

4th April 2008

Huw Lewis AM
Chair, Proposed Domestic Fire Safety LCO Committee
Welsh Assembly Government
Cardiff Bay
Cardiff

Dear Chair

Public Consultation - Proposed Domestic Fire Safety LCO Committee

The three Fire and Rescue Services in Wales welcome the opportunity to submit evidence to your Committee on the Proposed Domestic Fire Safety LCO.

In your letter dated 19th March 2008 you specifically asked to receive evidence in three main areas. The evidence we submit will therefore be in the order of the questions you raise.

"1. What are your views on the general principal that legislative competence in the area identified in Matter 11.1 be conferred on the Assembly?"

We understand that this LCO is part of a process to extend the legislative competence of the National Assembly for Wales to make new laws for Wales under Section 93 of the 2006 Act, specifically to impose requirement for fire sprinkler systems to be fitted in new residential premises¹. Legislative competence is sought in this area so that the Assembly can play a vital role in changing and improving the lives of people in Wales.

Effectiveness of Sprinklers

While sprinklers have been used for the protection of commercial property for over 130 year, there is now a growing recognition of their effectiveness in improving levels of life safety in other types of buildings, and the use of sprinklers is becoming more widespread. The latest version of Approved Document B (2006), in support of the Building Regulations, incorporates clear recognition of the value of sprinklers in improving levels of safety for occupants, as well as in preventing the spread of fire. Other developments have demonstrated the value of sprinklers in providing additional levels of safety for fire-fighters in large, complex structures or in buildings where the fire load is excessive.

With the introduction of the latest fast-response sprinkler heads there is clear evidence that, even in the compartment of fire origin, occupants enjoy a significant additional measure of life safety.

¹it is proposed that the term 'domestic occupancy' replaces 'residential' premises - (See Answer 3)

The principal benefits of sprinklers are:

There has never been a fire death in a fully sprinklered domestic building in the United Kingdom. (Indeed it has been estimated that 11 lives have been saved by systems in the UK since the late 1990s).

It is estimated that property losses in buildings protected with sprinklers are one tenth of those in unprotected buildings.

Sprinklers not only detect a fire and sound an alarm, but they also control and extinguish a fire.

Conditions for fire-fighters entering a building involved in a fire are much less hazardous and arduous than if the fire had developed unchecked.

Environmental Benefits - sprinklers use substantially less water to control and extinguish a fire compared to the amount required by the Fire Service if a large scale attack was required. Sprinklers protect the environment by controlling a fire in its early stages; significantly reducing airborne pollution and fire water run off.

Sprinklers protect community assets such as schools that have a wider use than just educational purposes. They can help maintain local economies by protecting workplaces, ensuring business continuity.

It is evident from these benefits that the widespread installation of sprinklers can improve the safety of people in Wales and the protection of property, whilst also reducing the economic cost of fire, thereby allowing the savings to be reinvested into our communities.

2. What are your views on the terms of the proposed Order? For example, are they too narrowly or too broadly drawn? Will they allow for the future implementation of the policy proposals as outlined in the Explanatory Memorandum?

We believe that the terms of the proposed Order are neither too narrowly nor too broadly drawn. By having the proposed Order affecting residential¹ premises, this allows for collation of evidence leading to support of moving on to more challenging and costly installations if appropriate.

Examples of Other Countries

In Europe no government currently requires sprinklers to be provided in all types of housing, although some do have requirements for sprinklers in high-rise or large residential buildings.

It is in Canada and the USA that there are some specific requirements for sprinklers in new housing. The best known of these is Vancouver in Canada. Over a third of the city is now protected by sprinklers, including all the high-risk buildings. Annual fire deaths in Vancouver, a city of 500,000 inhabitants, have dropped from an average in the high twenties in the 1970s to a present average of one (zero in some years), and in all that time there has never been a fire death in Vancouver in a sprinklered building.

In the USA, probably the most well known example of the mandatory installation of sprinklers is Scottsdale, Arizona. Scottsdale is a rapidly expanding new city; it introduced a requirement for sprinklers in all new housing in 1986. Over 53% of the city is now protected by sprinklers, and again that part has not seen any fire deaths, while there continue to be deaths in unsprinklered buildings.

Moreover Scottsdale has a much lower rate of fire deaths, injuries and property damage than the rest of the United States.

Prince George's County, Maryland, USA has also adopted legislation to require the installation of sprinklers in single family homes.

Research was subsequently undertaken to evaluate the success of this legislation. The key findings were that it was estimated that of 117 fires in sprinklered buildings 154 lives were saved. The average property loss in a sprinklered building was \$3,300 compared with \$80,000 in a building without sprinklers and an estimated \$9 million was saved in property losses.

Scotland, as a country within the UK where legislative power rests with the country's own executive, is a good example of the progress that can be made. Sprinklers are mandatory in enclosed shopping centres, high rise blocks of flats, residential care premises and sheltered housing complexes. There is also a proactive approach to promote domestic installation, with several good examples, one of the most recent being the co-operative work between Strathclyde Fire and Rescue Service, Glasgow City Council and the developer, which assisted increased installation of domestic sprinklers².

3. "Is it necessary to set out the meaning of 'new residential premises' and 'sprinkler system' in the proposed Order? If so, are the interpretation provisions appropriate, or should there be any changes to the way they are drafted? If so, how and why?"

We feel that the wording 'new residential premises' although defined in the draft Order does not fully complement the British Standard for Domestic Sprinklers 9251: 2005. Section 3.7 of BS 9251: 2005 states that:

"Domestic Occupancy - Individual dwelling for use as a single family unit used or constructed or constructed or adapted to be used wholly or dwelling houses, individual flats, maisonettes and transportable homes with a maximum individual room size of 40m²"

Section 5.2.5.1 goes on to specify flow rates, these are:

"Flow rate - 60 ltr/min through any single sprinkler, or"

" 42 ltr/min through each of the two sprinklers operating simultaneously in a single room"

Section 5.2.5.6:

Mains - as above plus at least 25 L/M (BS 9251:2005)

It is our contention that the new Order should reflect the British Standard and reframe the term 'residential premises' to 'domestic occupancy' and include the description contained above.

²The Fire Sprinklers in Residential Premises (Scotland) Bill was withdrawn on the 29th September 2004 as there were new regulations included in the Building (Scotland) Regulations 2004 which came into force in May 2005.

As for the term 'sprinkler system', within the fire community the accepted term used for a sprinkler system is 'automatic water suppression system' (AWSS) which allows for growth in the sprinkler industry for equally effective AWSSs. We therefore feel that the term 'automatic water suppression system' would be a more appropriate term to use and that any AWSS proposed should be covered by the appropriate British Standard.

Conclusion

The effectiveness of domestic sprinklers in protecting life and property, whilst also reducing economic and environmental consequences, is not in question. This can be demonstrated through actual examples, in both domestic and commercial settings, and from research.

The wider provision of such systems in the domestic scenario revolves around the initial cost of installation - in terms of both the system itself and water supply. Therefore, the crux of the matter is not in proving the effectiveness of the systems, but in establishing the cost-effectiveness of such systems.

The cost of system installation and maintenance is continually reducing with advance in technology. Further reductions can be anticipated if the domestic market expands. This would then leave the cost of water connection and supply as the main obstacle in the cost-effectiveness argument, particularly in Wales.

It can be seen from the evidence presented above, particularly in relation to Canada and the USA, that they can have a dramatic effect

on the future of the individual, communities and the sustainability of society by preserving life and protecting property.

I trust we have supplied you with enough information but we would be happy to elaborate should you wish. Please do not hesitate to contact Chris Enness at the above address should you require any further information.

Yours sincerely,

Chris Enness

Deputy Chief Fire Officer