

**Member Proposed Legislative Competence Order:  
Domestic Fire Safety  
Draft Explanatory Memorandum**

**Introduction**

1. This Memorandum has been prepared and laid in accordance with Standing Order (SO) 22.14. It sets out the background to the provisions in the attached Member proposed Legislative Competence Order (LCO), which would confer additional legislative competence upon the National Assembly for Wales. It is laid in accordance with SO 22.13 and explains the scope of the power requested.
2. The constitutional context to this request is set out by the Government of Wales Act 2006 (the 2006 Act) and the UK Government's policy. The UK Government's White Paper "Better Governance for Wales" published in June 2005 set out the UK Government's commitment to enhance the legislative powers of the National Assembly for Wales, as a democratically elected institution with its own detailed scrutiny procedures.
3. Section 95 of the 2006 Act empowers Her Majesty, by Order in Council, to confer competence on the National Assembly for Wales to legislate by Assembly Measure on specified matters. These matters may be added to Fields within Schedule 5 to the 2006 Act. Assembly Measures may make any provision which could be made by Act of Parliament (and therefore can modify existing legislation and make new provision), in relation to matters, subject to the limitations provided for in Part 3 of the 2006 Act. An Order in Council under Section 95 of the 2006 Act is referred to as a Legislative Competence Order (LCO) in this memorandum.
4. Matters may be inserted into the fields contained in Schedule 5 to the 2006 Act, by either an Act of Parliament or a Legislative Competence Order, approved by the Assembly and both Houses of Parliament. The latter route enables the Assembly to initiate the process for conferral of such competence, via a Legislative Competence Order.
5. The proposed Legislative Competence Order would confer further legislative competence on the National Assembly for Wales, in the field of Housing (field 11, Part 1, Schedule 5 to the 2006 Act).
6. New legislative powers in respect of the specified "matter" will enable the Assembly Government, Assembly Members and Assembly Committees to bring forward coherent proposals for legislation, in the form of Measures, which are based on Welsh priorities and timescales. These Measures will be subject to thorough scrutiny and approval by the Assembly.

7. On 26 June 2007 Ann Jones won the ballot to bring forward a proposed LCO. On 10 October 2007 the National Assembly for Wales, in accordance with Standing Order No. 22.50 agreed that Ann Jones may lay a proposed Order, to give effect to the outline proposed Order provided on 26 June 2007 under Standing Order No. 22.48, and an explanatory memorandum<sup>1</sup>.

## **Background**

*What the LCO aims to achieve.*

8. The LCO seeks to confer legislative competence on the National Assembly for Wales so that an Assembly Measure may be brought forward requiring all new build housing in Wales to be fitted with a fire sprinkler system. For the purposes of the proposed Order, “new build housing” means “new residential premises” which is defined as premises constructed for or converted to residential use, including residential premises created by physically subdividing or incorporating existing residential premises. The LCO would allow the National Assembly for Wales to legislate in this area of policy. A Measure would then be brought forward making it a requirement for fire sprinklers to be fitted in new residential premises.
9. The objective of the proposed LCO (and the subsequent Measure) is to reduce the incidence of death and injury from fires in new build housing in Wales. This is to be achieved through a requirement for fire sprinkler systems to be fitted in all new residential premises. This is seen as a preventative measure so that people can get out of their homes in the event of a fire occurring. It will also reduce the risk to fire fighters who are called to deal with domestic fires.
10. It is intended that the LCO includes all newly constructed residential premises and conversion of buildings from another use to residential use. Retrospective fitting of sprinkler systems to existing residential premises would not be included.
11. A fire sprinkler system is defined as any automatic fixed system intended to extinguish control or contain fires by means of water propelled under pressure through pipework and spray heads which operate when a predetermined temperature is reached. The current British Standard for residential fire sprinklers referred to in the Building Regulation is BS 9251:2005.

### *Fire Deaths in Wales*

12. Across Wales an average of 20 people lose their lives to fire each year. About 80% of fire related deaths and injuries occur in the home.

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<sup>1</sup> [RoP p79-100, 10 October 2007](#).

13. In the year to September 2006, there were 10 deaths in accidental fires and 494 fire related injuries in dwellings in Wales. In addition there was 1 death and 80 fire related injuries from deliberate fires in dwellings in Wales<sup>2</sup>.
14. Evidence suggests that certain population groups are more at risk from domestic fires. Research carried out by the Department of Communities and Local Government has identified groups who more at risk of fire than the general population<sup>3</sup>. According to this research, the vulnerable groups tend towards lower income/deprived demographic groups, specifically:
  - Single middle aged people, drink and smoke at home (aged 40-59 male bias)
  - Female single parents
  - Very elderly
  - Disabled/impaired
  - Young people (16-24) – including students
15. The Welsh Assembly Government of the First Assembly established a Community Fire Safety Working Group. The remit of the Group was to examine the scope for widespread adoption in Wales of Hard Wired Smoke Detectors in Social Housing; the installation of domestic sprinkler systems and their extension to other multiple occupational public buildings and to examine options for managing and controlling the incidence of arson. The Group's report *Wired for Safety*<sup>4</sup> was published in October 2001 and recommended that the National Assembly should amend its Development Quality Requirements so that all new social housing in Wales should have domestic sprinkler systems installed during construction. It also recommended that the Assembly should look to enforce a requirement for sprinklers in new schools, student halls of residence, nurses homes and residential homes.

#### *Costs associated with domestic fires*

16. 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>5</sup>.
17. Based on the Welsh share of the total number of fires in England and Wales for the twelve months ending 30 September 2006, the total economic cost of fires in Wales can be estimated to be about £408 million per annum.

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<sup>2</sup> Welsh Assembly Government, Statistical Directorate, Fire Statistics Monitor, Quarter 3 2006:  
<http://new.wales.gov.uk/topics/statistics/headlines/other-2007/hdw200708091/?lang=en>

<sup>3</sup> Department of Communities & Local Government, Research Bulletin No 9 - Learning Lessons from Real Fires: Findings from Fatal Fire Investigation Reports, July 2006  
<http://www.communities.gov.uk/publications/fire/researchbulletinno9>

<sup>4</sup> Community Fire Safety Working Group, *Wired for Safety*, October 2001  
<http://new.wales.gov.uk/ds/jlg/publications/fire/wiredforsafety/report?lang=en>

<sup>5</sup> Department of Communities & Local Government, *The Economic Cost of Fire: Estimates for 2004*, April 2006  
<http://www.communities.gov.uk/fire/fireandresiliencestatisticsandre/firestatistics/economiccost/>

18. 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.
19. The average cost of a domestic fire 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.
20. The estimates include healthcare costs as a direct consequence of fires (but not emotional suffering and health care costs related to fire-fighter injuries incurred during training).
21. The ubiquitous nature of the threat from fire is often overlooked as deaths and injuries occur sporadically and therefore do not have the same impact as a collective tragedy. This also affects people's views on the economic consequences of fire which are not viewed collectively.

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

22. 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>6</sup>.
23. Evidence gathered worldwide shows that while sprinklers are primarily intended to contain or control fires in a number of cases people in the room of origin of a fire have survived as a result of the effectiveness of the sprinkler system. There are no cases on record where multiple fire deaths have occurred in buildings with working sprinkler systems. The evidence also shows that no lives have been lost in the UK due to fire in buildings fitted with domestic sprinkler systems.
24. A report<sup>7</sup> published in the USA in 2007 by the National Fire Protection Association concluded that in properties where sprinklers are fitted:
  - The death rate per fire is lower by at least 57%;
  - For most property uses, damage per fire is lower by one-third to two-thirds;
  - 89% of reported structure fires have flame damage confined to the room of origin compared to 57% when no automatic extinguishing system is present.

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<sup>6</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>

<sup>7</sup> National Fire Protection Association, U.S. experience with sprinklers and other automatic fire extinguishing equipment, June 2007

<http://www.nfpa.org/assets/files/PDF/OSsprinklers.pdf>

25. A recent study<sup>8</sup> by the US National Institute of Standards and Technology concludes that sprinklers in single family residential units make very good economic sense in terms of the return on investment.
26. In other parts of the world where the fitting of fire sprinkler systems has become a statutory requirement there have been dramatic reductions in the number of deaths caused by domestic fires. For example in the city of Vancouver where byelaws have been introduced, in 1972-1974 the number of deaths per 100,000 population was just under 7 per year. By the period 1992-1998 the number of deaths per 100,000 population had fallen to 0.6, as a result of the mandatory sprinkler regulations<sup>9</sup>.
27. The most comprehensive study into the effectiveness of residential fire sprinklers to date was carried out by the Rural/Metro Fire Department, Scottsdale, Arizona<sup>10</sup>. In June 1985, the City of Scottsdale passed an 'Ordinance' that required all new flatted and commercial structures built after 5 July 1985 to be fitted with a fire sprinkler system and all new single family residences built after 1 January 1986 to be able to accommodate fire sprinklers.
28. In 1997 the Rural/Metro Fire Department, Scottsdale published Saving Lives, Saving Money: Automatic Fire Sprinklers: A 10 Year Study which analysed the impact of the Ordinance.
29. The Scottsdale study included a review of 109 fires that occurred in sprinklered structures, 44 of those being residential structures. In more than 90 percent of these incidents, one or two sprinkler heads controlled the fires, and the average amount of water used to suppress each fire was 209 gallons compared to 3,290 gallons estimated for manual suppression in residential properties. It was considered that 8 lives were saved over the period as a direct result of the installation of fire sprinkler systems, 4 of these in residential properties, and that up to \$25.4m was saved based on the total potential loss due to fire in sprinklered residential properties.
30. Fire sprinklers are only activated when the room temperature with the room in which a fire is burning exceeds the preset temperature of the sprinkler head - normally 68 degrees centigrade. Sprinklers operate as individual heat sensors - meaning that water is only released in the area where there is a fire. Often, in a room with two sprinkler heads only one actually operates. The amount of water used by a sprinkler system is far less than that used by the fire service because the fire is tackled at a very early stage. Fire fighters are on average likely to arrive at least 10 minutes after a fire has started meaning that more water is required and

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<sup>8</sup> U.S. Department of Commerce, National Institute of Standards and Technology (NIST), Benefit-Cost Analysis of Residential Fire Sprinkler System, September 2007

[http://www.bfrl.nist.gov/oa/publications/nistirs/NISTIR\\_7451\\_Oct07.pdf](http://www.bfrl.nist.gov/oa/publications/nistirs/NISTIR_7451_Oct07.pdf)

<sup>9</sup> Building Research Establishment, Effectiveness of sprinklers in residential premises, February 2004

[http://www.bre.co.uk/filelibrary/rpts/sprinkler/sprinkler\\_section3.pdf](http://www.bre.co.uk/filelibrary/rpts/sprinkler/sprinkler_section3.pdf)

<sup>10</sup> <http://www.firesprinklers.org.uk/Services/Documents/Scottsdale.pdf>

the risk to a fire fighter's life is much greater. Data collected over 30 years suggest that the chances of a sprinkler head malfunctioning are estimated to be extremely remote, perhaps no more than 1 in 16 million.

### *Costs of domestic fire sprinkler systems*

31. The main cost associated with fire sprinkler systems is the capital cost of installation. There are also on-going maintenance costs.
32. The cost for most new homes is estimated to be about 1% to 2% of the total cost of construction. Annual maintenance costs are between £75 and £150 per annum. The installation of fire sprinklers will usually permit the introduction of design freedoms that can reduce building costs and allow innovative designs such as open plan homes. Other benefits might include reduced constructions costs where sprinklers permit the elimination of costly fire rated doors or other structural elements.

### **Scope**

33. The LCO would add the following matter to field 11 of Schedule 5:

#### *Matter 11.1*

*Provision for and in connection with a requirement that a sprinkler system be installed in new residential premises.*

#### *Interpretation of this Matter*

*“New residential premises” means -*

- (a) premises constructed for residential use;*
- (b) premises converted to residential use;*
- (c) premises converted to use as a single residence by physical subdivision of one or more existing residential premises; and*
- (d) premises converted to use as a single residence by physical incorporation of more than one existing residential premises.*

*A “sprinkler system” means any automatic fixed system intended to extinguish control or contain fires by means of water propelled under pressure through pipework and spray heads which operate when a predetermined temperature is reached.*

34. The LCO seeks to confer powers on the Assembly to make Assembly Measures in relation to the installation of fire sprinkler systems in new residential premises.
35. Once this power has been conferred the intention is to bring forward a Measure that would make it a statutory requirement to install a fire sprinkler system in all of the following:

- Newly built residential premises including flats/apartments.
  - Existing residential premises under-going significant alteration, including the conversion of single dwellings to Houses in Multiple Occupation, and the conversion of single premises into flats
  - Existing buildings that are converted from a non-residential use to a residential use (eg: office space converted to flats)
  - Other changes of use from a non-residential to a residential use, where conversion work takes place.
36. Any Measure made in reliance on the legislative competence conferred by the Order would more particularly specify the premises to which the Measure would apply. It would also specify in more detail the type of equipment to be installed.

## **Exceptions**

### **Geographical limits of any Assembly Measure**

37. Section 93 of the 2006 Act imposes a prohibition upon Assembly Measures having effect other than in relation to Wales. It provides that a provision of an Assembly Measure is not law in so far as it is outside the Assembly's legislative competence. A provision is outside competence if it applies otherwise than in relation to Wales or confers, imposes, modifies or removes functions exercisable otherwise than in relation to Wales (or gives power to do so). There are limited exceptions for certain kinds of ancillary provision, for example provision appropriate to make the provisions of the Measure effective, provision enabling the provisions of the Measure to be enforced and to make consequential amendments to other legislation.
38. The limitation relating to functions other than in relation to Wales means that the Assembly would not be able by Measure to confer on the Welsh Ministers, Welsh local authorities or any other public authority functions which did not relate to Wales.

### **Minister of the Crown functions**

39. This proposed Order in itself does not seek to modify or remove any functions of a Minister of the Crown. By virtue of Part 2 of Schedule 5 of the 2006 Act, the Assembly may not by Measure alter the functions of the Minister of the Crown without the consent of the Secretary of State for Wales. In relation to any future proposals that may impact on Minister of the Crown functions the appropriate UK Government Department will be consulted and agreement sought to any proposals to change or modify these functions. The making and amending of the Building Regulations are functions of a Minister of the Crown that are

derived from the Building Act 1984 and are not affected by the proposed LCO.

## **Conclusion**

40. For the reasons outlined above, Ann Jones AM wishes to propose that legislative competence should be conferred on the National Assembly for Wales in relation to fire sprinkler systems in residential premises, in the terms of the proposed draft Order attached.