

# Hampshire Fire and Rescue Authority

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## Sprinkler Strategy

### Report by the Chief Officer

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## 1 Summary

- 1.1 Hampshire Fire and Rescue Service is committed to making life safer for the people who live, work or visit Hampshire as well as reducing damage to property, the economy and the environment.
- 1.2 Automatic sprinkler systems have been subject to more political attention as a result of activity within the last 12 months. Legislative changes within the Welsh Assembly Government, a Private Members Bill in the House of Commons and a Government e-petition provide a national back-drop to the local sprinkler debate.
- 1.3 It is accepted that sprinklers and other automatic water suppression systems can greatly assist in the reduction of community risk albeit it is recognised that the business case for the installation of sprinklers in **all** property types has to be balanced between risk, desirability and affordability. This is particularly relevant during the current period of economic austerity.
- 1.4 Hampshire Fire and Rescue Authority (HFRA) have advocated generally for the installation of sprinklers in each of its Integrated Risk Management and Corporate plans since 2005.
- 1.5 HFRA held two officer-facilitated debates relating to automatic water suppression systems (AWSS), with a particular focus on sprinklers. The purpose of the debates was to enable the Fire Authority to have an informed view as to the benefits and limitations of sprinklers within different premises, as well as the areas of contention in order to assist in the development of its sprinkler position.
- 1.6 As a result of the outcomes of these debates an HFRA Sprinkler Position Statement has been developed (Appendix A).
- 1.7 This report follows a review after a previous version was considered at the February 2012 Hampshire Fire Authority Meeting.

## 2 Recommendations

- 2.1 That the position statement detailed in Appendix A is considered and accepted as the sprinkler strategy for HFRA.
- 2.2 That Fire Authority Members promote the new position statement and act as HFRA advocates, both as HFRA Members and Councillors and actively contribute to achieving risk reduction via the promotion of sprinkler installations within the identified risk premises.

### **3 Introduction and background**

- 3.1 HFRS is committed to reducing the impact of fire on people, property, communities and the environment. There is evidence that sprinklers and other forms of automatic fire suppression systems can be effective in the rapid suppression of fires and can therefore play an important role in achieving a range of benefits for both individuals and the community in general.
- 3.2 Sprinklers can significantly help to:
- Reduce death and injury from fire
  - Reduce the risks to fire-fighters
  - 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
  - Enable design freedoms and flexibilities that encourage innovative, inclusive and sustainable architecture
- 3.3 HFRS plays a key leadership role in promoting better understanding of the benefits of sprinklers and, accordingly works to encourage building owners and developers to install these systems where there is a risk-based case for doing so, for example, where the risks to people are unacceptably high, or where there is a clear business case in terms of cost and business continuity.

### **4 Sprinklers – The national picture**

- 4.1 Currently sprinklers are mandatory in large un-compartmented warehouses and high rise buildings used as flats over 30m high.
- 4.2 The Chief Fire Officer's Association (CFOA) have published position statements relating to the support for sprinklers in different types of risk premises including schools, domestic, commercial and residential care.
- 4.3 In 2011 the Welsh Assembly Government introduced new legislation making it mandatory for all new homes in Wales to be built with domestic sprinklers. This legislation is currently at the stage of developing the explanatory regulations.
- 4.4 Building Regulations (Review) Bill [HL] 2010-12) - *“A Bill to make provision for a review of the Building Regulations 2000 with regard to the installation of automatic fire suppression systems in new residential premises”.*

UK Parliament's latest update states: *“The Bill was not moved for debate on 27 April 2012. The order to read the Bill a second time lapsed. There is no indication when the Bill will progress further.”*

There are some indications that this delay is in order to quantify the impact of the legislation on house building in the Country of Wales.

- 4.5 Early Day Motion (EDM 2379) to introduce measures requiring all new dwellings in England to be fitted with sprinkler systems was submitted to Parliament in 2011.
- 4.6 Early Day Motion (EDM 2464) to introduce measures requiring all commercial and

industrial buildings in the UK to be fitted with sprinkler systems was submitted to Parliament at the end of 2011.

- 4.7 A CFOA commissioned report to assess the cost benefit analysis of residential sprinklers has recently been published by BRE Global. This report was to review the findings of a previous ODPM commissioned report of 2004. The headline findings are that sprinklers are cost effective in the following types of buildings:
- Residential Care Facilities (for elderly, children and disabled);
  - Blocks of flats (purpose built or converted) where costs are shared;
  - Traditional bedsit type House in Multiple Occupancy, where there are at least 6 units.
- 4.8 The Local Government Association (LGA) and CFOA have recently produced a national toolkit for use with sprinkler promotion. This toolkit is designed to assist local campaigns with promoting sprinklers to aid the protection of higher risk vulnerable people.  
This approach seeks to highlight that the mandating of sprinklers into any premises type but particular one as wide as residential properties is a government decision and will require legislative change.
- 4.9 The Government's current position on sprinklers is that there is no requirement for legislation over and above that already covered by building regulations and other local enactments.

## **5 Current situation - HFRS**

- 5.1 HFRA have advocated the installation of sprinklers in each of its Integrated Risk Management and Fire and Rescue Service corporate plans since 2005. The current Plan explains that we will *"promote the use of automatic sprinkler systems in buildings that are more likely to have a fire or that are difficult to escape from and fit 15 sprinkler systems in major building projects by 2012"*.
- 5.2 HFRS have previously reported on the successful progress of this measured approach, exceeding the target with some notable successes in terms of influencing sprinkler installations i.e. residential care homes, high rise and timber-framed development during the construction phase.
- 5.3 HFRS have a fire safety officer embedded within Hampshire County Council providing an effective interface between the Service and the County's built estate and helps facilitate this interpretive approach.
- 5.4 HFRA held two debates relating to automatic water suppression systems (AWSS), with a particular focus on sprinklers. The purpose of the discussions was to enable the Fire Authority to have an informed view as to the benefits and limitations of sprinklers within different premises and risk types and to assist the Authority in further developing its sprinkler strategy.
- 5.5 The outcome of the debates and the views of the members have led to the draft HFRA Sprinkler Position Statement in Appendix A.
- 5.6 Whilst sprinklers play a positive role in reducing the human impact, economic and environmental cost of fire in any building HFRS believe that focus should be directed to those properties where the most significant impact can be achieved: schools, residential care homes, significant timber-framed construction projects,

domestic premises housing the most vulnerable and commercial premises that present a significant risk due to their size, construction or use.

- 5.7 To this end HFRS have established a sprinkler strategy group which drives and coordinates sprinkler activity locally. The strategy group benefits from having an elected Member as an active participant and sprinkler champion.

## **6 Supporting our corporate aims and objectives**

- 6.1 HFRA have advocated the installation of sprinklers in each of its Integrated Risk Management and Corporate plans since 2005.

- 6.2 One of our current service priorities is Property and specifically to:

*“promote the use of automatic sprinkler systems in buildings that are more likely to have a fire or that are difficult to escape from and fit 15 sprinkler systems in major building projects by 2012”*

- 6.3 HFRS have previously reported on the successful progress of this objective with some notable successes in terms of influencing sprinkler installations i.e. care homes, high rise and timber-framed development during the construction phase.

## **7 Risk analysis**

- 7.1 None identified

## **8 People Impact Assessment**

- 8.1 The HFRS Sprinkler Position Statement is designed to reduce risk to those people most vulnerable within our communities. As such it is considered that this proposal does not adversely affect any groups of people.

- 8.2 The proposals in this report are considered compatible with the provisions of the European Convention on Human Rights, the Human Rights Act 1998, and the Race Relations (Amendment) Act 2000.

## **9 Environmental and Sustainability impact assessment**

- 9.1 The early intervention of a sprinkler system on a fire reduces carbon emissions, minimises the water used for fire-fighting as well as reducing property and environmental damage.

- 9.2 Maximising the use of new technological solutions with sprinklers can further enhance the environmental benefits. Solutions such as harvesting rain and grey water sources as a means to supply sprinkler systems continue to be developed.

## **10 Conclusion**

- 10.1 Sprinklers and other automatic water suppression systems can greatly assist in the reduction of community risk albeit it is recognised that the business case for the installation of sprinklers in all property types has to be balanced between risk, desirability and affordability. This is particularly relevant during the current period of economic austerity.

- 10.2 As a result of the recent debates detailed above, and in recognition of national

developments a position statement has been produced which seeks to offer an effective sprinkler strategy for the Authority. This will be developed further into an action plan and delivered by the Sprinkler Strategy Group.

- 10.3 With regard to the future it is important to ensure that the Service keeps pace with developments within the field of automatic suppression systems in terms of technological, financial cost and business case advances. In recognition of this, the action plan and Position Statement will be reviewed annually by the Sprinkler Strategy Group.

## **11 Background papers**

- 11.1 The following documents disclose the facts or matters on which this report, or an important part of it, is based and has been relied upon to a material extent in the preparation of the report:

Building Bulletin 100 – Design for Fire Safety in Schools – DCSF 2007  
BRE Global – Cost benefit analysis of residential sprinklers (2012)  
LGA Sprinkler Campaign toolkit

Note: The list excludes: (1) published works; and (2) documents that disclose exempt or confidential information defined in the Act.



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## **Hampshire Fire and Rescue Authority (HFRA) Position Statement for Sprinklers – September 2012**

### Sprinklers

Hampshire Fire and Rescue Authority play a key leadership role in promoting a better understanding of the benefits of sprinkler systems. Accordingly, the Authority works to encourage building owners and developers to install these systems where there is a case for doing so, for example, where there are risks to people, or where there is a clear business case in terms of cost and benefit.

Sprinklers can add clear value and are proven to save lives and property; they improve firefighter safety; minimise environmental damage and reduce the economic cost of fire. Hampshire Fire and Rescue Authority proactively endorses the installation of sprinkler systems.

### Refurbished Buildings (Retro Fit)

Where significant refurbishment or upgrade is being planned in buildings which are occupied by vulnerable people, we advocate the installation or retro fitting of sprinklers. In older buildings, built to earlier standards, the level of risk may no longer be acceptable and the retro fitting of sprinklers may be appropriate to overcome the risks.

*HFRA will promote and campaign for the use of fire sprinklers in high risk premises to enhance and improve public and firefighter safety.*

### Sprinklers in Schools

The prevention of fires in educational establishments remains a priority for us because of their standing as a public and community asset and their importance for the educational well-being of children. Moreover the loss of course-work, the implications in terms of wider economic and social costs, property protection and environmental damage means fires in schools have far reaching consequences. Schools also tend to be a target for arsonists.

*HFRA recommends that new schools should have sprinklers fitted. Any exceptions to this will have to be justified by demonstrating that a school is low risk and that the use of sprinklers would not be good value for money.*

### Sprinklers in Residential Care Premises

Fire deaths 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. These buildings are an asset to the community due to their importance in looking after those most vulnerable and remain a priority for us to protect.

*HFRA strongly recommends that all new residential care homes should be fully fitted with sprinklers for the protection of residents from fire.*

## Sprinklers in High Rise Buildings

Fires in this type of building can present additional risks and considerations for the occupants and firefighters. The design and construction of these buildings delay intervention by the fire service meaning fires can escalate.

*HFRA will campaign for sprinklers to be a mandatory requirement in all buildings above 30 metres in height..*

## Sprinklers in Commercial Buildings

The risks to fire-fighters in large commercial buildings are substantial due to the size and potential for rapid collapse of the building. This is particularly relevant when considering modern methods of construction. Sprinklers would assist to reduce risks associated with firefighting operations. The presence of more large commercial buildings with sprinklers will aid growth in the economy as it will reduce business losses from fire as fewer businesses will financially fail or be forced to relocate. It has been recorded that the carbon footprint of a building increases by a factor of 3 when destroyed by fire. The environmental impact of fires in commercial premises is great. Using sprinklers to control fires will reduce this impact on the environment.

*HFRA will promote the installation of sprinklers in all large commercial buildings on the basis of improved fire-fighter safety.*

## Sprinklers in Timber Framed Constructed Buildings

Unlike traditionally built property, a timber framed building is at the greatest risk of fire during the construction phase due to the amount of exposed and unprotected combustible elements. Fires in timber framed buildings have resulted in very rapid fire development leading to early structural collapse, and the severity of radiant heat generated has caused fire spread to neighbouring buildings up to 30 metres away.

*HFRA recommend that substantial timber framed buildings are installed with sprinklers and installation should be completed early to protect the building during the highest risk construction phase.*

## Sprinklers in Domestic Premises

Fire safety measures such as smoke detectors may sometimes not be sufficient to protect the most vulnerable when there is a fire within their home, due to their inability to evacuate themselves. This vulnerability can be due to a number of factors including lifestyle characteristics and physical mobility. The ageing population and changes in social care policy mean that more vulnerable people are remaining in their own homes.

*HFRA recommend that sprinklers should be installed in the homes of those residents who are most vulnerable from a fire.*