

## Legislation Committee No.1

### Response to the consultation on the Proposed Domestic Fire Safety (Wales) Measure

#### National Fire Sprinkler Network

Memo from Iain Cox – Claire Griffiths, Deputy Committee  
Chair – National Fire Sprinkler to Clerk – Legislation Office  
Network.

#### EXECUTIVE SUMMARY

- I must applaud the Welsh Assembly (and Ann Jones AM in particular) about its visionary and pragmatic approach to seek to bring about this significant safety measure for the people of Wales where accidental fire deaths are in the upper quartile of fire death statistics per 100,000 population.
- The Welsh fire fatalities are from a narrow age band and well defined socio-economic group, predominantly where smoke alarms and community education has failed to impact, and we concur with the Welsh Fire & Rescue Services that automatic fire sprinkler protection is the only sure way to reduce further the rate of fire deaths, and injuries from fire.
- It would be difficult to find any other regulatory means to transfer these powers to the Welsh Assembly expediently, which impact on such a relatively small number of people. (some 3 million).
- There would appear to be minimal issues for other Welsh institutions, except for Dwr Cymru, and they are generally supportive of the justification for this initiative.
- The LCO is in accordance with the Government of Wales Act 2006.

#### BRIEF INTRODUCTION FROM THE SUBMITTER:

My name is Iain Cox **QFSM MA BSc (Hons) MCIPD**, and I am the current Chief Fire Officer of the Royal Berkshire Fire & Rescue Service, and also the Chair of the National Fire Sprinkler Network.

I also serve on the Board of the Chief Fire Officers' Association, having been the lead Officer of the CFOA National Fire Safety Committee.

## FACTUAL INFORMATION TAKING ACCOUNT OF THE CONSULTATION QUESTIONS – AS OUTLINED IN ANNEX A

1. The LCO is within the spirit and scope of the devolution settlement, in that it seeks powers under the LCO, to undertake something which is of concern specifically to Wales, which cannot be achieved under the existing Regulations. The incidence of fire deaths in Wales is in the upper quartile of UK fire death statistics per 100,000 population.
2. The use of the LCO mechanism is in accordance with the Government of Wales Act 2006 (Part 3 Measures – paragraphs 94 to 96), which allows specific measures to be devolved, using the LCO, where it is expedient and beneficial, and where the Welsh Assembly Government is seen as competent to have such powers devolved.

The issues affecting the people of Wales differ from those in other parts of the UK, and it would seem right and proper for Wales to be able to determine the measures necessary to achieve its own fire safety needs and objectives.

The most recent fire statistics show that the very successful community fire safety initiatives, resulting in a downward trend in fire deaths, have, in all likelihood, reached a plateau, and something else needs to be done.

2. a) Most people who die in fires, die in their homes. Fire deaths in sprinklered premises are extremely rare, and the Measure is likely, not only to reduce fire deaths, but in time, to almost eliminate them altogether. The LCO will require all new build housing to have an automatic fire Sprinkler system installed, which is likely to have the following impact:

all but eliminate fire deaths,  
reduce injuries from fire by 80%, and  
property damage by 80%,  
it is consistent with Government's policy on sustainable homes and significantly reduces the impact of fire on the environment,

whilst improving firefighter safety.

b) The excellent research undertaken by the Fire & Rescue Services in Wales has identified those who are dying in fires in Wales, are mainly in residential dwellings and are from a narrow age band and well-defined socio-economic group. Clearly the installation of smoke alarms and community safety education has failed to impact on this group, and we concur with the views expressed by the Fire & Rescue Services, that sprinklers are the only certain way to reduce further the rate of fire deaths. It will obviously be better to concentrate initially on these premises.

c) The LCO will not require any additional funding to be transferred, and the only policy change will be a variation from England, insofar as the Building Regulations apply to fire safety in domestic dwellings. The purpose and scope of the LCO were extensively discussed and defined during the scrutiny stage of the Welsh Assembly Government's procedure as outlined in the June 2008 report, and by the Welsh Affairs Select Committee.

The proposed LCO would not appear to necessitate the formation or Abolition of Welsh institutions and structures, and the use of the LCO is more appropriate than for example, the use of Framework powers in a Westminster Bill to confer competence on the Assembly.

Statutory guidance and/or secondary legislation would be difficult, without it also being retrospective in England. This is a Wales specific issue, identified by the Fire & Rescue Services in Wales, and recognised by the Welsh Assembly. It would seem right and proper for Wales to be able to determine the measures necessary to achieve its own solutions in relation to Fire Safety, where the Fire & Rescue Service is now the responsibility of the Welsh Assembly.

d) The enforcement provisions listed in the Fire Safety (Wales) Measure utilise the provisions of the 1984 Building Act as if the Requirement for that work, when completed, comply with section 1(1) of the Measure, and were a requirement imposed by Building Regulations. We anticipate that this would operate very similarly to the earlier provisions to fit automatic smoke detectors to new build properties in Wales. As such it should not result in any practical difficulties.

e) It is considered entirely appropriate for Welsh Ministers to use powers to protect the lives of the people of Wales, as there can be no greater responsibility bestowed on those in office than to safeguard the lives of its citizens, provided the costs are outweighed by the benefits, which we are confident they are. Updated cost benefit analysis research produced during the Measures stage, is expected to support this.

The requirements with which the automatic fire suppression system must comply, are that each residence must be provided with an effectively operating automatic fire suppression system, meeting the relevant standard. This is currently BS9251 and would need to be installed by an accredited installer, whilst meeting the requirements of the Water Industries Act, as advised by the appropriate Water Company. Thousands of fire suppression systems have already been installed in the UK, complying with these requirements, and without difficulty.

The practicalities of complying with the provision of information to accompany plans for building work (section 3(1) and (2) are similar to those utilised in compliance with the previous automatic smoke detector provision requirement. Plans and/or proposals are also similarly discussed with the Water companies, to ensure they meet the Water Regulations requirements.

f) General provision in relation to “Interpretation” (Section 4) are consistent with previous discussions which the NFSN has had with legislators, and it is acknowledged that the definition of “residence” might need to be further qualified.

General provision in relation to “Regulations and Orders” (section 6) are necessarily a matter for Welsh Ministers, as they see appropriate, but the NFSN would consider the earliest operational date for commencement of the Measure to be in the best interests of life safety, and the prevention of further deaths from fire in the home. Automatic fire suppression installation in residential premises is now well established in the UK, and the legislation compliance in Wales, is well within the capability and capacity of the fire suppression industry.

3. The only practical implications of the proposed Measure, are in relation to a public awareness campaign and education exercise for Building

Controls, Home Builders, Care providers and the like, to ensure the implementation date is known, and the benefits likely to be accrued in time, are advertised (very much similar to seat belts in cars).

The Water Companies may request a phasing of the implementation of This Measure to allow them time to prepare, but this should be resisted, as their part of the installation is minimal, and thousands of fire suppression systems are already in place throughout the UK.

4. In examining the financial implications, we must firstly ask: Why are fire sprinklers important?

Fire sprinklers almost eliminate fire deaths. Fire sprinklers are the most proven form of fire suppression technology. There have never been multiple losses of life from fire in a building fitted with an approved working sprinkler system anywhere in the world.

Sprinklers are seen as a preventative measure, in most cases they will extinguish the fire, on other occasions they will contain the fire so that people can get out of their homes in the event of a fire occurring. They will also reduce the risk to fire fighters who are called to deal with domestic fires.

#### **Costs associated with domestic fires:**

In 2004, the total economic cost of fire in the UK was estimated at £7.03bn, equivalent to approximately 0.78% of the gross value added of the economy<sup>1</sup>. Of the £7.03bn, £2.5bn can be attributed to the consequential costs of fire such as property damage, lost business, and the loss to the economy from injuries and deaths.

If this £2.5bn could be used elsewhere it could buy:  
over 5000 hospital beds or  
80 new secondary schools

The human cost of fire is often said to be the most difficult to estimate and include healthcare costs, lost output and emotional and physical suffering.

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<sup>1</sup> Department of Communities & Local Government, The Economic Cost of Fire: Estimates for 2004, April 2006  
<http://www.communities.gov.uk/fire/fireandresiliencestatisticsandrefirestatistics/economiccost/>

Government figures (ODPM – The Economic Cost of Fire) have estimated fires cost the economy £1.375m for a fatality, £155,000 for a serious injury and £12,000 for a slight injury.

The cost of fire in domestic buildings remains one of the largest contributors to the total economic cost of fire, accounting for 28% of the overall cost.

The average cost of a fire in a domestic property is estimated at £24,900, of which approximately £14,600 is accounted for by the economic cost of injuries and fatalities and £7,300 is due to property damage. This estimate include healthcare costs as a direct consequence of fire – it does not include emotional suffering and healthcare costs related fire-fighter injuries incurred during training.

#### The benefits of fitting fire sprinkler systems in domestic properties

Sprinklers have been incorporated in buildings for some considerable time and were originally seen and developed as a means of reducing fire losses to property and contents. Over recent years there has been a growing recognition of their use as a means to contributing to life safety which is now recognised in current UK guidance to the Building Regulations<sup>2</sup>.

#### Building Research Establishment Report – Effectiveness of sprinklers in residential premises

The former Office of the Deputy Prime Minister commissioned the Building Research Establishment to conduct a study of the effectiveness of sprinklers in residential premises. The report, which took three years to produce, was published in 2006.

The report concluded that residential sprinklers were probably cost effective For residential care homes and tall blocks of flats; however, it found they were not cost effective for other dwellings.

The FSA in their response to the report, questioned much of the data used by

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<sup>2</sup> Department for Communities and Local Government, Approved Document B (Fire safety) – Volume 1: Dwelling houses (2006 Edition)  
<http://www.planningportal.gov.uk/england/professionals/en/1115314683674.html>

the BRE in both the Pilot Study and Cost Benefit analysis – the data relied heavily on Rohr 2002 and Ruegg & Fuller 1984. Since residential sprinklers were only approved in 1981, the Ruegg and Fuller report of 1984 had very little data to rely on. In addition, the Rohr report contains thought to be incorrect data that suggests a number of people die each year in sprinkler-protected in the USA – this does not happen. Fire sprinklers have now been available for over 140 years and there are now many millions of sprinkler protected buildings around the world. Yet in all that time and in all these buildings only a handful of deaths have been recorded, most of which were caused by explosions, structural collapse or the turning off of the system by human agent.

The Cost Benefit analysis essentially compares the cost of installation and maintenance to the saving in lives, injuries and property damage, all taken over the expected life of the system. The data used by the BRE report is derived mainly from UK commercial sprinkler data and experience from other countries has been largely ignored. As outlined above, Scottsdale, Arizona, USA and Vancouver, Canada have for some years required all new residential and commercial properties to be fitted with sprinklers, yet this has not been used in the BRE calculations. The report concluded that residential sprinkler would only be 70% effective in preventing death, 30% in preventing injury and 50% in preventing property damage. By comparison both Scottsdale and Vancouver quote sprinklers as being 100% effective in preventing death, 85% in preventing injury and 90% in reducing property damage.

It is anticipated that we will have a more current and meaningful review of the BRE study before the Measure is implemented.

In closing, the National Fire Sprinkler Network wishes to applaud the National Assembly for Wales, in taking measures to halt the unacceptable loss of lives and burn injuries in fires in Wales. This measure, if adopted, will make Wales the safest place to live from the effects of fire, in the UK.