



A guide to best practice with sprinklers and water misting systems

Contents

Introduction	4
Section 1 NATIONAL	5
National sprinkler organisations	5
Political engagement and awareness	6
National engagement	6
National campaign	6
Local Government Association	6
Governmental organisations	7
Local engagement	8
Guidance and legislation	8
Communication guidance	8
Section 2 Avon Fire & Rescue Service	9
Introduction	9
The benefits of sprinklers	9
Avon Fire & Rescue Service engagement	10
Local Government	11
Domestic premises	11
Portable systems	12
Registered Social Landlords (RSLs)	12
Residential care homes	13
Schools	13
Commercial premises	13

New developments and future proofing	14
Avon Fire & Rescue Service premises – our approach	14
Freedoms in design	14
Communication and public education	15
 Section 3 Legislation and guidance	17
Planning and the housing market	17
Local development frameworks	17
Water act	18
Environmental protection	18
Sustainability	18
Safe environment	19

Introduction

Avon Fire & Rescue Service's vision of 'For our people to be motivated and inspired to make all of our communities safe' encompasses many different aspects of community safety. The provision of sprinklers in industrial and commercial premises, educational establishments and domestic dwellings contributes to our community safety agenda.

The work to reduce fires in homes has evolved and progressed over many years with the introduction of fire safety advice, escape plan education, installation of domestic smoke detectors and homes fire safety checks however, people continue to die or be seriously injured in dwelling fires across the UK in spite of efforts of the UK Fire and Rescue Services. Automatic sprinkler systems are exceptionally effective through their ability to control a fire before it gets to life threatening proportions.

Our 'Think Sprinkler' campaign and the commitment to endorse all forms of fire suppression systems, particularly sprinklers, supports and contributes to our Community Safety Strategy and therefore our overall vision. It sets out in clear terms what Avon Fire & Rescue Service will be doing to promote the potential benefits of fitting sprinklers in domestic, commercial and educational premises.

The campaign contributes towards one of our strategic aims—"Making the Avon area safer by preventing, protecting and responding." With the common aim of highlighting sprinklers and contributes to Prevention, Protection and Response. This aim will be supported by all Fire & Rescue Authority Members and Avon Fire & Rescue Service personnel.

The information provided within this document gives details on what is to be achieved. The Area Manager of Risk Reduction with strategic responsibility for Community Safety will be responsible for the production of the plan alongside service policy and guidance. Much of the planning will be discharged through the Sprinkler Working Group with a dedicated lead officer to support local initiatives.

Section 1 National

National sprinkler organisations

There are a number of high profile national organisations that are actively promoting the installation of sprinkler systems, which include;

The Chief Fire Officers' Association - (CFOA) is committed to reducing the impact of fire on people, property, the environment and the economy. CFOA firmly believes that the wider installation and use of automatic fire suppression systems is seen as a preventative measure so that people can evacuate the building in the event of a fire occurring. It will also reduce the risk to fire fighters who are called to deal with fires.

The British Automatic Fire Sprinkler Association - (BAFSA) primary objectives include providing authoritative information on the benefits of sprinkler systems and how sprinklers can play a significant role in saving life and property from the devastating effects of fire. To these ends, BAFSA works closely with the government, fire and rescue service, building control officers, insurers, architects and town planners. The association is dedicated to making sure that sprinkler systems are installed to the highest professional standards. BAFSA also has links with overseas bodies including the American Fire Sprinkler Association.

BAFSA is represented on a range of government sponsored bodies and participates in the decision-making processes in respect of fire safety legislation, codes of practice and technical standards.

The National Fire Sprinkler Network - NFSN was founded 1998 and has become a formidable organisation in developing the application of fire sprinkler technology for the protection of people, property and the environment at home, at work, places of leisure and social activity.

NFSN are a non-profit organisation and remain free from commercial interest. They work in partnership with a wide range of local, national and European Governments and the fire and construction industries who share the ideals and objectives in making our communities safer from the threat of fire.

The Business Sprinkler Alliance - BSA is a newly incorporated coalition working to achieve greater business resilience through enhanced protection against fire.

Established in 2010, The BSA encourages greater business resilience by enhancing protection against fire through the increased acceptance and use of fire sprinklers in commercial and industrial premises.

The BSA aims to:

- Reduce the number of deaths and severity of injuries from fire, including the risks to fire fighters
- Reduce the economic impact of fire by helping UK businesses save more than £10 billion by 2020
- Reduce the societal impact of fire by preventing business disruption, closure and job losses
- Reduce the environmental impact of fire and improve the sustainability performance of buildings
- Achieve greater regulatory recognition of the efficacy of fire sprinklers in commercial and industrial premises

Avon Fire & Rescue Service will work in co-ordination with all national organisations to highlight and promote automatic fire suppression systems and the benefits they possess. Particular attention will be given to the influencing legislative changes that will ensure the installation of domestic sprinkler systems to all new homes.

Political engagement and awareness

The political engagement and awareness campaign can be split into two core areas of focus: national and local engagement. The main lobbying and awareness focus will be that at local level.

National engagement

National engagement will be led by Chief Fire Officers Association representatives for the promotion of domestic sprinklers and will seek to drive support amongst a targeted political audience and third parties. A specific aim of the national engagement campaign will be to encourage the inclusion of some commitment to the extended use of sprinklers in the manifestos of the main political parties at the next general election.

A detailed stakeholder mapping exercise has been undertaken, which has identified not only the most immediate politicians in relation to sprinklers (fire/building regulations ministers and their shadows) but also a wider group whose interest and commitments in other areas could lead to further support. This will include targeting All-Party Parliamentary Groups such as the Ageing and Older People, Disability, Smoking and Health, Young Disabled people, and Sustainable Housing groups.

In addition to political stakeholder engagement, outreach will also include third parties including charities and advocacy groups such as Age UK, SCOPE, and Leonard Cheshire Disability.

National campaign

Running alongside the local education and awareness campaigns will be the national campaign. We plan to get

- Sprinklers a higher profile mention in party manifesto's coming up to the election
- Letters to MP's
- Presentations at the all-party parliamentary groups
- Contact to other parliamentary groups
- Interested third parties to play a more influential role
- Strengthening what remains of local Acts or increasing the use of the Localism Act
- Department for housing (DCLG)
- Central planning department (DCLG)
- Building legislation (DCLG)

Further information on fire suppression systems can be found at;

www.cfoa.org.uk

Local Government Association

The Local Government Association has an all-party working group looking into raising the awareness of sprinklers in domestic and residential premises. CFOA have been, and continue to advise one of the partners to this piece of work, the toolkit for which is available at;

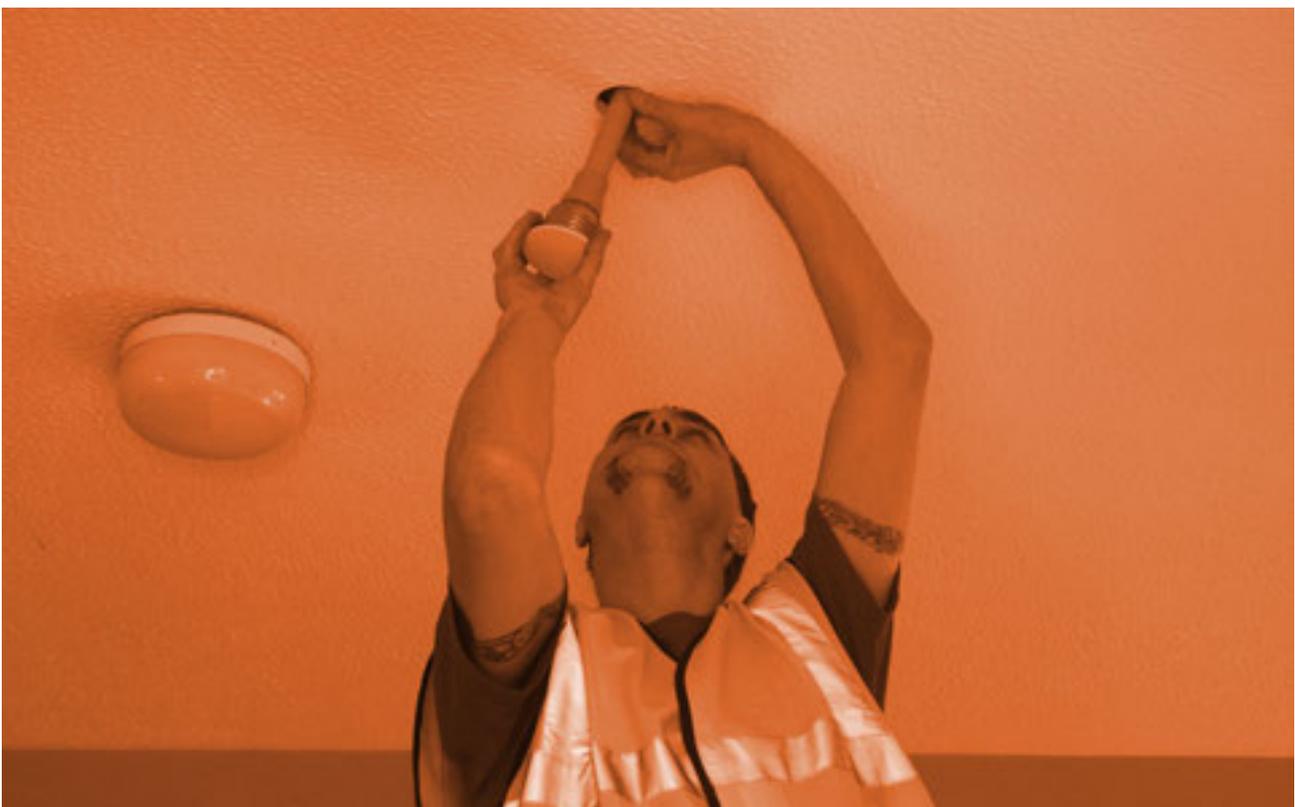
www.local.gov.uk

Governmental organisations

The main Governmental organisations that can assist in the installation of automatic Water Suppression systems and in particular sprinklers are:

- Communities and Local Government with responsibility for;
 - Communities and neighbourhoods
 - Fire and Resilience
 - Housing
 - Local government
 - Planning, building and the environment
 - Regeneration and economic growth
- Planning Inspectorate
- Department of Health
- Department for Education
- Department for Environment, Food and Rural Affairs – Environment Agency
- Homes and Communities Agency
- Independent Living Fund
- The Water Services Regulation Authority - Office of Water Services

Avon Fire & Rescue Service and CFOA will work with any and all of the above to ensure the benefits of automatic water suppression systems and in particular sprinklers are highlighted and progressed.



Local engagement

Chief Fire Officers of individual Fire and Rescue Services will lead the local engagement, which will aim to target those partners identified as being in a position to add positive support to the campaign through a greater understanding and awareness of the use of sprinklers. Primary targets for such engagement will include: Members of Parliament; registered social landlords; planners; Local Authority Councils; City Councils; District and Borough Councils; building groups; and construction firms.

A toolkit will be made available to Fire and Rescue Services to provide assistance and guidance for engagement. This will include a detailed report focusing on the benefits of sprinklers including facts and figures to help support any arguments put forward by Fire and Rescue Services. Also included will be a series of letter templates which will help local Chief Fire Officers to drive engagement with the stakeholders outlined above.

Guidance and legislation

It will be easier to influence guidance than influence a legislative change, therefore the main parts of the guidance that CFOA would like to influence would be the Fire Safety Order Guidance and Approved Document B. As well as Fire specific guidance, there are a number of other pieces of legislation that are dependent on guidance which CFOA will seek to influence, such as:

- Water legislation and guidance
- Environmental legislation and guidance
- Construction, Design and Management Regulations
- Sustainability legislation and guidance
- Community Infrastructure Plans / Local Development Frameworks
- Health and Safety legislation and guidance which will include safe working environment

Communication guidance

The CFOA AWSS web page will contain documentation and a toolkit which will highlight good practice, media footage, factual information and templates to signpost individual Fire and Rescue Services who wish to run a campaign in their area.

Section 2 Avon Fire & Rescue Service

Introduction

Avon Fire and Rescue Service has a vision of “For our people to be motivated and inspired to make all of our communities safe”. The Fire and Rescue Service is committed to this vision and will utilise all means available to reduce deaths, injuries or damage as a result of fire. Sprinkler systems are proven to save lives and property; they improve fire-fighter safety, minimise environmental damage and reduce economic loss. Avon Fire & Rescue Service proactively endorses the installation of sprinkler systems in domestic, industrial, commercial and residential premises.

The benefits of sprinklers

Avon Fire and Rescue Service firmly believes that automatic water suppression systems and in particular, sprinklers provide huge benefits to our communities. The main purpose of sprinkler systems, which conform to the relevant standards, is to control and contain fires throughout a building. In so doing, they protect the premises from the effects of fire and contribute to the safe evacuation of persons from the premises. They significantly help to;

- reduce death and injury from fire;
- reduce the risks to firefighters;
- protect property and heritage;
- reduce the effects of arson;
- reduce the environmental impact of fire;
- reduce fire costs and the disruption to the community and business;
- permit design freedoms and encourage innovative, inclusive and sustainable architecture.

Each sprinkler head is fitted to cover a designated area of the property and designed to work independently, only releasing water if its thermal element is activated by the heat from a fire.

The operation of one sprinkler head does not mean that all heads in the system will activate. Only a tiny number of specific systems needing such operation are designed in this way and in virtually all internal sprinkler systems, only the head actuated will release any water.

A further protection from unwanted operation is the thermal capacity of the sprinkler bulb. Generally, these are designed to operate at a fixed temperature not less than 30 degrees Celsius above the ambient temperature which makes it very unlikely indeed that operation will occur other than in fire conditions. Recent surveys indicate that the possibility of an accidental sprinkler head operation due to malfunction of the system is 1 in 16 million.

Once a sprinkler head has operated, it will typically discharge between 40-45 litres of water a minute to control the fire. This represents between 1 and 4% of the amount of water that would be used by the fire service to control a similar sized fire. So the sprinkler will reduce water damage and the consequent repair costs. Such benefits are recognised by the insurance industry and premiums are very much reduced for those premises fitted with sprinkler systems.

The nature of protection provided by a sprinkler system can be summarised as follows;

- it is automatic
- it detects fire in the early stage of development and will operate before the fire or the products of combustion become life threatening
- the system will operate when a fire raises the temperature to a predetermined level and will sound an alarm both internally and externally as well as indicating the fire location. Water will be discharged at a predetermined rate over the affected area only.
- water from the activated sprinkler will cool the atmosphere around the fire which will reduce the rate of burning, the production of smoke and will protect the surrounding materials limiting fire spread.

Research illustrates that the vast majority of fires controlled by a sprinkler system have involved just one sprinkler head activating.

Sprinklers are installed to British Standard 9251:2005 for residential and domestic occupancies and BS EN 12845:2003 for non-residential premises.

Avon Fire & Rescue Service engagement

Avon Fire and Rescue Service will play a key leadership role in promoting better understanding of the benefits of Sprinklers and will strive to encourage local authorities, developers, builders and building owners to install these systems where there is a risk-based case for doing so, particularly where the risks to people are unacceptably high, or where there is a clear business case in terms of cost and benefit.

While Sprinklers play a positive role in reducing the human impact, economic and environmental cost of fire in any building they are installed in, we believe that our focus should be directed to those properties where the most significant impact can be achieved: domestic premises, residential care homes, schools and commercial premises that present a significant risk due to their size, construction or use.

The 'Think Sprinkler' campaign for the installation of domestic sprinklers in all new built homes and the retro-fitting to existing vulnerable homes is an example of the leadership that Avon Fire and Rescue Service is taking in this area.

To achieve the maximum outcomes for the inclusion of suppression systems and in particular the installation of domestic sprinklers, we will engage locally with all parties that have an involvement in;

- Local government
- Planning
- Housing provision:
- Local authorities
- Registered social landlords
- Private builders
- Industrial and commercial premises
- Residential care providers
- Water companies
- Environmental departments

Avon Fire and Rescue Service will canvas support for automatic water suppression systems and also use our statutory duties under the Regulatory Reform (Fire Safety) Order 2005 to ensure suppression systems are installed where required. Avon Fire and Rescue Service will work with building regulators to ensure that suppression systems are installed where necessary or included within premises as part of a design solution that allows conformity with regulatory requirements.

Our preferred option is to work in collaboration with all stakeholders to fit suppression systems and in particular, sprinklers to all new build homes, residential care premises, houses of multiple occupation and industrial and commercial premises. We will also campaign to ensure that sprinklers are retro-fitted where occupants are vulnerable to protect people from death and injury as a result of fire.

Local Government

Avon Fire and Rescue Service recognises the importance of working with local government to reduce the effects of fire on our communities. It is vital that the devastation and negative impact of fire on both the community and economy is not viewed as a problem for, Avon Fire and Rescue Service to be dealt with in isolation. Effective partnership collaboration with local authorities is essential in order to reduce the impact of fire. The installation of suppression systems offers a real way forward in the reduction of the impact of fire.

We will contact and lobby members of local government and members of all political parties with the aim of educating and raising the awareness to the benefits of sprinklers.

Domestic premises

Fires in the home still account for the greatest number of fire deaths and injuries each year and therefore the installation of Sprinklers in domestic premises would have a significant impact in reducing these. Fire and Rescue Service believes that it is vital that we use our influence to ensure that all new housing is fitted with sprinklers and other social infrastructure projects consider the benefits of sprinklers.

More and more vulnerable people with less mobility are remaining in their own homes. The evacuation policy of “get out, stay out, call us out” is becoming increasingly less appropriate as a result of an ageing and changing demography. Avon Fire and Rescue Service believes by providing sprinklers in all new build homes, we will go some way to addressing the challenges of a changing demography including an ageing population and policy changes to social care.

The Lifetime Homes Standard was established in the mid-1990s to incorporate a set of principles that should be implicit in good housing design. Good design, in this context, is considered to be design that maximises utility, independence and quality of life, while not compromising other design issues such as aesthetics or cost effectiveness.

The design criteria covers important considerations that need to be addressed in order to allow the dwelling to be used by occupants as they become older and more vulnerable to mobility issues, without moving into other care type premises. The population of the UK is growing in size and becoming increasingly older.

The Lifetimes Homes standards and in particular the design criteria do not adequately cover the protection of the occupant from the risk of fire. As occupants become older, less mobile and more susceptible to mental health issues they are also less likely to be able to escape from a fire in the home. The installation of a fire suppression system such as domestic sprinklers will protect the occupant.

Homes are being built to a ‘lifetime homes’ standard but they are not being built as homes for life, particularly when considering the risks from fire.

Avon Fire and Rescue Service firmly believe that all new homes should include the fitting of domestic sprinklers at the point of build and in particular any property designed to be used by more vulnerable groups. Providing sprinklers will protect all house occupants, particularly those that are vulnerable from the devastating effects of fire.

We will strive to ensure that all new built homes, especially those where our most vulnerable residents live are fitted with sprinklers.

We will also work with all local authority planners on influencing planning applications/decisions to require domestic sprinklers to be installed in

- all newly built homes;
- all refurbished/modernised homes.

Furthermore, we will actively work with planners to try and establish ways of ensuring that there is no legal challenge to these requests. We will use local acts, guidance and legislation where practicable.

Portable systems

Fire and Rescue Service recognises there are numbers of vulnerable people within Fire and Rescue Service area that are more at risk of fire. Often they are either short term residents, live within smaller accommodation, live within one room or transit to and from care establishments. In these circumstances it is not always possible or practical to retro-fit sprinkler systems. We will not however, leave these vulnerable people unprotected and will seek to fit portable suppression systems, where possible.

We will develop a set of guidelines to assist in prioritising those members of society who we believe are at the greatest risk of harm from fire and would most benefit from the installation of these systems.

We will also work with all partner organisations that represent the most vulnerable in society and will prioritise the most at risk.

Registered Social Landlords (RSLs)

The provision of social housing within Fire and Rescue Service must be safe and sustainable for both the occupants and the building owners. Fire and Rescue Service believes that a true partnership approach to housing with social landlords is needed to ensure that homes provide and maintain a high degree of safety from fire. The installation of domestic sprinklers will help to ensure a 'home for life'.

We will actively encourage and work with RSLs to fit domestic sprinklers into

- all newly built homes;
- all refurbished homes;

We will support RSLs, where appropriate, with funding to retro-fit sprinklers into properties where occupants are vulnerable. These will include all homes with a large occupancy and all modernised homes.

We will further draw up Memorandum of Understandings with those who are proactive and supportive of this objective to ensure this important work is completed in agreement with the occupants.

Residential care homes

Fire death and injury data indicates that those most at risk are children, older people, people with mental health problems, and particularly those with mobility problems who are unable to leave buildings easily. Care homes normally rely on stay-put or horizontal evacuation strategies when responding to alarms and fires.

The increase in the ageing population is resulting in the fact that many more people are less mobile. Original stay-put and horizontal evacuation strategies may no longer be appropriate to provide adequate protection for people living in residential care premises.

Scotland already has the requirement within Building Standards for all new build residential care buildings to have suppression systems installed. We are of the opinion that all residential care homes should be fully fitted with suppression systems for the protection of residents from fire.

Schools

The importance of sprinklers in schools has been recognised for many years. The latest reports suggest that these fires are getting bigger and more costly. The impact of these fires is significant, not just in financial terms, but also in terms of the devastating effect on the communities they serve. This can include damage to the environment and the disruption to students, teachers and families. The effects on children's education are not confined to lost course work but often include longer travelling times, disrupted social groups and poorer facilities.

The consideration of sprinklers at the design stage of a new school or the refurbishment of existing ones will keep sprinkler installation costs low. Engagement with designers and architects will ensure that schools can be designed to be user friendly, innovative and cost effective with the inclusion of sprinklers.

We will continue to work with schools, colleges and education authorities to ensure that the benefits of sprinklers are fully considered. In new and refurbished schools we expect that the Department for Education risk assessment tool and policy are used and that sprinklers are installed when recommended.

Commercial premises

Current Building Regulations provide a range of thresholds which already require sprinklers or other types of suppression systems to be fitted in commercial premises. These requirements are however limited and do not cover smaller commercial or industrial premises.

Irrespective of size, there is however a compelling case to be made for sprinklers in any commercial premises, on the basis of loss of production or interruption to business as a result of fire. Approximately 85% of small and medium businesses suffering a serious fire either never recover or cease trading within 18 months.

The installation of sprinklers in these types of premises will aid growth in the economy as fewer businesses will cease to trade, losses from fire will reduce and fewer businesses will be forced to relocate. The impact of the loss of trade and jobs to the economy of Avon Fire and Rescue Service area can be minimised by the installation of sprinklers.

We will continue to work with commercial organisations in order to promote the inclusion of sprinklers or other types of suppression system.

New developments and future proofing

Avon Fire and Rescue Service recognise that even with our best efforts we will not be successful in persuading all developers to install sprinkler systems; however there are still benefits to be gained in future proofing the building by including basic sprinkler infrastructure so that they can be retro-fitted at a later date, where there may be a significant increase in risk.

We will work with planners to ensure that the houses built are fitted with a 32mm mains water riser instead of the normal 25mm, so that sprinkler installations could be facilitated without an increase in costs from water companies in the future.

Avon Fire & Rescue Service premises – our approach

We believe in leading by example, and in order to demonstrate this commitment we will:

- Promote the fitting of automatic water suppression systems in all new build premises.
- Promote the retro fitting of automatic water suppression systems in existing premises undergoing substantial refurbishment.

In order to justify this approach we will carry out a risk assessment and a cost benefit analysis (CBA). The scoring outcomes of these are set out below.

Proposed overall scoring		Proposed scoring Parts 1 and 2		Proposed scoring Parts 3 and 4	
Low risk	0 - 30	Low risk	0 - 15	Low risk	0 - 20
Medium risk	31 - 80	Medium risk	16 - 35	Medium risk	21 - 40
High risk	81 - 200	High risk	36 - 65	High risk	41 - 135

Overall score

Low risk - The fire safety and fire protection survey and risk assessment indicates low risk. Sprinklers may be beneficial.

Medium risk - The fire safety and fire protection survey and risk assessment indicates medium risk. A sprinkler system is desirable.

High risk - The fire safety and fire protection survey and risk assessment indicates high risk. Sprinklers should be provided.

Freedoms in design

Even where not required by building regulation guidance, we strongly support the inclusion of sprinklers to achieve the many benefits they provide. We also encourage developers to use sprinklers to allow design freedoms where it can be demonstrated that they offer an equivalent level of safety and that the functional requirements of the regulations are met.

In today's challenging built environment there is a will and a motivation to construct innovative and aesthetically exciting buildings that often require design solutions that depart from traditional fire safety approved codes of practice.

The application of a performance-based approach using more specialised building codes, for example BS9999, allows stakeholders to demonstrate that sprinklers can offer an equivalent level of fire protection and life safety, resulting in greater freedom to fulfil their overall vision for such buildings. The installation of sprinklers allows for such flexibility and helps enable such features as:

- Larger compartment sizes
- More open spatial designs
- Extending travel distances
- Reducing exit door widths
- Reducing periods of fire resistance to elements of structure
- Reducing space separation constraints for example, distances between buildings
- Reducing design fire size allowing for alternative smoke management strategies
- Overcoming fire fighting access constraints
- Allowing more flexible building management plans for the end user

We will continue to encourage and support proposals for such design freedoms for both commercial and residential developments where it can be robustly justified that the functional requirements of the building regulations can be met.

Communication and public education

We are developing our communication methods in order to increase our influence with decision makers and stakeholders at every level about the benefits of sprinklers.

By improving communications and working with all audience groups we will continue to promote better understanding of sprinklers as an effective and reliable fire protection measure, be it from specific local development projects to national initiatives and legislative frameworks.



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Section 3 Legislation and guidance

Planning and the housing market

The housing market within the UK is facing a period of dynamic change with the introduction of new planning regulations. The draft National Planning Policy Framework is intended to streamline national policy from over 1,000 pages to 52 pages.

The draft planning regulations state;

‘The Government’s objective is to create strong, vibrant and healthy communities, by creating a good quality built environment, with accessible local services that reflect community needs and support well-being. To achieve this objective the planning system should:

- Create a built environment that facilitates social interaction and inclusive communities
- Deliver the right community facilities, schools, hospitals and services to meet local needs
- Ensure access to open spaces and recreational facilities that promote the health and well-being of the community.’

The possible effect of this policy change will be to invigorate and rapidly expand the house building programme. The growth in housing will require an expansion of resources and public services to meet the needs of new home owners.

Currently many public services are in the process of reducing their respective operations and may find allocating additional resources a challenge. Fire and Rescue Services, for example, may not be able to fund the provision of additional equipment. In this scenario the provision of domestic sprinkler systems will ‘bridge the gap’ and enhance safety from fire.

Avon Fire and Rescue Service would like to see sprinklers included in all new build homes throughout the UK as a matter of course, either through legislation or through a government backed incentive scheme. In Wales there is already a requirement for all new domestic premises to be fitted with automatic fire suppression systems.

We will continue to lobby Central Government for the same legislative change in England.

Local development frameworks

Direction from Central Government has influenced local authorities in the formulation of their respective Community Infrastructure Plans and Local Development Frameworks. These plans and frameworks will affect how local communities are designed for the coming decades. At the forefront of any plans are the requirements and obligations to ensure communities are safe.

Local communities will need to be inclusive and sustainable in terms of community cohesion and habitation. The design of future homes is an integral part of the process. Central government is continuing to promote the lifetime’s homes and lifetime neighbourhood’s ethos in the design of sustainable local communities. A Lifetime Neighbourhood is one in which civic and social processes together with physical conditions achieve the following outcomes:

- An environment that is accessible and inclusive, aesthetically pleasing and safe
- A community that offers plenty of services, facilities and open space
- A strong social and civic fabric, including volunteering and informal networks
- A culture of consultation and user empowerment amongst decision makers
- A strong local identity and sense of place

Currently work is on-going to ensure communities are kept safe from harm, from whatever source and many agencies are involved. The risk of harm from fire is still a real threat to our communities, which requires constant awareness and vigilance from all involved in its reduction. The risk of harm from fire dramatically increases amongst vulnerable groups such as the elderly, persons with mobility restrictions or those with other specific needs.

We seek to work closely with the local building control and planning authorities in order to influence building, planning, design and development at every stage so that the benefits of sprinklers can be considered before the design and costing decisions are so far advanced that it is too late to include sprinklers.

Water act

A major cost, which can vary significantly depending on the interpretation of individual water companies, is the cost of water supply. Sprinklers are currently not classed as a domestic use of water under the Water Industry Act 1991. Water companies are very heavily regulated and are under constant pressure to drive down costs while at the same time raising standards, within this operational framework there are many drivers which conflict with the potential ideals for sprinkler installation.

Recent developments in the wider use of sprinklers in domestic dwellings and residential premises have further highlighted that the issues are not adequately covered by current water industry legislation. The most effective way of addressing this is to change the regulations and achieve a balanced application thereby creating a framework which allows stakeholders to operate as harmoniously as possible.

We will work with CFOA to engage with water companies, regulators and legislators.

Environmental protection

Fires have a negative impact on the environment. Global warming and climate change in particular have become a central challenge in the development of a sustainable society in the UK.

Fires impact the surrounding environment in many ways, through direct gaseous and particulate emissions to the atmosphere, spread of atmospheric emissions, and deposition of atmospheric emissions, soil contamination and aquifer (water course) contamination.

Sprinklers can increase the sustainability and life expectancy of buildings by limiting fire development and significantly reducing the amount of smoke, CO₂ and other pollutants. Because only the sprinkler head or heads immediately above the fire actuate, less water is used than would be the case with conventional fire-fighting methods and there is a significant reduction in the amount of water run off carrying pollutants into the water system.

The carbon footprint of a building increases by a factor of three when destroyed by fire, which means that the environmental impact of fire in commercial premises is considered to be significant.

We will continue to promote the installation of sprinklers on the basis of life safety, reduction of fire damage and environmental sustainability. This will add value to our communities and be advantageous to both the economy and the environment.

Sustainability

The Government is encouraging UK businesses to move towards a permanent low carbon footing, whilst simultaneously securing maximum economic benefits. Moving to adapt to new models of sustainable development has now become a major focus in the construction industries.

To cement their commitments on sustainability to their stakeholders and staff, more and more public and private sector clients are demanding 'green' buildings. This has proved a powerful business driver as companies adopting this ethic achieve superior investment performance and efficiency through more productive buildings.

Fire sprinklers are very important elements in 'green' buildings, where their contribution to fire protection allows fire damage to be mitigated quickly, hence limiting economic loss, disruption, and most importantly, saving human lives and injuries.

Warehouse businesses have seen the UK's largest losses as a result of fire, according to the Association of British Insurers (ABI) and the Fire Protection Association (FPA). Though there are fewer fires in warehouses than in manufacturing, the financial impact can be disproportionately higher because of the loss of property and stock, the costs related to business interruption and liability implications.

The most recent ABI figures suggest insurers paid out between £639m to £3.6m every day for damage caused by fires in the first half of 2009. In an era when business is already suffering the aftershock of the worst recession in living memory, these mounting and completely unnecessary losses are unjustified and wholly preventable.

Fire loss however is more than just monetary. It goes beyond the traditional concept of risk, such as business interruption, cash-flow volatility, life safety and loss of reputation. This represents only a portion of the total impact and cost of fires to society.

Fire losses are felt across the real economy. They impact production downtime in a challenging competitive environment. They force closures of UK manufacturing sites and encourage the relocation of these facilities to countries where costs are likely to be cheaper.

Furthermore, buildings are usually uninhabitable after a fire. In comparison, a premise protected by a sprinkler system can usually be back in use within a few hours, and the rest of the building will often be unaffected. A valuable asset sprayed with water from a sprinkler can usually be recovered or restored in comparison to one that has been burnt to a cinder and completely destroyed by a fire hose.

Sprinklers prevent major losses by turning what could be a potential disaster into a minor inconvenience. And they do so time and again with irrefutable reliability. This is a small price to pay to prevent a business' hard earned success from going up in flames.

We will work with all stakeholders in the commercial sector and developers of buildings to highlight the benefits of sprinklers for businesses.

Safe environment

Fire sprinkler systems prove to be vital protection for a building, a company's assets and the welfare of people who work there.

Ensuring employee safety should always be top priority. Businesses should provide proper measures for fire protection, fire prevention, and firefighting and evacuation systems in an emergency.

Under the Health and Safety at Work Act 1974 businesses must safeguard the health, safety and welfare of all its employees, especially in the case of fire where steps must be taken to help protect workers from hazardous conditions. A sprinkler system is the only device that can detect a fire, sound an alarm, alert the fire and rescue service and deliver water immediately to the fire, thereby extinguishing it or preventing spread.

Businesses should always put safety first. Safety is about protecting employees from the risk of injury in the workplace.

Employers have a legal obligation to protect their staff and all employees have the right to work in places where risks are properly controlled and minimised.

A fire can obviously prove a serious threat to the health and safety of staff members. As well as external burns, or worse, some of the most incapacitating fire injuries relate to lung damage from breathing smoke and fumes. By protecting your business you protect your workforce.



Fire is a serious threat to personal safety and health. Firefighters who respond to fires place themselves at serious risk in order to protect life and property. Each year, thousands of fire fighters are injured in the performance of their duties worldwide.

While the majority of injuries are minor, a significant number are debilitating and career-ending. These injuries exact a toll on the Fire and Rescue Services. Recent cases of fires in business premises have demonstrated the dangers to which fire fighters are exposed, especially in very large, single-story buildings where the size, layout, and contents of the premises often result in substantial injuries.

The installation of fire sprinklers will significantly reduce injuries and deaths to firefighters and create a safer environment.

We will actively promote the installation of sprinklers to ensure the safety of the public and our staff. We will use our regulatory powers, where circumstances permit, to ensure sprinklers are installed in the built environment.



PREVENTING PROTECTING RESPONDING