected Ali from a very competitive short list.

Since our last face to face AGM, BAFSA has gone from strength to strength and embraced online technology for many of our meetings including the AGM. We have also done more online training courses; this was caused by necessity however it is likely that much of our training will continue in this mode. BAFSA's training for installers and designers has carried on almost uninterrupted and thanks to the good work done by Ruth Oliver and Alan Crichton our courses are now all available online. Whilst writing, I would like to thank all of the BAFSA team members for the excellent work they have done over the last year.

From early next year our new Chief Executive, Ali will be in post and he will be working with BAFSA Council to produce a new five-year plan for BAFSA and I would encourage all Members to let Council know the direction of travel you wish your organisation to take?

We are keen to see BAFSA continue to grow and we are aware that there are more Third-Party Accredited installers out there who we need to encourage to join BAFSA for the benefit of the industry and of course to ensure that people, communities, businesses and the planet are robustly and sustainably protected from fire by water based automatic fire suppression which is designed, manufactured, installed and maintained to the highest standards.

**KEITH MACGILLIVRAY**  
MBE MA BSC  
CHIEF EXECUTIVE

"I am absolutely delighted to have been appointed as the next Chief Executive of BAFSA. As I retire from the Fire Service after 28 years, I can think of no better way to continue my passion for improving fire safety than as BAFSA's CE. The current position of strength the association finds itself in is testament to the work of people such as Keith McGillivray the current Chief Executive, Stewart Kidd the previous Secretary General and the late Chair John McCann.

I look forward to continuing this good work and maintaining BAFSA's focus on fire suppression systems and preserving the strong reputation of the association. I will also focus on continuing the long history of BAFSA's work in delivering quality and improving awareness of the benefits of sprinklers. In addition, I will lead BAFSA in campaigning, influencing and advocating for expanding the legislative requirements for sprinklers in the built environment.

Most of all I look forward to working with members and stakeholders to ensure BAFSA continues to strengthen and improve fire safety across Britain."



**ALASDAIR  
PERRY**



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## 2023 BAFSA Council

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ROGER BRASON  
South Yorkshire Fire & Rescue  
Installers



# Think sprinkler... Think environment sustainability



**Nick Coleshill**  
**BAFSA Sprinkler Ambassador**

UNTIL I READ an online article which identified the environmental benefits of fire sprinklers, the green credentials of sprinklers, never crossed my mind. On reflection, this is a very powerful argument that is under used to promote the benefits of fire sprinklers especially considering the recent United Nations climate change conference held in Glasgow in 2021.

On a regular occurrence, images from major fires across the country are published on social media and television, focusing predominately on both fire appliances, firefighters tackling to extinguish, control the fire, along with managing the large smoke plumes, generated predominately from Industrial and commercial fires.

Our immediate reaction is the financial and physical costs, the impact of losing the contents of the building, business disruption and jobs. The incident is then soon forgotten, old news lost in the cloud. However, do we ever consider the adverse consequences on our natural environment:

- Air contamination from the fire/smoke plume and the impact it will have on land and water courses.
- The impact of fire service firefighting activities, specifically the water run-off from firefighting hoses/jets containing toxic products
- Other environmental discharges or released from burned materials.

At what cost will this have on the environment with the disposal of the contaminated materials by a specialist contractor, the unnecessary waste, the use of resources to rebuild destroyed buildings and the creation of unnecessary carbon emissions.

Carbon is the greenhouse gas with the highest levels of emissions in our atmosphere. The gases absorb solar energy, keeping heat close to the earth's surface, rather than letting it escape into space, which is known as the greenhouse effect.

The impact of carbon emissions on the world should not be underestimated. We are seeing more extreme weather events taking place around the world. Icecaps are melting, sea levels rising alongside unprecedented global wildfires.

The social, community and environmental impacts of fire are far reaching. For example, the tragic chemical warehouse accident at the Sandoz facility in Switzerland in November 1986 described in the Marlair et al research paper<sup>1</sup>. This incident caused major emissions of pollutants to the air; the main environmental impact however was through the emission of toxic chemicals to a nearby water course.

The fire & rescue services (FRS) are fully aware of the environmental impacts of fire publishing sustainability, environmental reports with further guidance published by the government on environmental protection, providing further guidance for FRS on preventing and dealing with incidents with the potential to pollute.

Active fire protection systems, specifically Automatic Fire Suppression Systems (AFSS) should be seen as part of a holistic approach minimising fire damage as part of a greener approach from the fire sector which is currently overlooked.

Fire sprinklers have been proven to have a good track record in reducing the impact of fire. The most recent UK research was commissioned by The National Fire Chiefs Council (NFCC), National Fire Sprinkler Network (NFSN) and supported by BAFSA in the

publication, "Efficiency and Effectiveness of Sprinkler Systems in the United Kingdom: An Analysis from Fire Service Data"

Across all premises types: -

- Sprinklers are 99% efficient in extinguishing or controlling a fire
- Sprinklers are 94% efficient in their ability to operate

The Business Sprinkler Alliance commissioned Bureau Veritas to complete a report<sup>2</sup> into the environmental and community impacts in the events where fire sprinklers are installed, and not installed in industrial and commercial buildings. These reports focused predominately on the carbon life cycle assessment of fires in these types of premises.

The methodology, research was conducted through:

- The collation of case study fires
- Reviewing and evaluating relevant research reports and fire incident data
- Interviews and discussions held with various departments, FRS and scientists in this field

The outcome of the report identified that there are a range of environmental and community benefits that come from installing fire sprinklers in these types of premises in England and Wales. These include:

- Water use, if fire sprinklers are installed and activated by a fire, the quantity of water used to fight a fire is 0.02% to 17% of the quantity that would be used if sprinklers were not installed and a fire to occur.
- Annual water use for firefighting would fall to 4,368,000 liters per year
- Reduction of carbon emissions from between 144,000 to 348,000 tonnes of CO<sub>2</sub> a year.
- Installing sprinklers over the 30-year life span of the building, net carbon benefit in buildings greater than 5, 000-10,000m<sup>2</sup>

### Smaller dwelling fires

So, what are the key credentials of installing fire sprinklers in a domestic setting? The Home Fire Sprinkler Coalition commissioned FM Global to complete a report<sup>3</sup> focusing on a number of full-scale fire tests comparing the environmental impact of sprinklered and non-sprinklered home fires using identically constructed and furnished residential living rooms.

In one test, fire extinguishment was completed by FRS intervention. In the other test, a single residential fire sprinkler head controlled the fire until final extinguishment was achieved by the FRS.

It was identified that the use of fire sprinklers:

- Reduced, greenhouse gas emissions by 97.8%
- Water usage reduced between 50% and 91%
- Reduction in Pollutants, such as heavy metals found in sprinkler water run off compared to fire hose water
- High pH level, pollutant load of non -sprinkler wastewater

It is a well-known fact: fire sprinklers provide life safety and limit property damage as well as protect firefighters. This report identifies that fire sprinklers can also play a key part in achieving sustainability with their green credentials.

As part of our goal to make the presence of sprinklers the norm, not the exception should we not be promoting the wider ranging benefits of installing fire sprinklers namely reducing the effect of greenhouse gases.

## Sprinklers are green...

- 1 Guv Marlair-Environmental Concerns of Fires: Facts, Figures, Questions and New Challenges for The Future.
- 2 Bureau Veritas -April 2011, Assessing the role for fire sprinklers – Bureau Veritas -April 2011.
- 3 FM Global, (2010) Environmental Impact of Automatic Fire Sprinklers Report. FM Global Research Division. Sprinklersaves.com

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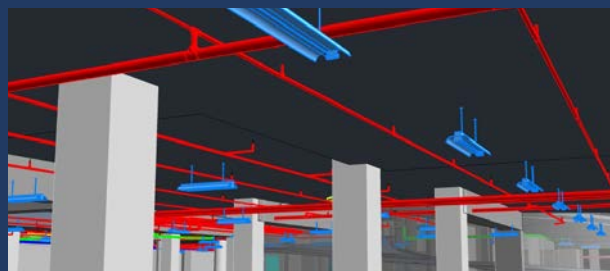
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# URBAN MYTHS AND LEGENDS



RITCHIE O'CONNELL  
BAFSA REPRESENTATIVE IN WALES



As the autumn nights draw in, grey winter skies abound, and the sun is an infrequent visitor it's traditionally a good time to put your feet up, grab a hot chocolate and brush off some favourite scary stories. So, pull up a sandbag and take a seat as we delve into some of the dark and scary myths about sprinklers.

## #1 SPRINKLERS ARE DANGEROUS - THEY CAUSE COLD WATER SHOCK!

A particular favourite of mine, this old chestnut is (thankfully) one of the least repeated of the sprinkler horror stories, it came to light when in the early days of one of the more, shall we say 'innovative' sprinkler alternatives out there, thought the best way to promote their product was to spread horror stories about sprinklers. Imagine the scene... a fire breaks out and our plucky hero tries to make good their escape from a burning room, only for (horror of horrors) the sprinkler system to deluge them with ice cold water sending them into cold water shock and ending their escape bid! ( Spoiler alert, the cold-water shock kills them instantly, that's not really how cold-water shock works but why spoil a good tale with facts).

I had the opportunity to speak to one of the movers and shakers of this organisation about this piece of scurrilous nonsense some years later, they denied that this had ever been part of their marketing,

fortunately I had kept the original flyer and (knowing they would be speaking) 'happened' to have a copy with me, they suddenly remembered an urgent appointment elsewhere and we never quite got to the bottom of it, perhaps this tragic story wasn't true?

## #2 THE FIRE SERVICE DON'T LIKE SPRINKLERS, BECAUSE THEY MAKE THE FLOOR SLIPPERY.

This particular piece of wisdom was imparted to me by a particularly well-informed house-builder at one of the events held by the Welsh Government to inform stakeholders of the (then upcoming) new sprinkler legislation in Wales. A fire service colleague and I attended the event out uniform, and this knowledgeable gentleman decided to regale the table with his wisdom "they[sprinklers] are a ridiculous idea- they don't work half the time, and the fire service don't even want them because they make the floor wet and slippery and they think it just makes everything more dangerous" This was too good an opportunity to pass up! So, I asked who had told him this- apparently it was a fire service person speaking at a previous event has said so and over the microphone! With bated breath I asked for more details, "where was this event? when? Why hadn't the fire service gone public? - 'last week' he replied, 'in the Senedd building, 'they daren't' [go public], 'it's too political but they are dead set against it'. "That's incredible" I said, "was that after I spoke at that



event?" "Did you speak" he asked? (From his expression realisation may have been dawning on him- or possibly it was wind) "Yes, you may remember me I was in uniform at the time- a blue one, with South Wales Fire and Rescue Service written on it," I then went on (possibly at some length - I am nothing if not enthusiastic), about the comparative quantities of water for sprinklers versus firefighting operations and how the firefighters would in a well developed fire enter only after carrying out a door entry procedure which involved squirting water into the fire compartment. At least he enjoyed the buffet. Sadly, I have heard the same nonsense several times since from other sources.

### #3 SPRINKLERS CAUSE LEGIONNAIRES DISEASE

One of the more popular and pervasive urban legends about sprinklers. Its fair to say that standing water at ambient temperatures may well contain all sorts of bacteria- Legionella included, but as we know that the likelihood of contracting Legionnaires is so low as to be negligible, the water droplet size is too large to be inhaled, there is no recorded instance of anyone contracting Legionnaires anywhere in the world from a sprinkler actuation etc, etc. But it's a really good soundbite so it's quite often bandied about by the unknowing or those who for whatever reason are opposed to sprinklers, and facts are so easy to refuse with an earnest 'well I know someone whose auntie/uncle/cousin's hamster died from it.'

When asked why the person would be standing under the sprinkler head – that's where the fire would be- wouldn't they run away the learned sage will often segue into the next myth- they can't because all the other sprinklers will be going off as well - they can't get away from the water!

### #4 ALL OF THE SPRINKLERS WILL 'GO OFF' AT ONCE

I blame Harpo Marx, ever since he used the fire alarm switch to activate all of the sprinklers simultaneously in "A Day at The Races" this has been a favourite Hollywood and TV trope.

We can refute this we like (sucking our teeth and shaking our heads like backstreet mechanics pricing a replacement engine) but the fact is that the silver screen is persuasive and a lot of TV programmes and films portray sprinkler actuation as a big event -often involving all heads in a building simultaneously operating, accompanied by Klaxons and often an escaping hero using the confusion to make good their exit (e.g. James Bond in Casino Royale, the Daniel Craig version of course, David Niven was far too classy for such nonsense).

The situation really isn't helped by companies like Admiral having a TV ad where a hapless individual accidentally sets off the sprinklers in his home with an app on his phone( should have swiped left!). Whilst Admiral have since published an article in their magazine pointing out that this couldn't really happen, I have to wonder about the relative reach of the magazine article compared to their TV advert.

### #5 SMOKE FROM MY TOASTER/ COOKING/ CIGARETTE WILL SET OFF THE SPRINKLERS

Possibly the most widespread of the myths amongst the general public, propagated in part by the TV and movie scenes discussed above, but this is in my experience perhaps the biggest worry for people who are having sprinklers retrofitted, its easy to debunk on a case-by-case basis but doing so requires someone visiting each block of flats/ housing scheme where sprinklers are being installed and speaking to the residents, whilst this role has often been carried out by the Fire and Rescue Services it's something that's not always easy to achieve in these days of diminishing resources.

You may already know the truth about sprinklers, the urban myths are just that - they have no basis in fact. However, I believe it is imperative the sprinkler industry ups its game in terms of debunking the urban myths if we are to make sprinklers, particularly in the domestic and residential market, an aspirational product rather than a legislative requirement.

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# Maintenance problems in water mist systems



STEWART KIDD, SPECIAL PROJECTS ADVISER TO BAFSA AND CHAIR OF  
THE BAFSA WATER MIST WORKING GROUP

WHILE IT IS now widely acknowledged that water mist as a technology is a valuable additional agent in fighting fires in buildings and protecting plant, there are still concerns which may be inhibiting wider acceptance. These can be summarised as:

- The lack of real fire experience when compared with sprinklers where there is 130 years of solid data and experience
- An absence of a corpus of experienced installers with third party certification
- The use of uncertificated equipment, especially nozzles not tested to an appropriate standard
- Unlike sprinklers, water mist systems and their components are not inter-operable (analogous to closed protocol fire detection systems)

The solution to the first three of these problems can be encapsulated in the advice offered by BAFSA which makes it clear what is needed in all installations - not only water mist but all fire suppression systems – is they should meet three tests:

1. The system should be designed in accordance with an appropriate national or international standard.

2. The system components should have been tested and listed in accordance with a specific test standard.
3. The installer should be in possession of third-party certification for the work undertaken.

The fourth problem is much the most challenging.

Over the past three years BAFSA has seen a steady increase in questions from housing providers, homeowners and landlords who have installed pre-engineered water mist packages. Typically, the question put to us is:

*'I live in a flat which is fitted with a water mist system installed by a company which is no longer trading. The system has not been serviced for some time and I don't believe it's working. I have spoken to several fire protection companies but no one is able to help me – the only concrete suggestion being 'rip the system out and start again'.*

In one recent case, the problem is further complicated by the fact the orphan installation is a high-pressure cylinder system. Setting aside the wisdom of installing such systems in flats (where low-pressure water mist or sprinklers will do an equally

good job), there is the thorny subject of the requirements of the Pressure Systems Safety Regulations 2000 and the Pressure Equipment (Safety) Regulations 2016. Many smaller fire protection companies do not seem to be aware of their obligations under these regulations, for example, the need for cylinders to be removed and pressure tested after 10 years.

Mention of legal obligations reminds me of the fact that if a water mist or sprinkler system serviced has been installed for life safety purposes but is non-operational then a criminal offence under Article 17 of the Fire Safety Order (or its Scottish equivalent) has been committed.

Both the owner of the premises and the relevant contractor may share legal responsibility.

Other impacts of the lack of inter-operability can be seen in enquiries from an operator of sheltered housing and a social housing provider. Both had procured high-pressure water mist systems which, after less than 3 years' service, were suffering from leaky nozzles. Neither system owner appears to have been notified that only the system installer should service the systems.



## WATER MIST MAINTENANCE

In both cases there was a legal requirement to maintain the systems and reputable fire protection contractors with LPCB certification were engaged for this.

In both cases it quickly became apparent that replacement nozzles were not available and eventually, when these could not be procured from any source, the original installer was called to site. This resulted in significant claims against the building owners for alleged damage.

This lack of inter-operability which ties an installation to its original supplier generates other concerns, most notably in the costs of maintenance and spares where the installer or system manufacturer is at liberty to charge whatever the trade will bear.

There is considerable experience of this in the fire detection industry where many suppliers only offer closed protocol systems. One well regarded alarm company<sup>1</sup> has written:

However, the major disadvantage of a closed system is that any element of choice has effectively been taken away from the customer. There is complete dependency on one company for spare parts, modification, upgrades, and access to the protocol for servicing. It is often perceived to be the more expensive option as the inability to 'shop around' can put a premium on ongoing maintenance and prevent the customer getting the best deal.

The impact of this lack of inter-operability in water mist systems is generally directly analogous with the problems in closed protocol fire detection systems. However, it is certainly true that having to replace a water mist system will be a much more expensive and disruptive undertaking than replacing a fire detection system where existing cabling (or at least cable routes and conduit) can be re-used.

BAFSA has expressed many times that the intensely proprietary nature of water mist system design is at once an advantage (systems are bespoke to a specific risk) and disadvantage (a building owner is tied forever to one supplier). This, coupled with the ability of the installer and manufacturer to bypass requirements of the published standards via the DIOM remain a significant obstacle to wider acceptance of water mist technology. The fact that some water mist system installers may not be financially secure reinforces the problem.

Many fire systems professionals are increasingly adopting a view that unless a robust certification standard can be agreed and enforced by a credible third party scheme then the undoubted advantages of water mist as a fire suppression medium will never be realised.

Recent suggestions have included the benefits of an equivalent document to LPS 1048 for water mist systems. This could be utilised by the three existing UKAS accredited bodies which can undertake system and installer assessments and provide regulators and insurers as well as end-users with a significant degree of comfort.

## Specialist insurance for the fire safety sector

Like the insurance sector, the fire safety sector is rooted in providing advice and protection around risk – to safeguard people, property and the environment. Whether that advice is effective or not is down to the knowledge and insight of the adviser.

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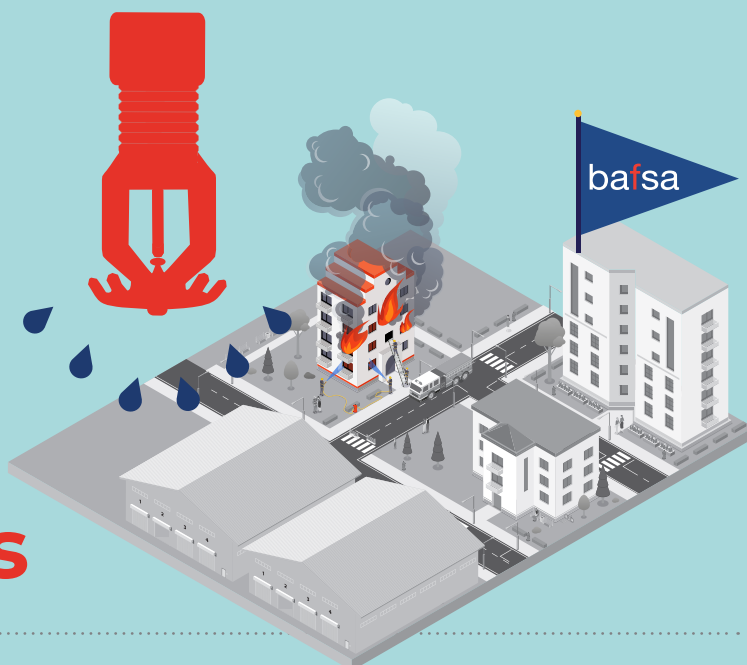


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**BALMORAL**

# Think sprinklers... Think Sprinkler Saves



## MAY 2022



### 1: High rise, London

50% of a balcony and a flat on the 10th floor was damaged by fire and due to the intensity of the fire, the glazing of the bedroom window adjacent to the fire failed allowing the fire to spread internally. Two women left the flat before crews arrived.

One sprinkler head actuated controlling the spread of the fire and London FB firefighters wearing breathing apparatus entered the flat and extinguished the fire on the roof terrace using a main jet.



### 5: Food factory, Cumbria

Cumbria FRS, responding to a fire alarm in a curing factory in Carlisle, identified that an overheated bearing in the conveyor had caught light, creating a series of knock-on events.

One sprinkler head activated which set off fire doors on the conveyor production line preventing fire spread from the compartment of origin.

The fire was extinguished prior to the arrival of Cumbria FRS and the impact on business disruption minimal with an estimated value of damage less than £10,000.



### 16: School, Scotland

This was the third reported school fire involving a malicious act involving the school toilets located in Scotland in the space of 4 months. One fire appliance was mobilised and upon entry, firefighters identified the sprinkler system had extinguished the fire. There was minimal fire and smoke damage limited to the fully enclosed WC toilet.

**BAFSA comment:** "Since 2010 all new built Scottish schools are required to have automatic fire sprinklers

fitted. This is not the case for England, current guidance when first released in 2007, acknowledged the important role of sprinklers and stated that "all new schools should have fire sprinklers installed except in a few low-risk schools". Unfortunately all schools are still not installed with fire sprinklers. The outcome of the Elgin fire could have been so different if this incident had been in England".



### 26: Supermarket, Merseyside

A white goods appliance in a supermarket in St Helens caught light in the early hours of the morning. The commercial sprinkler system actuated extinguishing the fire before the arrival of two Merseyside FRS appliances.

The danger of supermarket fires should not be underestimated. Firefighters in Gloucester were put at risk when tackling superstore fire in 1996 which sadly resulted in the loss of firefighter Fleur Bard... Sprinklers were not fitted.



### 28: Hostel, Essex

Operational crews from Essex FRS attending a fire within the kitchen of a three storey hostel identified that two residential fire sprinkler heads had actuated controlling a fire in the kitchen which was caused by a saucepan that had been left unattended on the hob.

The fire was contained to room of origin and there were no reported injuries. The incident closed within an hour

**BAFSA comment:** "Essex FRS should be applauded for their proactive sprinkler match funding programme, which has contributed funding for the installation of sprinkler systems including in seven housing estates in Basildon and retrofitting a number of high-risk premises".

## JUNE



### 1: Recycling centre, Shropshire

On arrival at the Veolia recycling centre in Bridgenorth, operational crews from Shropshire FRS identified a fire within the recycling wastepaper bay involving 20 tonnes of wastepaper. The sprinkler system had activated containing the fire which was extinguished by crews wearing breathing apparatus using a hose reel jet.

**BAFSA comment:** "These types of incidents are difficult to control and extinguish and demand large amount of fire rescue service resources for long periods with serious risk to public health, the safety of firefighters and local communities."



### 8: Specialised housing, Scotland

A fire on the ground floor of a two storey, 2-bedroom flat was extinguished by a single sprinkler head actuating before the arrival of the Scottish FRS. The fire is believed to have been caused by smoking materials igniting the armchair.

The system was reinstated the same afternoon with alternative accommodation required for the occupant of the flat, to allow for minor repairs to be completed following the fire.



### 11: Hotel, London

A fire involved stacked towels in the basement corridor of the spa area of a seven storey hotel in central London caused the premises to implement its emergency action plan (EAFP) resulting in over 700 guests/staff evacuating the premises.

25 firefighters from London FB attended but two sprinkler heads had actuated extinguishing the fire before their arrival.





### 18: School, Derbyshire

A fire in a room located at the rear of the Glossopdale School and Sixth Form in Glossop was extinguished by the actuation of two sprinklers heads before the arrival of Derbyshire FRS. Two people with minor burns received hospital treatment as a result from the fire.

Three schools in Derbyshire were all severely damaged by fire 2020 and as a result a statement of intent, between DFRS, Derby City Council and Derbyshire County Council, with regard to sprinklers in new-build schools and those undergoing renovation .

**BAFSA comment: "The impact of this school fire was minimal due to the decision at the design stage to install fire sprinklers throughout the school. The agreement between Derby FRS, Derby City Council and Derbyshire County Council is to be applauded."**

## JULY



### High rise maisonette

West Midlands FRS attended a fire in a duplex maisonette on the upper floors of a 1960s purpose-built nine storey block of flats.

The seat of the fire was identified to be within a cupboard containing the hot water tank where clothing had caught light. The fire was contained and controlled by the actuation of one sidewall sprinkler head prior to the BA team extinguishing the fire.

The three adult occupants received precautionary check-ups on scene by ambulance personnel for smoke inhalation but did not require hospital attendance or further treatment. Relatively minor fire and smoke damage spread from the compartment of origin, water egress was minimised due to the prompt action of operational crews isolating the fire sprinkler isolation valve.



### 26: Distribution centre, Cheshire

The chiller trailer of an articulated lorry caught light, causing superficial fire damage to one of the loading bays at a distribution Centre in Widnes.

Three sprinkler heads actuated containing the fire preventing the fire from spreading to the premises and firefighters wearing breathing apparatus extinguished the fire using main jets/hose reels.

To prevent any risk of the fire spreading within the premises operational crews also repositioned the trailer away from the façade of the warehouse and a high pressure fan assisted in clearing the smoke from the incident.



### 6: Recycling centre, Avon

Fires involving lithium batteries are becoming more common in recycling centres due to batteries or electrical equipment containing batteries not separated correctly by residents at point of collection.

Such an incident occurred at the Albert Road Depot in Bristol when a Lithium battery crushed as part of the recycling process causing it to explode and catch light sending debris into the air followed by a secondary explosion and fire spreading to the bales on the conveyor belt.

The sprinkler system controlled the fire as and Avon FRS successfully extinguished it.

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Craig Powell, Bristol Waste

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### 12: High rise, Hertfordshire

A fire on the ground floor of a 17 storey residential block of 94 flats in Watford required the attendance of over 60 firefighters from Hertfordshire FRS. The building's sprinklers activated in the ground floor storeroom and in the two flats directly above the seat of the fire where windows directly above the seat of the fire were open, allowing the hot gases, radiant heat to actuate the sprinkler head(s).

In 2019, Watford Community Housing invested £1.5 million upgrading various fire safety measures in two of their high-rise residential blocks, providing a further layer of safety from fire for its most vulnerable residents.



### 13: Warehouse, South Wales FRS

North Wales FRS responded to an incident where multiple sprinkler head actuations contained a fire involving a commercial conveyor belt transporting materials for granulation at the recycling centre in Wrexham.

The fire was contained preventing fire spread within the building due to the activation of the commercial sprinkler system and firefighting crews extinguished the fire.

Business interruption was reduced to 2 days clearly demonstrating that a relatively minor incident didn't result in a major fire.



### 15: High rise, Kent

15 fire pumping appliances, and 1 x 64m turntable ladder were mobilised from London FB to fight a fire on the external balcony of a five-roomed apartment on the 15th floor of a 19 storey building in St Mark's Square in Bromley. The fire had spread horizontally along the balcony of the adjacent apartment allowing internal fire to spread within the two apartments. It also spread vertically to the sloping roof involving the solar panels. Further fire damage was sustained by two further apartments located on the 16th and 17th floors and the roofing.

Three sprinkler heads actuated within the apartment located immediately adjacent to the seat of the fire on the external balcony with two additional sprinkler heads actuating in the adjacent apartment controlling further internal spread until firefighters extinguished the blaze.



### 16: Distribution centre Buckinghamshire

Buckinghamshire FRS responded to a fire involving a warehouse large enough to accommodate fire football pitches at the Waitrose Distribution Centre

in Milton Keynes. The seat of the fire was established to be an external trailer tractor unit and the intensity of the blaze resulted in the fire spreading to four additional tractor units and the façade elevation of one side of the building. The excessive heat activated a number of sprinkler rapidly reducing the rate of production of heat and smoke within the premises. The blaze was extinguished by the attending crews.

**"There is absolutely no doubt that in this case the sprinkler system, along with the quick actions of our crews, prevented a much more serious fire from spreading any further into the depot and causing potentially millions of pounds worth of damage to both the building and stock inside."**  
Deputy Assistant Commissioner Mark Andrews, Bucks FRS

## AUGUST



### 14: Recycling centre, Hampshire

The baling machine in the solid recovered fuel facility in Fareham which handles bulky materials from household waste caught fire and activated the industrial sprinkler system. On arrival, Hampshire FRS operational crews wearing breathing apparatus extinguished the fire before ventilating the building using ventilation fans to clear the smoke.

Business interruption, was less than three hours in contrast to a previous incident on site when sprinklers were not present, and which took over seven hours to extinguish requiring the attendance of six pumping appliances.



### 20: Entertainment centre, West Yorkshire

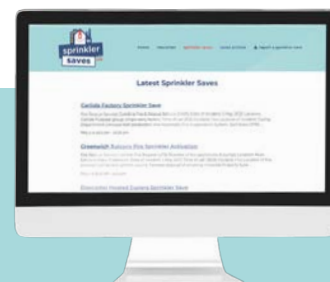
200 people were evacuated from the Gravity Trampoline Park, part of a multi-occupancy entertainment centre in Castleford, when a fire activated the detection and alarm system. When West Yorkshire FRS arrived on the scene they found the fire, which had been started by an electrical appliance, had been extinguished by the actuation of three Pendent Sprinkler heads despite having spread to rubber matting.



### 26: High rise flat, South Yorkshire

South Yorkshire FRS responded to a fire involving an unattended chip pan in kitchen on the 10th floor of a 15 storey block of purpose built flats.

The occupier had fallen asleep, but when alerted by the activation of the premises fire alarm system, had immediately shut the



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kitchen door containing the fire. The heat activated the sprinkler head which controlled the fire before the arrival of operational crews. Upon entry the operational crews extinguished the fire



### 21: Mid rise, London

London FB were called to a kitchen fire involving a chip pan in a newly developed multi storey block of flats in West Drayton. On arrival crews identified that the fire had been extinguished by one concealed residential sprinkler head. No further firefighting media was required to extinguish the fire.



### 27: High rise, London

A fire involving smoking materials result in the activation of the residential sprinkler system in a 1960s, 10 storey block of flats in the London Borough of Hammersmith and Fulham. The flats are located on the upper floors above officer/community rooms on the ground floor. On arrival London FB crews established that the fire was in the living room of a studio flat on the 18th floor. 25% of the flat had been damaged and the occupant required medical attention.

London Borough Hammersmith and Fulham had retrofitted sprinklers as part of a fire safety initiative through their "Fire Safety Plus" programme (Dwellings only).



# WHAT IF ...



In March this year, despite a diligent firefighting response by Nottinghamshire FRS, two people died after a large house fire in the Sneinton area of Nottingham



In February a massive fire tore through a car workshop and a concrete factory on an industrial estate close to residential housing in Ossett, West Yorkshire. Iain Cox, Chairman of the BSA reflected "The disposal of the destroyed 1600m2 building and shoring up of neighbouring properties will cause an adverse environmental impact, while the materials and resources required to repair and rebuild it will incur significant financial costs".



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# A time of rapid change and challenge

**Ronnie King OBE, O.St. J, QFSM**  
**Fire Adviser & Hon. Admin. Sec. – All-Party**  
**Parliamentary Fire Safety & Rescue Group**

**It is now well over five years since the Grenfell Tower Fire Tragedy occurred, with Phase 2 of the Grenfell Public Inquiry having closed on the 21st July of this year. It is expected to reopen on the 7th November 2022, for closing statements, as the Phase 2 report is prepared.**

The All-Party Parliamentary Group's evidence to Counsel to the Inquiry was assembled by myself in a 34,000 word statement, and included 97 related referenced Documents. I have been cleared by Counsel to the Public Inquiry that I can now discuss my Statement and related documents, as they are now publicly available.<sup>1</sup>

As a Group we do feel somewhat vindicated with the apology given to the Grenfell Public Inquiry by Justin Beer KC, on behalf of the Department for Levelling Up, Housing and Communities when he told the Inquiry: "The Department should have done more to take onboard the learnings and recommendations triggered by other fires, including, in particular, its response to the Lakanal House fire and the coroner's recommendations following it".

"Similarly, correspondence from the All-Party Parliamentary Group (APPG) should have been addressed in a timelier manner and with more done to probe the issues raised by it".

Our former Chairman of the Group, the late Sir David Amess MP, wrote twenty one letters to Department Ministers, and was sadly and horrifically killed a year ago, without ever having seen this apology.

The APPG now eagerly awaits the publication of the Grenfell Inquiry Phase 2 report, and its implications for improved consultation between Government Departments and the All-Party Group.

Notwithstanding we will continue to pursue those issues which remain unresolved, and still of concern to the Group. On 12th October 2022, the All-Party Group met with the new Minister of State for Levelling Up, Paul Scully MP, who promised to carry on with the regular meetings we held with his predecessor, Lord Greenhalgh, who had attended all of the All-Party Group's meetings during 2021 and 2022.

Minister of State Paul Scully MP had clearly updated himself on his brief and we had a good thirty minutes discussion on such things as single staircase buildings; the use of timber; automatic fire suppression; EWS1; construction products testing; PEEPS; restoring confidence in the market; maintaining the commitment given by previous Ministers; overlap with the OPSS and Home Office; electrical safety and Lithium-ion batteries. The Minister was made clearly aware of the All-Party Group's commitment to the compelling argument for the benefits of automatic fire sprinkler protection, in residential buildings, care premises, schools and hospitals. He was also advised of the commercial benefits of automatic fire sprinklers in the protection of the nation's wealth and economy; as well as the environmental benefits.

An update on progress was given on The Fire Safety Act 2021 (the Act) which received Royal Assent on 29th April 2021 and commenced on 16th May 2022. The Act amends the Regulatory Reform (Fire Safety) Order 2005 (the Fire Safety Order).

Reference was also made to the Building Safety Act 2022—key provisions and issues. The government introduced the Building Safety Bill (the Bill) to Parliament in July 2021, intending to deliver on the recommendations and principles identified in Dame Judith Hackitt's 'Independent Review of Building Regulations and Fire Safety', and to address acute concerns regarding building safety that arose from the Grenfell Tower fire in July 2017. The government stated that Bill would bring forth 'the biggest changes to building safety regulation in a generation'.

The Bill received Royal Assent on 28 April 2022, resulting in the Building Safety Act 2022 which introduces fundamental reforms to the law and regulation of building safety, which seek to 'secure the safety of people in or about buildings and improve the standard of buildings'.

The Minister was made aware of the Group's wish to be closely involved in contributing to this work, and the ongoing Review of Approved Document B to the Building Regulations. He confirmed that this would be the case.

A constant stream of Government consultations have followed over the past twelve months, and the APPG has worked with its advisers and other organisations to give responses to these consultations.

A delegation of members from the All-Party Parliamentary Group made a visit to Staffordshire Fire Rescue Service last year to see, at first hand, the major progress which has been made in retrofitting automatic fire sprinkler protection to its high rise flats in partnership with the local authority and social housing providers. We were hosted by All-Party Group member and Stoke-on-Trent North MP, Jonathan Gullis together with the Chief and Deputy Chief Fire Officer of Staffordshire and its Deputy Police, Crime and Fire Commissioner.

Following that visit, the National Fire Sprinkler Network (NFSN) appointed CFO of Staffordshire Rob Barber as Chairman of the NFSN, replacing Gavin Tomlinson who is now Chair of the NFCC's Protection Scrutiny Committee, as well as CFO of Derbyshire. The NFCC's representative on the NFSN is Jonathan Dyson, CFO of North Yorkshire FRS, with Richard Clark, Fire Engineering and Technical Standards NFCC Lead, from South Yorkshire FRS.

All of the above have been involved with/given presentations to the All-Party Group, which gives confidence to the Group's decision-making process.

As those in the sector are aware, schools remain a key issue yet to be resolved. The Department for Education's consultation on a revision of Building Bulletin 100 (Fire Safety Design Guide for new schools) having closed over a year ago in August 2021, without any publication yet of the responses, or neither any Regulatory Impact Assessment having been undertaken by DfE into the effect of fires on pupil's education and attainment levels!!



## COST OF LIVING

The consultation response joint letter signed by almost the whole of the Fire Sector strongly rejected DfE's proposals, and exchanges of correspondence since between the Chairman of the All-Party Group and the Minister for the school system have taken place, together with one very short meeting. Responses from DfE can take weeks (even months) to arrive!

The Chairman has also since written twice to the DfE Permanent Secretary Susan Acland-Hood, who appeared not to heed the lessons from Grenfell, and reiterated the fact that school fires were rare, asking for further clarity on and disputing Zurich's figures, and amazingly suggested that the APPG should provide any impact assessment details it held!!

Some good news to report however is that APPG member Jonathan Gullis MP has since been appointed as Parliamentary Under Secretary of State at the Department for Education with responsibility for School Standards. He was keen to attend the APPG's last meeting on the 12th October 2022, but it would seem that he was regrettably prevented from doing so by higher authority in the Department for Education.

The other good news is that APPG member and a co Vice Chair, Felicity Buchan MP has been promoted in Government to Exchequer Secretary to the Treasury. Felicity is the MP for Kensington which covers the area for Grenfell Tower, and she is a determined supporter of fire and building Safety.

Finally this week on the 18th October, APPG Chairman Bob Blackman, attended the Fire Safety Conference at Aviva, St. Helen's, London, giving the welcome to the Networking Drinks Reception, to a large gathering of delegates from both the UK, and overseas.

The Conference was jointly organised by: The Fire Protection Association, the Institution of Fire Engineers, the National Fire Chiefs Council and the Fire Sector Federation. (Four of the Leading Organisations associated with FIRE in the UK - all of which have a good working relationship with the All-Party Parliamentary Fire Safety & Rescue Group).

The programme included familiar names such as Dame Judith Hackitt, Kate Lambie (BBC), and Pete Apps (Inside Housing) who have been closely associated with the Grenfell Tower Fire Tragedy and the Public Inquiry; and Chris Hasbrook UL from Illinois, who has 'sat-in' on a number of our APPG meetings via ZOOM, in the early hours of the morning.

The Fire Sector Federation gave us early sight of its paper: "DEVELOPING A NATIONAL STRATEGY FOR FIRE SAFETY - Seeking a framework to effectively manage fire risk to help achieve a sustainable and safer society." We shall look forward to the APPG receiving a short presentation from the Sector on these proposals in the very near future.

Meanwhile I note that this is a time of rapid change and challenge for fire safety. I know that the Federation has been working hard since Grenfell to help resolve problems of the past like standards and competency and the APPG supports the Federation's effort in the difficult task of bringing together a very diverse fire sector.

We consider it important when raising and pressing key fire safety messages to have a collective view with a single voice and we find it helpful for the public and parliamentarians to have a place to go to find good fire information. We certainly appreciate the support given to the APPG by the Federation, FPA, NFCC, IFE, BAFSA, NFSN, LGA and others and welcome this latest debate on the need for a holistic national fire strategy being initiated through the publication of this paper.

We will continue to monitor:

- Automatic Fire Sprinkler Protection in a range of building types, and the retrofitting of same.
- Construction Products – the future of certification and fire testing.
- Height thresholds - Why 11 metres and what happens below?
- The fire & rescue service as a responder and regulator is this a good model?
- Competency – standards and accreditation.

1 Ronnie's Statement and related documents, are available on the Grenfell Tower Public Inquiry website <https://www.grenfelltowerinquiry.org.uk/evidence/ronnie-kings-evidence-read-7-april-2022> and: <https://www.grenfelltowerinquiry.org.uk/evidence/ronnie-kings-evidence-read-7-april-2022-2>



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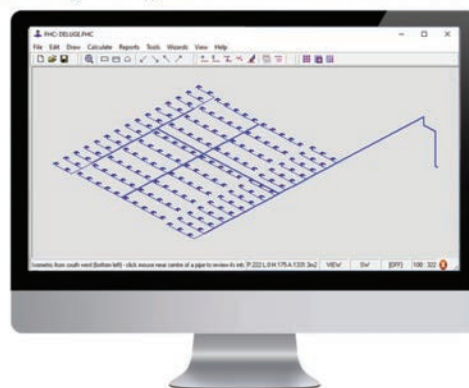
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# Evidence, data & arguments

THOMAS ROCHE,  
BUSINESS SPRINKLER ALLIANCE

We are now some three years on from the “Call for Evidence” for the technical review for AD B. Work has continued in the background by the Department for Levelling Up, Housing and Communities (DLUHC). Although very little detail has surfaced. The streams from the review cover aspects from Property Protection to Specialised housing and care homes. The Business Sprinkler Alliance (BSA) is interested in several of these streams and continues to offer input to these discussions through our inclusion on working groups, the Fire Sector Federation and prior work. The arguments, technical information and economic analysis that have been built up by the BSA continue to be a reference for details on the use of automatic fire sprinklers in large single storey buildings.

On the aspect of Property Protection, the direction of current Building Regulations is to exclude this. However, it is under review as many within the fire sector have supported that elements of property protection should be included within the Building Regulations. We have pushed this on the political front with MPs highlighting the positives of such an approach during the journey of the Building Safety Bill through Parliament. Politically the change for property protection has been highlighted as a something that will be subject to review by the new regulator. So, the door remains open but with so much to change in secondary legislation to come it looks to be something that will come forward in a future review.

One thing that the level of change will offer is several updates to key guidance documents. Each one will be an opportunity for change and to make our case on sprinklers. A key element to the approach from the Government is that they are instructing research to inform their decisions. This research will lead to decisions making and the use of data to inform the outcomes based on impact analysis. In simple terms that there will continue to be a scrutiny of the numbers.

If there is something that we need to keep learning and refining, as a sector, is our approach to these pieces of work. We have our arguments that are well practiced on the qualitative impacts of fire. There is a need for further work on financial impacts – particularly

costs and benefits. This is not just the upfront cost of installations but also the ongoing costs of inspection, testing and maintenance. We are also working to ensure there is some way to capture impacts that are harder to monetise like environmental, disruption and social.

Interestingly the environmental impacts are coming back into focus. The direction on sustainability in its definition based on environment, social and economic impacts has a strong overlap to the world of fire safety. Messaging around fire protection and its link to sustainability will be a continuing feature as we go forward. In this vein the BSA will continue to take this message to practitioners and markets. We took a stand at the Charter Association of Building Engineers (CABE) conference which is centred on sustainability to continue to look for the opportunity to sharpen our messaging.

Looking at messaging the BSA has recently completed an updated YouGov survey of SME businesses to understand their views on fire safety on sprinklers. The findings from the survey will come forward over the last quarter of the year. They show movements on the attitudes towards sprinklers which reflect greater discussion of sprinklers in recent years. One key finding has remained unchanged in that over 70% of those surveyed believe that following building regulations means their premises will be adequately protected from fire. Sadly, it highlights the challenges for regulations but at the same time it is a strong message to government on how business is misunderstood their direction on regulations.

There is much to do to continue to maintain our presence and messaging. Returning to the opening theme and as noted above there are many opportunities to use our collective voice. We need to recognise to bring our evidence together, develop strong cost data and where possible use data recognised by the government in our arguments. The push for the evidence to drive outcomes has something that we have recognised as a strong opportunity for the BSA and the wider sprinkler sector.





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RUTH OLIVER

BAFSA SKILLS & QUALIFICATIONS ADVISER

WITH A NEW academic year recently started, West College Scotland (WCS) have brought in a new enrolment activity for candidates choosing to study the Level 2 Certificate in Fire Sprinkler Installation (EWR). For those candidates who seek to provide video evidence to the college there is a new step in the process.

WCS will no longer accept enrolments without candidates a) viewing a college course information video, and b) completing a questionnaire in respect of candidate course requirements.

Once a candidate has viewed the induction video and completed the questionnaire satisfactorily, BAFSA will then be able to request they commence their online enrolment and make their course fee payment via the BAFSA website.

For those with queries on the questionnaire or unacceptable responses then contact will be made either by BAFSA or WCS with the candidate to explore their suitability further prior to any enrolment being offered.

This new procedure is only for potential candidates who wish to send video evidence to West College Scotland.

The video evidence required for the programme remains unchanged. The Level 2 Certificate in Fire Sprinkler Installation (EWR) qualification requires candidates to submit video evidence in respect of Unit 6, Fire Sprinkler Installation and Handover.

This replaces the need for candidates to attend college and the evidence produced on a mobile telephone can be submitted to the Assessor at the candidate's convenience.

This sounds like a lot of work but can be completed in 5 or 6 short videos consisting of just a few minutes each, or an individual video for each point. Full guidance on the actual evidence requirement is contained within the programme module online.

Please ensure you have agreement from the relevant persons before you commence filming your work activity and you must wear correct PPE (personal protective equipment) where appropriate when being filmed.

Ensure any video is clear and at a distance so the task is clearly visible, and an assessment decision can then be made with confidence. Zooming in does not improve video quality it merely makes the image bigger.

A college Assessor is available online should you need any support, and full guidance on the actual evidence requirement is contained within the programme module online or within the BAFSA webpage <https://www.bafsa.org.uk/wp-content/uploads/2021/09/Proposed-standardisation-for-video-evidence.docx>

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## From the sprinkler head

A ROUND-UP OF NEWS FROM  
BAFSA & ITS MEMBERS

### LFII Lead-Free Sprinkler gains new approval

The Tyco Series LFII Residential 4.9 K-factor Lead-Free Sprinkler is now approved for installation in low-rise residential properties per NFPA 13R. It is the first ANSI/UL 199 Approved polymeric fire sprinkler to offer long-lasting dependable protection for a wide range of residential buildings specified under NFPA 13D and 13R. This includes low-rise residential structures of four storeys or less as scoped under NFPA 13R as well as one-and two-family homes of any size as scoped under NFPA 13D.

The Tyco LFII 4.9K Lead-Free Sprinkler is manufactured with a polymeric material that carries anti-heat and anti-corrosion properties which help to extend the life and value of the sprinkler compared to similar brass products. The sprinkler is certified to NSF 372 and NSF 61 to ensure compatibility with safe drinking water and lead-free plumbing requirements.

The Tyco Series LFII 4.9K Lead-Free Concealed Pendent Sprinkler is available in



both ordinary 155°F (68°C) and intermediate 200°F (93°C) temperature configurations. The sprinkler and cover plate assembly allows for adjustment up to 3/4-inch, which provides additional flexibility with residential installations.

[tyco-fire.com](https://tyco-fire.com)



### Model PRV Pressure Regulating Valve

The Model PRV Pressure Regulating Valve from Reliable Fire Sprinkler is an FM Approved, cULus Listed diaphragm-type valve used to reduce and regulate pressure in both flowing and non-flowing conditions. It is fully assembled with compact trim, complete with a pressure relief valve.

The valve diaphragm seals against a seat machined in the valve body. Water pressure in the chamber between the diaphragm and the cover presses the diaphragm against the seat to prevent water flow through the valve. The release of water pressure from the chamber allows the diaphragm to deform away from the seat allowing water to flow through the valve. A pressure regulator included in the trim allows the Model PRV valve to regulate the water pressure from the outlet of the valve.

Maintenance of the valve is simplified because all trim is connected to the valve body, and the diaphragm can be removed without disassembling the trim.

Pressure regulating valves are used to reduce and control the downstream water pressure supplied to fire protection systems, regardless of changes in flow and inlet pressure. Applications include downstream of fire pumps where the pressure must be reduced before reaching fire protection equipment and in high-rise builds where elevation pressure differences between floors may require pressure control to individual systems on each floor level.

[reliablesprinkler.com](https://reliablesprinkler.com)

### 4 new courses

With increasing focus on the importance of both the technical aspects and management of fire safety, the FPA is introducing four new training courses: Fire and non-loadbearing external walls; Fundamental engineering mathematics; Fire risk assessment fundamental principles; Managing fire risk in residential properties.

[thefpa.co.uk/training](https://thefpa.co.uk/training)

The RISCAuthority and FPA websites have been to merged to form one combined website. This is as a result of a Governance Review in 2021 and the subsequent commissioning of an exploratory review of the relationship between the FPA and RISCAuthority by the FPA Board whose aim was to identify opportunities for improvement, including greater engagement with RISCAuthority members, and ways to support wider industry collaboration. Merging the RISCAuthority and FPA websites enables increased promotion, awareness, and adoption of the guidance documents and toolkits produced by RISCAuthority's Working Groups.

[thefpa.co.uk](https://thefpa.co.uk)





## From the sprinkler head

A ROUND-UP OF NEWS FROM  
BAFSA & ITS MEMBERS



### Monitored ball valve

Due to SEP's ever-increasing Residential and Domestic (R&D) flow of enquiries, and the recent demands of BS 9251:2021, the company has launched a monitored ball valve in sizes from 1"/25mm up to 2"/50mm.

BS 9251:2021, section 5.15 states that "except for category 1 systems, all valves which control the flow of water to the system should be electrically monitored for the open position" – SEP can help ensure that all R&D fire sprinkler system installers meet this requirement, along with many others.

The valve and monitor switch can be purchased stand-alone, or as part of the resi-riser assembly, and the small assembly is simple and lightweight. As required, the spring switch ensures that the valve is monitored to be 'in the fully open position' – even if slightly closed, a signal will be transmitted to the monitoring panel.

[firesprinkler.co.uk](http://firesprinkler.co.uk)

### Trading name change

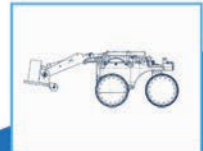
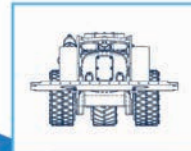
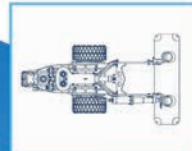
RSP Fire Sprinkler Systems (Wales) has changed the company's trading name to RSP Fire Safety Systems UK.

### New address

DPI Sprinklers Ltd has moved to Unit 19, Tabrums Farm, Tabrums Lane, Battlesbridge, Essex SS11 7QX

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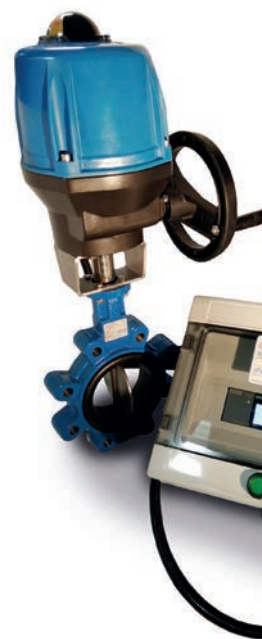


Eliminates the need for confined space entries into tanks and the associated risks.

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British Automatic Fire Sprinkler Association  
**bafsa**

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or visit [www.aquatechpressmain.co.uk](http://www.aquatechpressmain.co.uk)

## From the sprinkler head

A ROUND-UP OF NEWS FROM  
BAFSA & ITS MEMBERS

### A global expansion begins

Since its foundation over 30 years ago, SEP has been almost completely UK-centric, with the only significant export market being Ireland. Things are changing!

Mainly, the ability to export in volume has been restricted due to our base product range (air compressors for dry/alternate systems, pump initiation boards) being targeted towards UK-type systems and also not being easy to ship or generally purchased in volume. The launch of Zone Guardian changed this, but following the decision to invest and recruit an Operations Manager, the MD has had more time to work on developmental areas of the business.

And now SEP has formed a partnership with ReFire Group. Based in Sydney and Perth, with a huge warehouse and fabrication facility in Newcastle, ReFire will be acting as our distributor for the whole Australian market, working hard to develop sales – initially of Zone Guardian (in just one country where water-saving is becoming ever more important), but also other products within the range.

Rob, our MD, commented, “This is a really exciting time for SEP. ReFire already have a great range of quality products, and we are happy to help them continue their own



growth ambitions with the addition of some of our own products to their range. We can't wait to develop this relationship! And we are now in a position to confirm our next partnership, with Deluge Fire Protection which has its headquarters headquartered in western Singapore, and with offices in Malaysia, Thailand, Vietnam and Myanmar, thus access to many markets. Similarly to our approach in Australia, Deluge will initially be focused on our Zone Guardian.”

[firsprinkler.com](http://firsprinkler.com)

### Benefits of match funding

In 2014, London Fire Brigade (LFB) launched a competition to incentivise housing providers to install sprinklers and to promote the Authorities Sprinkler Strategy, working to promote the use and adoption of residential sprinkler systems. LFB agreed to meet up to half of the total amount of the installation costs. Barking and Dagenham were successful, receiving £84,250 to install a sprinkler system in the above-mentioned extra care housing unit containing 33 flats for elderly residents with support needs which was completed in June 2015.

The benefits of this match funding has been clearly demonstrated following a report of a sprinkler activation in the three storey specialised housing unit in Barking & Dagenham. On arrival at the scene, crews identified a fire on the second floor within a two roomed flat and noted that the sprinkler system had actuated resulting in three sprinkler heads containing/controlling the fire. Firefighters rescued a woman via an internal stairway who was removed to hospital with a further 15 residents evacuated to a place of safety. The fire is believed to have been accidental and caused by the unsafe disposal of smoking materials.

[london-fire.gov.uk](http://london-fire.gov.uk)

### 2023–2024 Grant Application Cycle

The International Fire Suppression Alliance, Ltd. (IFSA) has announced that grant applications are now being accepted for organisations seeking funding in IFSA's Fiscal Year 2023-2024. The application process (deadline 1st December, 2022) is open to any fire safety related group, association, or agency seeking to promote, expand, and improve the use of automatic water-based fire suppression systems outside of North America. Managing Director Paul Sincaglia commented “With fires growing faster, hotter, and more destructive than at any time in history, the IFSA continues to seek global partners who recognise the value and reliability that automatic water-based systems provide in order to create a stronger fire protection industry and a safer world.”

IFSA has awarded over US\$ 3M in grant funding to a variety of organisations over the last 20 years which was used to support a range of research, education, training, and regulatory advocacy projects in countries around the world. A key focus for IFSA's Fiscal Year 2023-2024 grant award cycle will be in one or more of the following areas:

- Developing or growing organisations with similar objectives to the IFSA
- Enhancing fire safety regulations and building & fire codes
- Adopting recognised product standards to maintain industry integrity
- Improving local industry performance through enforcement of recognised installation, and maintenance standards
- Educating regulators, public officials, as well as the public regarding the advantages and demonstrated success of automatic water-based fire suppression systems

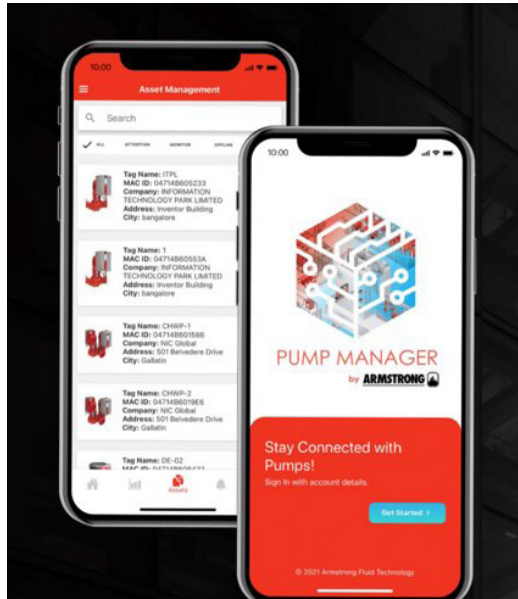
[firesprinkler.global/grants](http://firesprinkler.global/grants)





## From the sprinkler head

A ROUND-UP OF NEWS FROM  
BAFSA & ITS MEMBERS



## Mobile App to Optimise Pump Performance

Armstrong Fluid Technology has launched a new mobile app that brings all of the value and benefits of the Pump Manager subscription service to users of Android and iOS mobile devices.

Leveraging the advanced intelligence and connectivity of Armstrong Design Envelope pumps, Pump Manager is a cloud-based subscription service that provides industry-leading pump analytics and performance insights along with alerts and notifications. The software provides industry-leading pump analytics and proactive performance insights along with early diagnostic warnings, web accessible trends and analysis, along with automated reports. Active Performance Management learns, predicts and enables optimisation actions to be made based on these learning to ensure long-term efficiency based on data-driven responses.

By enabling predictive maintenance, the service reduces and mitigates risks of equipment failure, resulting in around 51% in savings, in addition to maintaining optimum occupant comfort. What's more, Pump Manager can be optimised in line with data-based learnings to achieve energy savings of up to 30%.

Visit [pumpmanager.io/mobileappdownload](http://pumpmanager.io/mobileappdownload) and click on either the Google Play button or the Apple Store button, as per your device, to download the app.

[armstrongfluidtechnology.com](http://armstrongfluidtechnology.com)



## Compliant Residential Monitoring FloWatch 9251



Take full control of your fire sprinkler monitoring requirements with FloWatch 9251. The only specifically designed fully compliant residential and domestic fire sprinkler monitoring system available. FloWatch 9251 gives you complete confidence that your sprinkler system is in full working order and ready to operate should it ever be required.

### 24 Hour Battery Backup

The specified AGM rechargeable battery provides the system with a 24hr battery backup in the event of a mains power failure.

### Audible Alarm

A distinguishable audible alarm in the event of a sprinkler activation or fault on the system.

### Tank Level Alarms

Monitors low levels of water within a sprinkler or combined tank to raise an alarm indicating in a failure of the water supply.

### Monitor System Components

As well as monitoring flow switches, FloWatch 9251 can monitor all the required fault conditions detailed in BS9251:2021 table 5.

### Pump Fault Monitoring

FloWatch has dedicated inputs for pump fault monitoring, giving early detection if a fault should occur.

### Remote Browser Viewing

View the system status remotely via web browser, tablet or mobile device and receive email and text alerts in the event of an alarm.

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# LPC Sprinkler Rules ... FPA publishes Technical Bulletins update

THE LPC SPRINKLER RULES for Automatic Sprinkler Installations is the UK's most significant sprinkler installation standard which incorporates the full BS EN 12845:2015+A1:2019 standard and related Technical Bulletins. Published by the Fire Protection Association (FPA), this document has recently been updated to incorporate new Technical Bulletins and update existing ones to provide a specification designed to ensure the highest reasonably practical levels of property protection, life safety, and resilience to fire can be achieved.

An essential reference tool for anyone involved in the design, installation, and maintenance of automatic sprinkler systems, it is now available to purchase from [fpa.co.uk/shop](http://fpa.co.uk/shop) both in print and digitally for £399. Purchasing the online version gives you access to the newly released LPC Sprinkler Rules App so you can view the document on a mobile phone or tablet, as well as via the website where you can find out more about becoming a member for exclusive benefits including discounts on products and services.

Dale Kinnersley, FPA Principal Consultant and Convenor of the RISCAuthority Sprinkler

Rules Working Group said: "The LPC Sprinkler Rules is the only UK sprinkler standard that includes property protection and business resilience required by building insurers. The new LPC Technical Bulletins have been written by committee in association with UK experts, insurer members of RISCAuthority, and input from BAFSA. The updates are based on research, testing, product innovation, and changes to recognised international standards that help underpin the requirements from insurers and provide more comprehensive fire protection system options in relation to current UK construction and industry practices."

## New Technical Bulletins

The following Technical Bulletins have been produced to address gaps recognised by insurers in the current standards for property protection purposes and the need to enhance current requirements based on research, testing, and developed standards from around the world:

- TB202: Sprinkler protection to buildings featuring residential occupancies – insurance requirements

- TB211: Hanging garment storage
- TB212: Mobile shelving systems.

## Updated Technical Bulletins

The following Technical Bulletins have been updated based on new technology, research, and insurer requirements for property protection, building resilience, and business continuity:

- TB203: Care and maintenance of automatic sprinkler systems
- TB210: Automatic sprinkler pump installation
- TB222: Ordinary Hazard Group 3 protection using Enhanced Protection Extended Coverage Sprinklers
- TB229: LPC Rules for automatic sprinkler installations variations to BS EN 12845 (2015)
- TB230: Protection of roof spaces, floor and ceiling voids
- TB234: Protection of high hazard storage (HHS) configurations
- TB237: Flushing underground sprinkler mains.

[fpa.co.uk](http://fpa.co.uk)







# Fire Priority Demand Valves

**Stuart Savill BEng (Hons) -  
Product Development Manager,  
Aquatech Pressmain**

Fire Priority Demand Valves (PDV) have proved a useful way of helping combined residential sprinkler booster sets to meet the requirements of BS 9251. However, the release of the 2021 update to this standard has made the PDV even more beneficial. This article aims to highlight some of the hidden details and important considerations when selecting a PDV.

## Improved water quality

The main use of a priority valve is to shut off the water flow to domestic water outlets during a fire sprinkler operation. By only supplying water to the sprinkler outlets the flow rate and storage requirements are greatly reduced, allowing a combined domestic and sprinkler booster pumpset to be smaller. It also allows smaller break tanks to be used reducing capital cost and helping to keep the water more wholesome. BS 9251:2021 introduces building Category 4. This is the default standard for any building over 4 storeys or 18m height and requires a minimum sprinkler operation time of 60 minutes with a discharge density of 2.8mm/minute.

Without a PDV, a combined domestic and sprinkler pumpset (and the break-tank feeding it) have to supply both the sprinkler and domestic water demands, and it becomes very difficult to meet the above requirement without exceeding the recommended maximum storage volume of 80 litres per person as outlined in BS EN 806-2:2005, Section 19.1.4 which would compromise water quality. It is also important to remember that all fittings installed in a wholesome water system should be correctly approved for potable use, the de facto standard being the Water Regulations Advisory Scheme (WRAS) but other comparable approvals are available.

## Guaranteed tank level

The next advantage of a PDV is its ability to be wired into the low water level alarm switch. This means should the tank level drop to a level where the remaining volume would be insufficient to operate the sprinklers, the priority valve can be used to stop the domestic flow and preserve a minimum level of water in a break-tank. If a PDV is not installed, the only other way of achieving this would be to inhibit the pumps. Without a constant pressure source, normal sprinkler activation methodology (i.e. a flow switch) would fail to operate meaning added complication of installing, commissioning and regularly testing an additional pressure switch in the sprinkler riser.

## Types of PDV

The advantages and disadvantages explained. PDV's come in two standard designs: For smaller sizes, DN50 or less, it is common to see an electro-magnetic solenoid valve used; for larger sizes a rotary type such as a butterfly valve are the standard. Whilst the use of solenoid valves gives a cost saving for smaller sizes, their use does come with potential issues that should not be overlooked. The first is valve heating. BS 9251: 2021 states that electrical PDVs should



## VALVES

automatically close on loss of power. This forces PDV manufacturers that use electro-magnetic solenoids to use a 'normally closed' type valve, which means that, in normal operation, the coil must be energised to hold the valve open. The permanently energised electro-magnet produces heat, which in normal operation is dispersed by the flow of water through the valve; however at 0300 it is doubtful that the flow would be sufficient to provide this cooling and it is extremely unlikely that the water held within such a valve will remain below the 20°C widely regarded as the safe temperature for water to remain wholesome.

In contrast, a rotary actuator uses no power when held in a fixed position and therefore does not become warm. The requirement for the PDV to close on power loss is easily met by using a rotary valve with internal battery back-up. This means that in the event of power loss, or damage to the supply cables or controls, the valve will default to a closed position. This is the fastest way to raise the alarm when an issue has occurred and leaves the whole system 'safe'.

### Hydraulic Shock in the domestic riser

This is a phenomenon that can occur in pressure boosted risers and is caused by the pressure in the riser dropping due to supply interruption. The falling pressure causes the water to be pulled away from the top of the riser leaving a vacuum. When the water supply is restored, the created vacuum means that the rising water level is not slowed before reaching the top of riser, causing the water with significant momentum to impact the top. This in turn causes a pressure spike that had been proven to reach 200bar, often damaging the pipework or fittings and causing extensive flood damage. A solenoid PDV sharply closing at the bottom of the riser, causes these exact conditions for this to occur. The best way to prevent this is a combination of installing a combined anti-vacuum-air-release valve, at the top of the riser and by limiting the refill rate. Here a motorised PDV can help as high-end models can regulate the refill rate drastically reducing the risk of riser damage. A solenoid-based valve cannot do this as it only has two states, fully open or fully closed. Self-testing – Ensuring the system is always ready should there be a fire.


### Controls

Most PDVs have very simple controls, and whilst there is an argument that "simple is best" this means that the only time that the PDV is actuated is during a fire or sprinkler system test. By using advanced controls, some PDVs have a daily self-test program. This partially actuates the PDV, proving that it remains fully operable whilst reducing the possibility of it sticking open. This is done in a way that does not disrupt the supply of domestic water so building occupants remain unaware. If at any time the valve does not move or operate as intended, then the alarm can be raised, and the issue fixed before it is too late.


### Conclusion

To conclude, whilst PDVs have huge benefits and there is an argument to make them standard fit in all 'combined' residential sprinkler systems, it is important that system designers and specifiers have a good understanding of valve types and issues that can occur with some models. Whilst simpler solenoid-based models may be cheaper to purchase, their shortcomings should be considered.

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# When times are tough

**The UK's cost-of-living increase has hit the country hard, with inflation levels at a 30-year high we are all paying more for essentials such as food, clothing and transport, leaving less money for recreational activities. Additionally, the recent energy price cap review has seen electricity and gas bills increase for most, an extra financial burden. In timely fashion Tom Kendall, Client Partner with BAFSA member Partners&, explores some of the options as to how employers can support their employees.**

Workers across the country are being affected by price increases, with 37 per cent considering a job change in light of rising living costs, according to a survey by Totaljobs. Financial concerns and struggles may also cause significant stress in employees, affecting their performance at work. In fact, research by Aegon found workers' poor financial well-being costs UK employers £1.56 billion annually due to ill health-related absenteeism and presenteeism. Consequently, it's wise for employers to take steps to support affected employees. Consider these tips:

## **Be transparent**

Money worries are often considered a taboo subject. However, financial stress can negatively affect mental well-being, which, in turn, may affect physical health. Therefore, it's essential that employees feel able to discuss concerns. Employers should display

an 'open door policy', encouraging staff to speak confidentially about problems. If employees feel uncomfortable talking to their employer, they can be directed to free, impartial support, such as the Money and Pensions Service.

Being open and honest should apply across the organisation, including those leading the company. Employees won't appreciate being told there isn't much in the pot for a pay rise if stakeholders are seen taking additional dividends. Alongside paying a fair and liveable wage, organisations should be transparent about their financial health, so employees are properly informed.

## **Offer flexibility**

One of the best ways for employers to support their workforce is to be flexible. Some employees may benefit from being allowed to work from home more, therefore saving on travel costs. Others may prefer to work from the office, saving money on home heating and utilities. As all employees' finances will be impacted differently, organisations should offer flexibility and consider employee requests on a case-by-case basis.

## **Review the employee benefits scheme**

Although employers can't solve all money worries, they can help reduce certain employee costs by reviewing their current benefits scheme.

While under stress, it's vital for employees to have easy access to medical appointments in case of ill health, so many schemes include medical and dental plans. Additionally, employers could consider including other benefits to bolster the support available, such as:

- **Transport costs**—With transport costs increasing, offering commuters an interest-free loan on annual travel tickets could be a lifesaver. Employers may wish to purchase an annual ticket for



## COST OF LIVING

staff, deducting a monthly amount from wages until it's paid for. Usually, an annual travel pass is hundreds of pounds cheaper than paying a daily rate. Further, employers could join and promote the government's cycle to work scheme.

- **Salary sacrifice**—At its most basic, salary sacrifice entails employees giving up part of their salary for a non-cash benefit. This reduces the amount of tax and national insurance they have to pay. Salary sacrifice arrangements include car parking, home computers, gym memberships and personal learning.
- **Discount vouchers**—With disposable income lower than usual, employers could consider joining a staff discount scheme, giving employees reduced prices on shopping, holidays and days out.

Before tweaking any employee benefits scheme, organisations may profit from speaking to employees first-hand to see what they would benefit from most

### Provide financial education

Among employers with health and well-being strategies, only 11 per cent actively focus on financial well-being, according to the Chartered Institute of Personnel and Development. This number is compared to 57 per cent who actively focus on mental well-being. But, poor financial well-being can lead to poor mental health. Therefore, as financial and mental well-being go hand-in-hand, now is the time to add financial education to a holistic well-being strategy.

There are many ways to include financial education, depending on the available budget. Small steps include directing staff to useful tools like financial calculators and budgeting templates. Alternatively, employers could utilise online courses, which cover topics as varied as budget making and keeping, managing debt, establishing an emergency fund and buying a home. In larger organisations, employers may consider engaging a financial adviser to run group sessions. If possible, investing in 1-2-1 sessions would allow struggling employees to receive bespoke financial advice.

It's important for financial education to include advice for the long term, such as retirement planning. Often, people pick up financial information as and when they need it. However, this can create a tendency towards making emergency decisions rather than long-term financial plans. Financial education should include both short- and long-term measures.

### Summary

Organisations risk an unengaged and distracted workforce if they are unable to help alleviate cost-of-living concerns. However, through taking steps to look after the financial well-being of employees, organisations can help staff bolster their financial resilience, both now and for the future. And, through being supported, employees are more likely to be motivated, productive and loyal.

### Helping your people become more resilient

Research undertaken by Partners& in September 2022 suggests that 9 in every 10 employers expected either a small (38%) or significant (52%) increase in the number of their employees experiencing financial difficulties this winter. The same survey also revealed that almost two thirds (65%) of organisations are already aware of some employees struggling financially.

Whilst this is primarily a problem for employees and their families, employers should note that financially stressed employees are likely to be more distracted, less engaged, and unlikely to be bringing their best selves to their work. Employers need each and every employee to be working at their optimum level to weather the economic storm ahead.

One way to build the resilience of your workforce is to provide education and support with day-to-day money management. We have developed a range of financial wellbeing tools – including a series of useful self-help videos and market-leading employee discount options – to help employees through the current crisis and beyond. Please visit the Financial Wellbeing page on our website or contact me directly [tom.kendall@partnersand.com](mailto:tom.kendall@partnersand.com)



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# A deeply unsatisfactory position

**From time to time I receive questions about CE-marking writes Alan Brinson, Executive Director EFSN, who in this article explores this complex topic in detail.**

THIS IS A complicated subject, in particular since the rules around it have led to a situation that makes little sense to engineers. Briefly:

- The legal basis for the CE-marking of fire protection products is the Construction Products Regulation, and before 2011 the Construction Products Directive
- Under the CPD the European Commission mandated (instructed) CEN to produce standards. These mandates went into some detail. Fire protection products are covered by Mandate 109, which includes components for sprinkler systems, fire detection systems, gaseous extinguishing systems, foam systems, powder systems, hose reels and fire extinguishers. M/109 is well over 20 years old and did not include water mist, nor anything invented since the 1980s
- Under M/109 our industry produced five sprinkler component standards some 20 years ago. These standards were approved by the Commission and cited in the Official Journal of the EU. A cited standard is also called a harmonised standard.
- Products within the scope of a harmonised standard must be assessed in accordance with that standard and must be CE-marked. It is otherwise illegal to offer them for sale in the EU and neighbouring countries that apply the CPR. ESFR, CMSA, EC and residential sprinklers were not in the mandate, nor were many more components.

■ The above five standards were written more or less as we would like, including not just test protocols but their pass/fail criteria and a certain amount of specification. Under the CPR, pass/fail criteria and product specification (the valve body shall be metallic) are not allowed, so the five standards are not compliant with the CPR.

■ Under the CPR, harmonised standards are no more than standardised test protocols. Performance of a product is assessed in a standardised way and then Member States (national governments) decide what performance they wish to see in buildings in their jurisdiction. While this approach might work for a fire door, no regulator is interested in specifying what performance they want for each sprinkler physical property test. One regulator told me that he expects our industry to tell him what is a good product, but under the CPR we cannot.

■ To produce new harmonised standards under the CPR we need a Standardisation Request from the Commission. A few years ago the Commission asked the Member States their priorities for the updating of CPD Mandates to CPR SRs and promised to work on the top 10. M/109 came 11th, so is not a priority and we cannot expect an SR for our products in the medium term.

In as plain English as I can manage, we are not allowed to draft new harmonised

standards and even if we were, we are not allowed to write them in such a way that a product assessed against a new harmonised standard, and CE-marked, could be assumed to be fit for purpose.

This is obviously a deeply unsatisfactory position. We and our colleagues in other active fire protection disciplines have complained to the Commission, CEN, Members of the European Parliament, national politicians and regulators. After years of complaints the Commission accepted there were problems, organised a series of consultations and on 30 March published a

*'Proposal for a Regulation of the European Parliament and the Council laying down harmonised conditions for the marketing of construction products, amending Regulation (EU) 2019/1020 and repealing Regulation (EU) 305/2011.'* The latter is better known to us as the Construction Products Regulation, whose purpose the Commission summarises well in the opening paragraph of its proposal, *'The CPR ensures the smooth functioning of the single market and the free movement of construction products in the EU. It does so through harmonised technical specifications, which provide for a common technical language on how to test and communicate the performance of construction products (e.g. reaction to fire, thermal conductivity or sound insulation). The use of standards is mandatory when they are cited in the Official Journal of the European Union (OJEU). Construction products covered by such standards must*



*bear the CE marking which indicates that they comply with their declared performance. Such products can then freely circulate within the single market. EU Member States are not allowed to require any additional marks, certificates or testing. The CPR does not set product requirements. EU Member States are responsible for the safety, environmental and energy requirements applicable to buildings and civil engineering works.'*

In 132 pages and 33 pages of Annexes, the Commission has set out a detailed proposal to amend the CPR. It recognises that there is a stalemate in applying the CE-mark to more construction products, and noted that,

*'Due to these deficiencies, Member States apply national marks, certifications and approvals. This is in breach of the CPR and not in line with the jurisprudence of the European Court of Justice.'* Some readers will be aware of examples where a national authority has prevented the use of a product because it did not carry a national mark, or has forced manufacturers to pay for expensive and time-consuming retesting to be allowed to continue to sell a product in that country.

To obtain CE-marking and ensure such products are fit for purpose the EFSN has found a workaround, namely to create non-harmonised standards of test protocols with pass/fail criteria and reference these standards in EN 12845, the sprinkler system design standard, while encouraging companies that want their products to be CE-marked to request a European Technical Assessment ETA from one of the laboratories (known as Technical Assessment Bodies) that are members of the European Organisation for Technical Assessment. The TAB would then draft a European Assessment Document (EAD) against which to conduct the ETA, with the EAD including the same tests as in the non-harmonised standard, only without pass/fail criteria. ETAs are in the CPR and were intended to be for products that are not widely used and so for which there was little appetite among CEN members to draft a European standard. Instead it has become the only way to achieve CE-marking for fire protection products. This approach is complicated, but it works.

But back to the proposed CPR amendment. Among other things it would:

- 'Introduce a new empowerment for the Commission to (1) adopt technical specifications via Commission acts for cases where the standardisation system is not delivering on time and of sufficient quality; (2) set product requirements.
- Introduce environmental, functional and safety product requirements for construction products.
- Align with the Ecodesign for Sustainable Products Regulation on climate and environmental sustainability and on the Digital Product Passport.'

A new power for the Commission to set product requirements (presumably under the advice of experts) could potentially solve the impasse described above, albeit in a bureaucratic way that would require laws (Commission Acts) drafted by the Commission to do so. The Digital Product Passport may be a burden but could be required anyway for projects. The Commission also claims, 'Further reducing the administrative burden for manufacturers will be achieved by eliminating the overlap between the CE marking and the declaration of performance.' If this happens in practice, it will be welcome.

Article 36 is about the development and adoption of European Assessment Documents. It states,

*'The procedure for developing and adopting European assessment documents shall respect the following principles:*

- (a) be transparent to Member States, the manufacturer concerned and to other manufacturers or stakeholders that request to be informed;
- (b) disclose as little as possible information protected by intellectual property rights, and protect commercial secrecy and confidentiality;
- (c) specify appropriate mandatory time limits in order to avoid unjustified delay;
- (d) allow at any stage for adequate participation by the Member States and the Commission;
- (e) be cost-effective for the manufacturer; and
- (f) ensure sufficient collegiality and coordination amongst TABs designated for the product in question. The balancing of principles laid down in points (a) and (b) shall at least allow for the disclosure of the name of the product at the stage of the approval and the communication of the work programme'.

Annex III of the proposal clarifies that point (a) only involves other manufacturers if a group of manufacturers or an association approaches EOTA and requests an ETA.

The proposal under 'Article 78 empowers the Commission to set up an EU construction products database or system to facilitate the access to product information (especially DoP, DoC and instructions for use).' For decades there have been complaints that there is no database to check whether a product that has a CE-mark has actually been tested by a recognised laboratory. However, on closer reading of the text it is not at all clear that this information would be publicly available:

1. The Commission is empowered to supplement this Regulation by means of delegated act according to Article 87, by setting up a Union construction products database or system that builds to the extent possible on the Digital Product Passport established by Regulation (EU) ... [Regulation on codesign for sustainable products].

2. Economic operators may access all information stored in that database or system which regards them specifically. They may request that incorrect information is corrected.
3. The Commission may, by implementing acts give access to this database or system to certain authorities of third countries that apply voluntarily this Regulation or that have regulatory systems for construction products similar to this Regulation provided that these countries:
  - (a) ensure confidentiality,
  - (b) are partners of a mechanism for lawful transfers of personal data compliant with the Regulation (EU) 2016/679,
  - (c) commit to engage actively by notifying facts that might trigger the need for action of market surveillance authorities, and
  - (d) commit to engage against economic operators infringing this Regulation from their territory.

At this stage the proposed amendment has not been formally accepted by the European Parliament or Council (national governments). However, the European Parliament published an appraisal in March which largely supported the Commission's work. It had previously *'called on the Commission to explore the possibility of including in the CPR additional information obligations and product performance obligations in terms of health, safety and environmental aspects.'* No suggestions were given on how to do this or what information should be included but in Annex I of its proposal the Commission addresses this in detail.

We believe that very few unapproved sprinkler products are sold in Europe. However, many companies illegally offer them online so it was good to see that previously, 'Parliament also underlined the need to take into account products sold online in market surveillance activities, especially those made available by non-EU economic operators.'

### Looking ahead

While the proposal has not been adopted and it could take years before that happens, with haggling between the Parliament, Member States and the Commission, the above shows the likely direction for the future of the CPR. Overall it appears positive although it will not be until everyone tries to work with the revised CPR that it will become clear whether it can deliver what the market requires: a means to apply a CE-mark that indicates a product is fit for purpose.

This report is the fourth in a series that will provide a detailed analysis of compound data<sup>1</sup> on fire incidents in Great Britain where sprinklers systems were reported over the period of 2018/19 to 2020/21.

The aim of the analysis is to focus on identifying trends, discussion points and insights relating to the use of sprinklers in purpose-built blocks of flats within Great Britain. The outcome of which will provide evidence that can be used to influence change making the installation of sprinklers the norm not the exception.

In the previous report it was identified that.

- 197 incidents accounted for all sprinkler activations in blocks of flats, with 56 activations inside the flat and 141 outside the flat
- Refuse store fire incidents account for the highest number of incidents where sprinklers are recorded as being present and activated outside the flat in blocks of flats. Whether the installation of sprinklers is limited to these refuse stores alone or extended across the whole building is unclear from the data.

- Inside the flat, kitchen fire incidents accounted for the highest number of events where sprinklers are recorded as being present and activated in purpose-built blocks of flats.

This report will focus on the number of sprinkler heads which have activated in the following building types:

1. Purpose built flats low rise, 1-3 storeys
2. Purpose built flats medium high rise, 4-9 storeys
3. Purpose built flats high rise 10 or more storeys

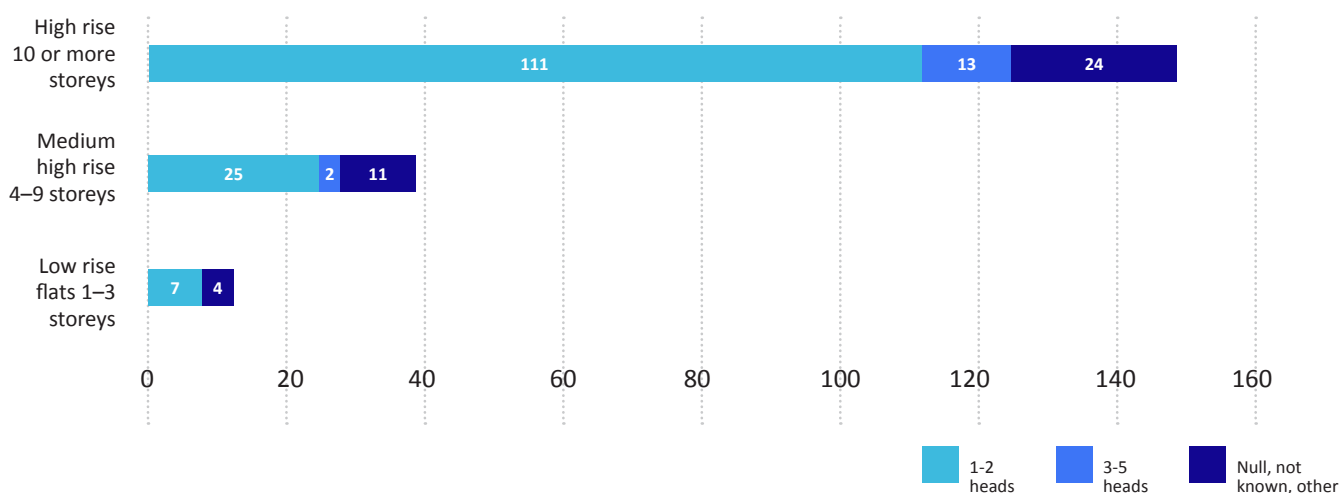


Figure 1. Number of sprinkler heads activated in purpose-built block of flats

73% of all incidents where sprinklers activated recorded 1 or 2 sprinklers heads operating.

1. Source: FOI Requests for Incident Recording System Data relating to primary fire building attended by FRSs in which sprinklers were present for England, Scotland, and Wales for the financial years 2018/19 to 2020/21



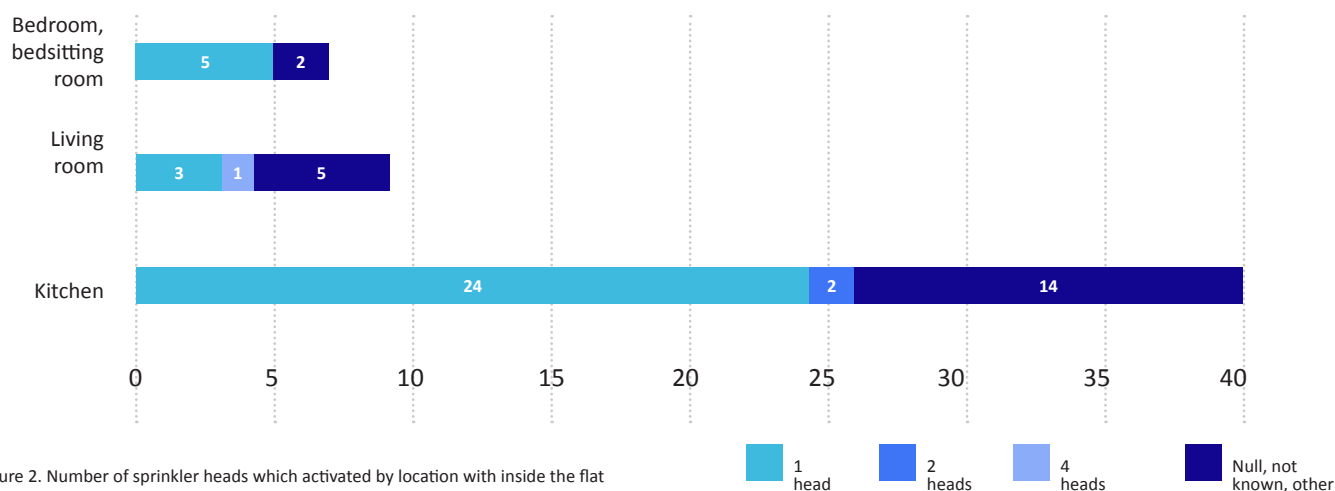


Figure 2. Number of sprinkler heads which activated by location with inside the flat

61% of fire incidents reported as starting inside of flats involved the operation of 2 heads or less. 57% with one head only. The majority as expected were reported to start in the kitchen.

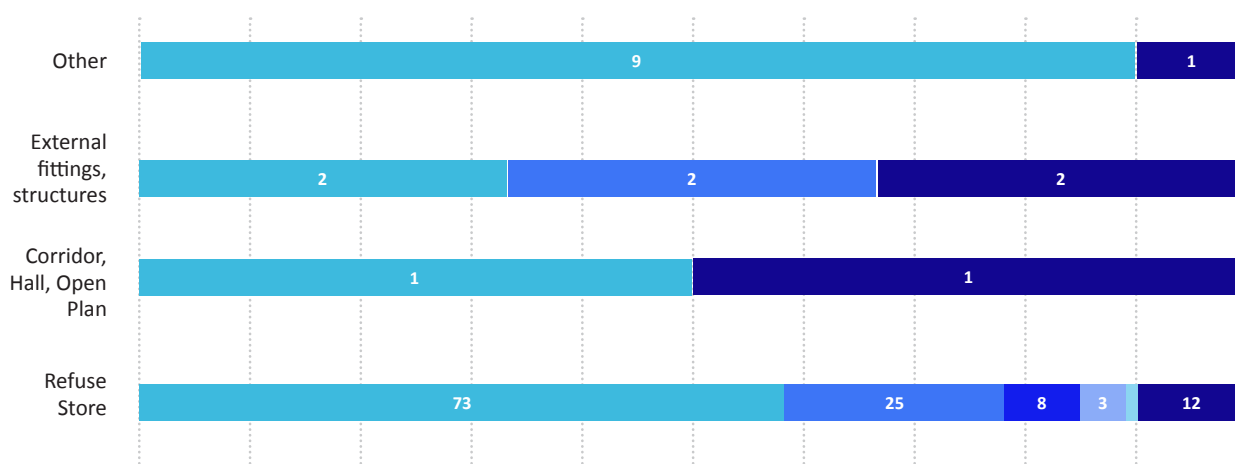


Figure 3. Number of sprinkler heads which actuated by location outside the flats

79% of fire incidents reported as starting outside of flats involved the operation of 2 heads or less. 60% with one head only.

The majority as expected where reported to start in the Refuse Store.

## GENERAL OBSERVATIONS

- This fire incident data report is further evidence supporting the most recent UK research<sup>2</sup> commissioned by The National Fire Chiefs Council (NFCC), National Fire Sprinkler Network (NFSN) and supported by BAFSA. The report identified of the 788 incidents, in 65% of fires, only one sprinkler head was activated with a further 20% of fires activating two heads.
- What the data is unable to confirm is the number of heads actuated that are recorded as null, not known, or other or blank. To identify the number of heads for a specific actuation, further investigation. For example an incident reported in the dataset as null heads operating involved a balcony fire which was the subject of a London Fire Brigade report. The West Hampstead balcony fire which reported that 12 sprinkler heads activated in the space of 19 minutes.



# Technical questions & answers

**BAFSA has received many, and varied, enquiries over the past few months, and BAFSA's Technical genius Joe McCafferty has selected these for your perusal.**

**?** Is it acceptable to have copper pipe with brazed joints for a domestic sprinkler system rather than the orange plastic pipes?

## ANSWER

Copper tube has always been acceptable for sprinkler systems. The reason it is not commonly used is probably the higher cost of copper installation. This is a partial extract from BS 9251:2021 Paragraph Commentary 5.13 Pipes and fittings: Copper tube conforming to BS EN 1057:2006+A1, R250 should be used above ground. Capillary fittings should be joined by soldering or brazing with alloys with a melting point of not less than 230 °C and conform to BS EN ISO 9453.

**?** I'm looking for guidance on signage and labelling of fire suppression systems generally. BS EN 12845 section 18 has this well covered for commercial and industrial sprinkler systems, but where do I go for domestic and residential sprinklers, domestic and for deluge systems?

## ANSWER

For residential and domestic systems, you can find the information in BS 9251 paragraph 6.3 Documentation. Deluge systems are a specialized design, most deluge equipment manufacturing companies will have signage in their product line. Basically, for deluge you must provide signs like stop valve locations etc.

**?** How long do wet riser mains have to be pressure tested for?

## ANSWER

To satisfy the requirements of BS990 the system need only be tested as stated in paragraph 7.3.1.3 Static pressure test which states: "The system should be completely charged with water to a pressure equal to its design operating pressure (see 4.1.3.1 and 4.1.4.1) measured at the inlet for a period of at least 15 min. During this period, an inspection of the system should be made to check whether there is any leakage of water at any of the joints or landing valves. If any leaks are identified, appropriate remedial action should be taken and the system should be retested." Note this is the minimum pressure test that can be done. If any Authority having Jurisdiction specifies a stricter pressure test at the specification stage of the contract, then their requirements should be complied with. AHJ's could be, Building Control, Fire Service, Insurers, Clients Engineer, and maybe the system installers specification if it's their standard testing procedure. In BAFSA BIF21 we do mention: "All Wet and Dry systems should initially be static pressure tested to at least one and half times the system's predicted maximum operating pressure for at least one hour." But this is only an advisory comment not a standards requirement. Some wet risers can require very high pressures (sometimes well over 20 bar) so you don't want any failures at these high pressures.

**?** What type of pipe can be used in a sprinkler system. Are there specific standards i.e BS, ISO etc.?

## ANSWER

Refer to Technical Bulletin 227 in the LPC Sprinkler Rules. It lists all the commonly use pipe types.

**?** Is there a particular requirement in the sprinkler rules about how close a sprinkler head can be to a light fitting?

## ANSWER

Lower edges of light fittings (say a rectangular diffused cover) will usually be treated like the lower edge of a beam. BS EN 12845 Sprinkler Rules paragraph 12.4.6 and Figure 10 specifies the location of the sprinkler deflector in relation to the lower edge of beams and other obstructions near the head. The sprinkler head manufacturer usually has a data sheet that provides guidance on positioning of their sprinkler head in relation to obstructions.



**?** When a sprinkler tank must be drained for maintenance, is the water considered 'trade effluent'?

#### ANSWER

This is what one water supplier states: Trade effluent is any liquid waste that's discharged into our sewers from a business, industrial or trade process, excluding domestic sewage and surface water. Another states: Trade effluent is any effluent that is produced from a process or activity undertaken at premises that are used to carry out a trade or industry. Trade effluent is produced from the manufacturing processes associated with many everyday items. And another states: If your business involves the manufacture or processing of materials such as chemicals, metal finishing, food and drink manufacture, or even if you operate a car wash or launderette, and you discharge wastewater into our public sewer, then it is likely that the discharge is considered trade effluent.

In our opinion it's not abundantly clear if the water in a sprinkler tank is classified as 'trade effluent' by all water undertakers. It could be argued that trade effluent is a by-product of the manufacturing process being undertaken on the premises i.e. if water is stored in a tank for say butchery washdown then its only becomes trade effluent when it has left the tank and been used for its intended process and becomes contaminated.

**?** We have sprinkler systems and water storage tanks in educational buildings and concerns have been raised by a health and safety inspector about the possibility of Legionella infection. What advice can you give.

#### ANSWER

Legionella bacteria is commonly found in water but becomes hazardous to humans when certain circumstances occur, here are just a couple of them i.e. Water temperature is about 20-45°C, A very fine mist/droplet/aerosol (less than 20 microns) is generated. This is an extract from The UK Insurers regulatory Authority Document that sums up the current industry thinking: "Neither the British Automatic Fire Sprinkler Association nor the Fire Industry Association has received or recorded any report of incidence of infection relating to wet fire suppression systems. This situation also holds true in North America, Australia and New Zealand. Additionally, it would appear that there are no reports of outbreaks of legionella anywhere in the world where a water-based firefighting

system has been identified as the source." My usual recommendation for minimising risk is: Regular system maintenance, Water supply cleanliness i.e. no open top on tanks where, debris, bird droppings etc. can enter the water, Regular inspection/water quality test for bacterial infection and a decontamination programme if considered necessary i.e. chlorination. I don't think there is any statement that will satisfy the 'what if' scenario, so the responsibility is on the building owner to reduce the risk to the satisfaction of the authority having jurisdiction who has the final say. I wish I could give you a much clearer and definitive answer, but I can only base my reply on the current industry thinking. Sprinkler systems have been used for well over 120 years!!!

**?** Do plastic/CPVC sprinkler pipes have to be 'detectable' by a metal detector when enclosed in say a stud partition wall?

#### ANSWER

The NHBC-Standards-2022 mentions this topic in Chapter 8.1 Internal services: "Metallic tape should be placed behind plastic pipework, where it is concealed behind wall surfaces, and would otherwise not be located by a metal detector or similar equipment". Earlier in this document it states: "The Technical Requirements are shown in blue text in this chapter and must be met by the builder". As the wording about 'metallic tape' is in black text it's not clear if it's a 'must do' or just a suggestion. The idea seems good, but it would be advisory to check with the CPVC pipe manufacturer that any 'sticky tape' attached to their product does not have a detrimental effect.

**?** What is the minimum distance allowed between a sprinkler head and a smoke / heat detector in a residential property ?

#### ANSWER

UK Residential sprinkler rules (BS 9251) do not specify an exact distance for sprinkler head from smoke detectors. But it does state the following in paragraph 5.7.1 h) : "sprinklers should be positioned such that the sensitivity and discharge pattern are not adversely affected by obstructions, such as constructional beams, smoke alarms, light fittings"... Sprinkler head manufacturers usually issue data sheets that advise on positioning of their sprinkler head in relation to obstructions.

**?** We are a mechanical company not a sprinkler installer. Our client wants us to strip out their un-needed sprinkler system. Is it OK for us to do this?

#### ANSWER

I would suggest that you check if there is any paperwork that confirms the sprinkler system has been decommissioned. If it has, then it is like any other water filled pipework system and should be treated with caution when releasing pressure. Open any plug/s slowly and have a container available for any small spillage. As the system has been deactivated there are no regulations that require a specialist to attend.

But if you have any doubts, you could contact a BAFSA member installer company and they can help. You will find links to these companies on BAFSA website.

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

**?** Is there a requirement in the design regulations to provide drainage in building basements in the event of a fire when the fire mains are used?

#### ANSWER

BS 9990:2015 (Wet and Dry risers) does not address flooding consequences in a fire scenario. Any precautions required should be based on local site knowledge and the protection of any essential building equipment like electric power supplies, emergency equipment etc.

**If you have any technical enquiry connect to**  
[bafsa.org.uk/contact-us/ask-bafsa/](http://bafsa.org.uk/contact-us/ask-bafsa/)

British Automatic Fire Sprinkler Association

**bafsa**



# Sprinklers protect our heritage from fire

**Saving historic buildings being  
burnt to the ground**

**Preventing galleries and  
libraries from fire**



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