Fire, Gas and Carbon Monoxide Safety Regulations:
what Welsh social landlords need to know
November 2016

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Health and safety is one of the most important issues for social landlords. The sector has a good record in avoiding fire, gas and CO fatalities and injuries, but it could do more.

This report sets out the legal and regulatory responsibilities on landlords in respect of fire, gas and CO health and safety.

In this guide we summarise these responsibilities, explore the opportunity for using new technology to improve safety monitoring and set out some of the key issues that need to be addressed if the sector is to maximise care for residents.

The main findings of this guide are:

- A consistent approach to fire, gas and CO risk assessment is required in social housing
- Landlords should review their risk assessment in terms of the installation of CO alarms
- Social landlords can benefit from new technology, particularly when preventing CO poisoning
- Improved gas, fire and CO safety access rights are required by landlords
- Awareness of CO risk is increasing but landlords can do more to inform tenants of the risk
- A MOT-style approach to gas safety checks would be helpful
- Rationalising of health and safety rules and regulations could improve resident safety

HouseMark is publishing this report as part of its work on innovation, notably its desire to explain the business case for using new technology to better manage risk. CIH Cymru is co-publishing this report as part of its mission to improve housing standards.

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About this guide

This guide sets out the current responsibilities for Welsh landlords in the social and private sectors on fire and gas safety; it examines rules and regulations; and sets out some key issues for social landlords to consider. We believe that it is unique in doing so.

The guide is aimed at informing the work of those at social landlords with operational responsibility for fire and gas safety.

It is also intended to serve as a reference point for executives and the councillors and board members of social housing providers who have governance responsibility for risk management.

The guide is part of a series covering the four nations of the UK. This series is the result of interviews with individuals and organisations across the UK (see Acknowledgements), supplemented by desk research. We are particularly grateful for the assistance given by Cartref Cymunedol Gwynedd Cyl, North Wales Housing Association and the Community Housing Cymru Health and Safety Network.

Executive Summary

The scale of the issue

Awareness and the management of risk-related to fire, gas and carbon monoxide (CO) poisoning has improved significantly in recent decades, particularly in the social housing sector.

In all sectors combined, reported incidents, injuries and fatalities have fallen consistently in over the last 30 or so years - but the numbers are still too high.

StatsWales statistics show that there were 16 fatalities and 420 non-fatal injuries in fires in residential dwellings in 2014/15. This compares with 13 people killed and 458 non-fatal injuries in fires in residential dwellings in 2015/16.

The available figures for carbon monoxide (CO) poisoning show 60 accidental CO deaths recorded in England and Wales in 2013, down from 130 in 2001. The chief medical officer for Wales has said of CO in Wales: ‘Poisoning by carbon monoxide is almost certainly under-diagnosed. It is likely that many more people are being exposed and suffering the ill effects of exposure than we know about.’

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Social landlords have invested in a variety of technologies to improve fire, gas and carbon monoxide safety.

This tends to involve integrated fire and heat detection systems that will automatically take a number of steps in the event of an alarm being triggered. These steps include alerting the fire service, returning all lifts to the ground floor if relevant and opening the fire escapes.

But can social landlords do more to evaluate and prevent injuries or fatalities?

A consistent approach to fire, gas and CO risk assessment

All research respondents were aware of the need to meet fire and gas safety requirements. However, the scope of the approach taken by social landlords varies considerably. Some are simply meeting their basic requirements on fire or gas and taking the risk that there will be no problems, while others are going far beyond this and planning for future changes in tenant lifestyles, changes in regulation and changes in technology.

Respondents were also aware of the risks of carbon monoxide poisoning, with several implementing CO alarm installation programmes. However, as there is no blanket requirement to install CO alarms in social rented homes, the approaches vary markedly and mean some tenants are protected by CO alarms, while others are not.

Concern has also been expressed in the housing sector about the paucity of in-house skills available to conduct fire risk assessments. This has meant that the quality of assessments can vary. Feedback suggests a need for upskilling on fire risk assessment in the sector to address this.

As housing association boards and local authority councillors bear ultimate responsibility for the actions of their organisation, board members and councillors need to ensure they are fully informed on health and safety matters outlined in this report on fire and gas safety.


Executive Summary

Landlords should review their risk assessment in terms of the installation of CO alarms

Carbon monoxide leaks can and do occur from appliances other than just gas boilers. For instance, a study by Hackney Homes (a housing association based in London) raised a concern that, while gas boiler servicing is extremely effective at improving safety, greater risks from carbon monoxide poisoning are presented by other gas or solid fuel burning appliances, such as gas cookers, coal fires, etc.

Gas boilers may be well-regulated and as a result generally safe, but other gas or fuel-burning appliances (such as gas cookers) may not be. As a result, there is an emerging view that CO alarms should be installed in rooms wherever fuel-burning appliances are present, whether they belong to the landlord or tenant.

Move to installation of smoke alarms and CO alarms in all social rented and privately rented homes

The Smoke and Carbon Monoxide Alarm (England) Regulations 2015 came into effect on 1st October 2016 requiring smoke alarms must be installed on each storey of privately rented properties and carbon monoxide alarms to be fitted in each room of the privately rented properties which contain a solid fuel burning combustion appliance, and alarms must be checked at the start of each new tenancy. However, these regulations do not apply in Wales. Currently, in Wales, privately rented properties built since 1992 must be fitted with mains-powered, inter-linked smoke detectors/alarms and properties built since 1992 must have a mains wired alarm fitted. As a result, there is an emerging view that CO alarms should be installed in rooms wherever fuel-burning appliances are present, whether they belong to the landlord or tenant.

Social landlords can benefit from new technology, particularly when preventing CO poisoning

Advances in technology, particularly through the use of sensors placed in ‘smart’, web-enabled fire and CO alarms, will make it easier - and possibly cheaper in the long run – for landlords to offer a higher standard of care to tenants, while managing their own liability risk more effectively.

Improvements in technology and the advent of offer clear potential to improve the level of customer care and provide a more comprehensive approach to managing risks. Smart technology enables:

• Alarm sensors and batteries to be automatically and remotely tested and results/faults communicated to the landlord on a real-time basis
• Alarms set off if the devices are tampered with, e.g. tenant or contractor disables the device
• All information gathered can be retained at a central hub. This can help inform landlord asset management analysis and decisions, as well as helping landlords demonstrate they comply with their legal health and safety responsibilities

Some landlords, such as Winkleigh Neighbourhood Homes in England and River Clyde Homes in Scotland are piloting the use of smart CO alarms that can remotely and automatically provide 24/7 status updates on all levels of CO emission and offer the potential for significant cost savings as a result.

A MOT-style approach to gas safety checks would be helpful

Social landlords – particularly via the Gas Access Framework, 2016, the Welsh Government has pledged to use the powers made available by the Renting Homes (Wales) Act 2016 to set out regulations requiring the installation of smoke and CO alarms in all social rented and privately rented homes. If this step is taken, it will mean Wales will have gone further than anywhere else in the UK in ensuring the safety of social and private tenants from the harmful effects of fire, smoke and CO.

Social landlord respondents to this research fully supported with the Welsh Government’s pledge.

Awareness of CO risk is increasing but landlords can do more to inform tenants of the risk

A recent study by the Gas Safety Trust found only 13 per cent of the general public can identify the symptoms of carbon monoxide poisoning (headaches, vomiting, breathlessness, weakness, confusion, chest pain) – which can be similar to flu symptoms. Regarding the ‘silent killer’, carbon monoxide (CO), why is awareness so low of the risks posed by a highly poisonous gas that cannot be smelled, tasted or seen?

Residents of social housing are a particularly high-risk group for CO poisoning, so steps taken by social landlords to ensure residents are aware of the dangers of CO are therefore particularly important.

Social landlords play a ‘trusted messenger’ role in their communities. They can thus play an important part in effectively communicating to residents about the dangers posed by fire, gas and carbon monoxide and how best to deal with them safely.

The importance of this role in effectively communicating the dangers posed by CO poisoning in particular, has been highlighted by APPCOG.

A MOT-style system means that gas safety checks could be carried out up to one month before the expiry of the current gas safety check record, but the new safety check record would be dated such that it is valid for a full twelve months from the expiry date of the current safety check record.

The HSE, Health & Safety Executive has, in principle, approved this move to an MOT-style of GSLSR Landlord Gas Safety Record for the landlords’ annual gas safety checks.
Executive Summary

Improved gas, fire and CO safety access rights are required by landlords

The Gas Access Campaign has also called for housing associations to receive the same legal powers of rapid access as local authorities, in cases where tenants refuse to grant access. At this point in time, however, the Government is not minded to adopt this approach.

Rationalisation of health and safety rules and regulations could improve resident safety

At present, social landlords and their tenants face a myriad of rules and regulations concerning fire, gas and carbon monoxide safety in their homes - as well as dealing with an array of organisations responsible for monitoring and enforcing the regulations. At present, updates to regulation require to be cross-referenced with previous guidance, thus introducing scope for error.

These rules differ depending on a number of factors such as:

- Tenure - e.g. social housing, private rented
- Property type - e.g. HMO, sheltered housing, residential care home, single property dwelling, new build or existing property

Regulations on fire safety are monitored and enforced by local authorities and the relevant Welsh regional fire service (there are three). Regulations on gas safety are monitored and enforced by the Health and Safety Executive (HSE) and the Housing Regulatory Team at Welsh Government.

There is a general desire among social landlords for legislation and regulations to be more easily accessible. One suggestion was a simple ‘grid’ approach that could be used by landlords and their contractors that would contain all relevant fire, gas and carbon monoxide duties in one place. Further detail could then be linked to and explored as required. This guide provides a simple grid for illustrative purposes.

6 South Wales Fire and Rescue Service serves the ten unitary authority areas of Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Monmouthshire, Newport, Rhondda Cynon Taff, Torfaen and the Vale of Glamorgan. North Wales Fire and Rescue Service serves Gwynedd and Ynys Môn, Conwy and Denbighshire and Wrexham and Flintshire. Mid and West Wales Fire and Rescue Service serves Carmarthenshire, Ceredigion, Neath Port Talbot, Pembrokeshire, Powys, and Swansea.
In January 2016, Wales became the first country in the world to require ‘fire suppression systems’ – or sprinklers – to be installed in all new or converted homes.

Discussing the plan two years earlier, the then Welsh housing minister, Carl Sargeant, said: ‘Domestic fires continue to have a devastating effect on individuals, families and communities. It’s imperative that we do everything we can to make our homes, care homes and residential buildings as safe as possible. Our policy on fire sprinklers is part of our continuing wider approach to promoting fire safety and we will continue to set Wales apart as leading the way in this regard.’

The Welsh Government took control of Building Regulations from Westminster in 2011 and, to date, this is one of the principal changes it has made (see below for detail). The Domestic Fire Safety (Wales) Measure 2011 was implemented in stages commencing in April 2014 with the requirement for sprinklers to be installed in all new and converted care homes, hostels and halls of residence.

This intervention comes against a backdrop of 17 people killed and 420 injured in 1,807 house fires in 2014/15 in Wales. This compares with 14 deaths and 565 injuries in 2,454 dwelling fires in 2006/07.

This section outlines the key legislation and regulations social and private landlords are required to adhere to in Wales as regards fire safety. This should be read in conjunction with the reference guide on page 42, which illustrates what standards landlords are required to meet at present and any changes that are coming in future.

This table demonstrates an issue highlighted by a number of respondents: the complexity of the challenge they face in ensuring they comply with the myriad rules and regulations on fire safety. All landlords spoken to for the research invest significant sums in ensuring they meet their legal requirements. However, several said were the current situation to be improved, with relevant information simplified or made clearly available in one place, they would be able to reduce spending on ensuring compliance and use these funds elsewhere.

As with other parts of the UK, there is no common fire safety standard across all tenures. Since 1992, Building Regulations (part B) have required all new homes to have at least one smoke alarm installed per storey.

The 2004 Housing Act introduced the Housing Health and Safety Rating System. This is the tool for assessing the living conditions of a property. The system is based on 29 possible hazards to be assessed in terms of the risk faced by the most vulnerable occupier or potential vulnerable occupier of a property (see below).

8 http://www.housinglin.org.uk/_library/Resources/Housing/Regions/Wales/housingwhqsguide.pdf
Fire legislation, regulations and guidance: new and upgraded dwellings

Building Regulations (England and Wales)

These regulations form the basis of requirements for new and upgraded dwellings across England and Wales.

New, extended and remodelled homes have to comply with the Building Regulations. Part B of the regulations covers fire safety. For blocks of flats, the Building Regulations 2010 make requirements for various fire safety measures, including means of escape, structural fire precautions, smoke control and facilities for the fire and rescue services.

After the dwelling is occupied, control of fire safety is covered by the Housing Act 2004 (including the Housing Health and Safety Rating System) and the Regulatory Reform (Fire Safety) Order 2005.

In terms of requirements for new homes and individual flats, Part B of the Building Regulations 2010 says there must be a fire alarm, smoke control arrangements such as ventilation systems, a smoke detector and emergency escape lighting.

The key difference between Part B of the Building Regulation in Wales and its English equivalent is the requirement for sprinklers in residential buildings.

In 2010 changes were announced10 to the Building Regulations to require automatic fire suppression systems in residential buildings (regulation 37A). Subsequently, Wales has required sprinklers in buildings such as new and converted care homes, hostels and halls of residence since April 2014.

The April 2014 requirement applied to new and converted:

- Care homes (as defined in the Care Standards Act 2000)
- Children’s residential homes
- Hospices
- Boarding houses
- Halls of residences
- Hostels, other than hostels intended for temporary accommodation for leisure purposes (e.g. not ‘Youth Hostels or backpackers’ hostels).

And, from 1 January 2016 the requirement applied to new and converted:

- Houses
- Flats
- Any other residential purpose.

There is no requirement to retrofit sprinklers to existing high-rise blocks. Building Regulations also apply to alterations, as inappropriate and unauthorised alterations can undermine the measures provided to ensure safety of occupants from fire. Significant or ‘material’ alterations must be approved by Local Authority Building Control. As Local Government Association guidance says: ‘Sometimes it can be difficult for the responsible person to judge whether or not an alteration is material. In practice, any proposals to carry out alterations – to fire alarm systems, means of escape or smoke control arrangements, structural alterations and alterations to facilities for the fire and rescue service – should be submitted to a building control body to determine if approval is necessary. A common contravention is the replacement of a self-closing, fire-resisting flat entrance door by a non-fire-resisting door or by a door that is not self-closing’.

Under the Building Regulations 2010, new homes must have at least one smoke alarm on every storey of a property.

LGA guidance concerning blocks of flats says: ‘Only in unusual circumstances will a communal fire detection and alarm system be appropriate for a ‘general needs’ purpose-built block of flats.’

Social and private landlords have major responsibilities relating to fire safety in housing and these are covered under two key pieces of legislation:

- The Housing Health and Safety Rating System (HHSRS)13, set out in the Housing Act 2004 – enforced by the local authority, usually through the Environmental Health department. Responsibilities are set out in two places: a guide14 by the now defunct body Local Authorities Coordinators of Regulatory Services; and in Fire safety in purpose-built blocks of flats, drawn up by the Local Government Association15.

- The Fire and Rescue National Framework 2016 – This is a guidance document regularly published by the Welsh Government, which sets out the priorities and objectives for the three FRAs. This publication suggests the Welsh Government intends to enforce the installation of smoke alarms in all homes through powers available in the Renting Homes (Wales) Act 2016.

- The Welsh Housing Quality Standard – this was implemented from 2002 and, among other measures, requires all social homes to have a smoke detector on every floor.

Fire legislation, regulations and guidance: existing dwellings

- The Regulatory Reform (Fire Safety) Order 2005 and the Fire and Rescue Services Act 2004 is enforced by the local fire and rescue service and sets out minimum requirements for places of work. Although its focus is primarily non domestic property, its scope does extend to common areas of blocks of flats as well as houses in multiple occupation (HMO), sheltered housing and residential care homes.

- Fire and Rescue National Framework 2016 – This is a guidance document regularly published by the Welsh Government, which sets out the priorities and objectives for the three FRAs. This publication suggests the Welsh Government intends to enforce the installation of smoke alarms in all homes through powers available in the Renting Homes (Wales) Act 2016.

- The Welsh Housing Quality Standard – this was implemented from 2002 and, among other measures, requires all social homes to have a smoke detector on every floor.

11 LACORS Guidance on fire safety provisions for certain types of existing housing, 2008
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17 http://gov.wales/topics/planning/buildingregs/approved-documents/part-4-fire/Tangwyn
19 http://gov.wales/topics/planning/buildingregs/approved-documents/part-4-fire/?lang=en
21 LACORS Guidance on fire safety provisions for certain types of existing housing, 2008
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The Regulatory Reform (Fire Safety) Order 2005

The Regulatory Reform (Fire Safety) Order 2005 or 'the Fire Safety Order' applies across England and Wales and came into force on 1 October 2006. In terms of social landlords, the Regulatory Reform (Fire Safety) Order 2005 introduced duties in relation to fire safety in the common areas of houses in multiple occupation, flats, maisonettes and sheltered accommodation in which personal care is not provided. Common parts of blocks, include corridors, stairs, any communal recreational areas, bin stores, underground car parks, and so on.

In residential buildings, the Order only applies to the common parts of flats and the front doors to living areas. In houses in multiple occupation, it applies to both the living and communal areas. Individual private dwellings are not covered by the Fire Safety Order (see Housing Health and Safety Rating System, above).

The law places a duty on social landlords to ensure they carry out fire safety assessments and act on the recommendations. Fire authorities can carry out inspections of buildings, check the landlord's own fire risk assessment and demand changes. They can also serve enforcement orders if landlords do not comply with legislation.

However, as John Turner, regulatory lead at Anthony Collins Solicitors, has pointed out, the Fire Safety Order has sometimes proved difficult to follow because it only covers the common parts of a landlord's premises and stops short at the tenants' or leaseholders' front doors. He said: 'Tenants and leaseholders have no legal obligations at all under the Fire Safety Order and neither the landlord nor the fire service have any rights of entry or enforcement inside leasehold flats themselves.'

The local fire and rescue service is responsible (under the 2005 Order) for enforcing all fire safety matters in common parts of blocks, including corridors, stairs, any communal recreational areas, bin stores, underground car parks, and so on.

21 http://www.hse.gov.uk/event-safety/fire-safety.htm

The Housing Act 2004 and Housing Health and Safety Rating System (HHSRS)

The measures covering fire safety in the Housing Act 2004 apply to all dwellings in England and Wales. The Act introduced a Housing Health and Safety Rating System (HHSRS), which applies to residential premises, meaning:

- a dwelling
- an HMO
- unoccupied HMO accommodation
- any common parts of a building containing one or more flats

This is the tool for assessing the living conditions of a property. The system is based on twenty-nine possible hazards to be assessed in terms of the risk faced by the most vulnerable occupier or potential vulnerable occupier of a property.

The HHSRS provides a means of assessing dwellings, the risks present and whether that risk is acceptable. Hazard bands have been devised with group ranges of scores, ranging from bands A to J, with band A being the most dangerous and J the safest.

Under this legislation, local authorities require landlords to remedy the most serious hazards, which include fire risks such as defective heating and electrical systems. In addition, the Welsh Housing Quality Standard – the set of requirements for social housing in Wales implemented in 2002 and due for completion by 2020 – also takes account of the HHSRS.

Under the Housing Act 2004, the local housing authority is responsible for fire safety in residential premises. However, the legislation also covers common parts of the building and HMOs, overlapping with fire authorities' legislation. As a result, confusion often arises over which authority has primacy, but both regulatory bodies normally try to work closely together.

The local authority may make requirements for improvements in fire precautions. In the event of serious risk, the local authority has the power to take emergency remedial action.

General fire precautions include:

- measures to reduce the risk of fire occurring
- measures to reduce the spread of any fire through the premises
- means of escape and their safe use at all times
- firefighting
- means of fire detection and warning - action to be taken in the event of fire and mitigating the effects of fire.


Fire legislation, regulations and guidance: existing dwellings

Overview on fire safety

Fire, Gas and Carbon Monoxide Safety Regulations: what Welsh social landlords need to know

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Overview on fire safety

Overview on fire safety
Fire legislation, regulations and guidance: existing dwellings

**Case Study:**
**Cartrefi Cymunedol Gwynedd Cyf**

Fire: ‘Safe to Stay’ Policy

In 2014, Cartrefi Cymunedol Gwynedd Cyf (CCG) decided to introduce a ‘Safe to Stay’ Policy:

- to achieve full compliance with fire management and other requirements of the Regulatory Reform (Fire Safety) Order 2005
- to introduce a new model of fire management in purpose-built flats
- following discussions with the North Wales Fire Authority
- taking into account the LGA guidance “Fire safety in Purpose Built Blocks of Flats”
- following lengthy consultation with the Board, and – via the Quality Customer Services Forum and the Repairs Forum.

To execute the policy, CCG committed to an investment programme in excess of £300K with the aim of achieving full compartmentalisation.

Lowri Ann James, Head of HSQE at CCG said: “CCG has fully backed this project with the resources to introduce this new model of fire management within our purpose-built blocks of flats. The general approach within CCG has now changed considerably from one driven by the Fire and Rescue Service interventions to one that is now driven internally by CCG. This has created a much more robust and effective approach to fire management.”

She added, “As part of this project, further policies have been introduced to support the ‘Safe to Stay’ Policy. A Scooter Policy has been developed which now allows for alternative provisions such as scooter stores for tenants with mobility vehicles. This has greatly reduced the risks that were previously present within the communal areas, where scooters posed a problem in relation to re-carging and blocking important escape routes. The management of bin stores has been greatly improved and evacuation routes and communal areas are now being managed far more effectively.”

Fire legislation, regulations and guidance: existing dwellings

**Case Study:**
**Peabody**

Fire Risk Management

Peabody (a London based housing association) has 1,738 purpose built blocks of flats that require fire risk assessments as defined by the Regulatory Reform (Fire Safety) Order 2005, writes Robert Groom, fire risk manager, Peabody. Our portfolio covers residential blocks, street conversions, community buildings, offices and sheltered housing schemes. Currently, 98.9% of our properties have current fire risk assessments - the remaining properties are undergoing refurbishment and will be inspected when the works are completed. We also have a detailed fire risk assessment re-inspection programme which ensures that assessments are re-inspected within the time frames detailed in the current fire risk assessment.

As a result of our approach, in 2014/15 there were only 42 accidental and arson fires reported. We only had 12 fires within our dwellings, which relates to 0.04% of our total stock and is well below the national average.

How do we approach fire safety? Following a review in 2012/13, Peabody opted to have an internal Fire Risk Team, which ensures a consistent approach to the assessment process and the accompanying documents. Our fire risk assessments comply with the guidance detailed in PAS 79 and are made up of 2 parts: the fire risk assessment and an action plan. All our fire risk assessments undergo a rigorous quality assurance process to ensure these documents are accurate and compliant.

The action plan details any significant findings that require rectification with time frames for completion. In 2014/15 Peabody provided an £11 million budget to carry out the works are completed. We also have a detailed fire risk assessment re-inspection programme which ensures that assessments are re-inspected within the time frames detailed in the current fire risk assessment.

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The Fire Safety Order places the emphasis on risk reduction and fire prevention and covers:

- Measures to reduce the risk of fire and the risk of spread of fire
- The means of escape from fire
- The measures necessary to assist people in the use of the escape routes, such as emergency escape lighting, fire exit signs and measures for smoke control. Some of these measures may not be necessary in all buildings: for example, where escape routes are straightforward, easily identifiable and likely to be well-known to occupants, fire exit signs will normally be unnecessary
- Where necessary, fire extinguishing appliances. These are not normally necessary within common parts, but might be necessary within a plant room, caretaker’s office or other non-domestic parts of the block
- Any fire alarm system necessary to ensure the safety of occupants
- An emergency plan. In a small block of flats, this may be as simple as a fire action notice, but it is important that the procedure to adopt in the event of fire is disseminated to all residents
- Maintenance of all of the above measures
- Maintenance of measures required by legislation (including the Building Regulations) for the safety of, or use by, fire-fighters. The Fire Safety Order requires that the appropriate fire safety measures are determined by means of a fire risk assessment. The LGA guidance says the fire risk assessment must be ‘suitable and sufficient’ to ensure that the general duty of fire safety care is satisfied within the common parts. It also covers hiring specialist fire risk assessors and training in-house staff to become assessors.

A fire risk assessment must cover:

- ways to reduce the risks
- effects and spread of fire
- safe escape routes
- an emergency plan; and
- firefighters’ facilities

The maintenance of all these measures must be carried out by a competent person to ensure there are adequate fire safety measures in the areas of the block where the order applies.

The LGA guide suggests that the fire risk assessments of low-rise blocks might be reviewed every two years, with a new assessment taking place every four years. Higher-risk blocks over four storeys might be reviewed annually with a new assessment every three years, and the highest-risk blocks should be reviewed annually and reassessed every two years.

The Fire and Rescue National Framework 2016

This latest version of the Welsh Government’s priorities and objectives for the country’s three Fire and Rescue Authorities (FRAs) was published in November 2015. The National Framework 2016 sets out a number of aims for FRAs around ‘reducing risk and enhancing the safety of citizens and communities’. It’s status, however, is guidance for FRAs, so the measures it outlines are not statutory requirements.

Although the recent Renting Homes (Wales) Act 2016 contained no specific measures on the installation of smoke alarms, it empowered ministers to do so by regulation. Indeed, the National Framework does make the following points:

- The fitting of smoke alarms in both private and rented properties is critical. Having working smoke alarms in all rented homes in Wales has clear potential to prevent death and injury to tenants, and damage to their property and that of landlords.
- The Renting (Homes) (Wales) Act 2016 places an obligation on all landlords to ensure a rented dwelling is fit for human habitation and includes a power for the Welsh Ministers to prescribe in regulations specific requirements to meet this obligation. The Welsh Government intends to prescribe requirements in relation to the installation of smoke and carbon monoxide detectors.

The Welsh Housing Quality Standard (WHQS)

The WHQS was introduced in 2002 and requires a ‘mains-powered smoke detector with a back-up secondary power source’ on every floor of the property by 2020. The most recent update found this stipulation has been met by 91.7 per cent of Welsh social landlords.

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Fire legislation, regulations and guidance: existing dwellings

Case Study: Hyde
Fire Risk Assessments

Hyde (a London based housing association with approximately 44,000 properties) undertakes 3,000 plus a year Type 1 fire risk assessments in order to discharge its statutory duties in respect of the Regulatory Reform (Fire Safety) Order 2005. A Type 1 fire risk assessment is the basic fire risk assessment required for the purpose of satisfying the Fire Safety Order. Unless there is a reason to expect serious deficiencies in structural fire protection, a Type 1 inspection will normally be sufficient for most purpose-built blocks of flats. The inspection of the building is non-destructive, but even this basic fire risk assessment will include an examination of at least a sample of flat entrance doors since these are critical to the protection of the common parts. Where there are demountable false ceilings in the common parts, it may be appropriate to lift a sample of readily accessible false ceiling tiles.

Over and above this, Hyde has a Type 4 intrusive assessment process in place for properties housing vulnerable residents and those of a complex assessment process in place for properties housing Type 4 (intrusive) over and above this, Hyde has a Type 4 intrusive assessment process in place for properties housing vulnerable residents and those of a complex assessment process in place for properties housing Type 4 (intrusive).

A Type 4 fire risk assessment has the same scope of work as a Type 3 non-destructive, but goes beyond the scope of the Fire Safety Order by considering the fire protection of the common parts. This type of inspection would be carried out only if there is a good reason to suspect serious structural deficiencies that could lead to the spread of fire beyond the flat of fire origin.

A Type 3 fire risk assessment relates to the protection of the common parts, but the Type 2 inspection involves a degree of destructive exposure, usually necessitating the presence of a contractor to open up construction and make good after the inspection. The destructive inspection might include work within vacant flats to check the integrity of the separating construction that protects the common parts. This type of inspection would be carried out only if there is a good reason to suspect serious structural deficiencies that could lead to the spread of fire beyond the flat of fire origin.

In addition, Hyde has also actively engaged with the Chief Fire Officers Association in the review of BS 9991:2015 ‘Fire safety in the design, management and use of residential buildings’ and is a member of the High Risk Accommodation Group.

Concerns have nevertheless been expressed in the housing sector about the scarcity of in-house skills available to conduct fire risk assessments. This has meant that the quality of assessments can vary. In response, the National Social Housing Fire Strategy Group has developed a suite of qualifications covering Fire Risk Management.

Similar to a Type 1 fire risk assessment, a Type 2 fire risk assessment relates to the protection of the common parts, but the Type 2 inspection involves a degree of destructive exposure, usually necessitating the presence of a contractor to open up construction and make good after the inspection. The destructive inspection might include work within vacant flats to check the integrity of the separating construction that protects the common parts. This type of inspection would be carried out only if there is a good reason to suspect serious structural deficiencies that could lead to the spread of fire beyond the flat of fire origin.

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A Type 4 fire risk assessment is the most comprehensive fire risk assessment possible. This type of assessment is also appropriate when a new landlord takes over a block of flats in which the history of work carried out is unknown and there is a reason to suspect serious risk to residents from both a fire in their own flats and a fire in neighbours’ flats.

In May 2014 Hyde entered into a Primary Authority Partnership with London Fire Brigade. The partnership provides Hyde with a regulator’s review of the fire safety arrangements in place and a consistent enforcement approach to a geographically diverse property portfolio. In November 2014, Hyde entered into a Memorandum of Understanding (MOU) with London Fire Brigade. The MOU is a commitment by both parties to share information in order to ensure a consistent and joint approach to mitigating the fire risks faced by the most vulnerable in society.

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Sprinkler systems and Domestic Fire Safety (Wales) Measure 2011

The requirement for a sprinkler system to be installed in all new or converted homes was one of the first acts introduced by the Welsh Government, in the Domestic Fire Safety (Wales) Measure 2011 when it took devolved control of Building Regulations in 2011.

Wales was the first country in the world to take such a step. Information on this is contained in Approved Documents Part B (Fire Safety) volume 1 on dwelling houses.

Welsh Government then commenced a two-year pilot study of the impact of installing sprinkler systems in social housing in June 2014 - monitoring installations at 177 homes across 12 housing schemes.

Speaking in December 2015 at the launch of an interim report by the BRE for the Welsh Government, Carl Sargeant, housing minister, said: "Analysis has shown that installing sprinklers in new homes reduces avoidable death or injury arising from fires. The installation of fire sprinkler systems will go a long way towards minimising the risk of fire devastation. They are proven to help save lives.”

Mr Sargeant said that construction costs were increased by the sprinkler requirement, but ‘the reduced risk of damage to the property, combined with their proven ability to save lives, make them a cost effective means of fire control in new homes.’

Huw Jakeway, Chief Fire Officer, South Wales Fire and Rescue Service (SWFRS), said: ‘Fire sprinklers save lives and enhance the safety of occupants and Firefighters. Whilst the ownership of working domestic smoke alarms has had a substantial impact on fire deaths and injuries in the home, more remains to be done.

‘Statistics show that 53 per cent of fire deaths occur in the room where the fire started. This begs the question whether the victims of these fires were able to leave the room where the fire was, if they were not then clearly the only effective measure is one which controls or extinguishes the fire at a very early stage... This will ultimately increase the safety of the citizens and fire-fighters of Wales.’

Interim findings from the BRE report were as follows:

- Where communication and co-operation is good between all stakeholders, the sprinkler installation can be quick and efficient
- Water supply choices for the sprinkler system had not been confirmed at the pre-installation phase with all stakeholders – including water companies – resulting in delays, difficulties and potentially higher costs
- For mains-fed sprinkler systems, installation costs varied between £1,440 per flat (20 flats) in a five-storey block to £1,810 in a four-bedroom, two-storey house
- For sprinkler systems with a booster, installation costs varied between £3,170 for a three-bedroom, two-storey house, to £3,541 per flat (four flats) in a two-storey block.


Documents Part B (Fire Safety) volume 1 on dwelling houses.

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A Type 3 fire risk assessment relates to the protection of the common parts, and is also non-destructive, but goes beyond the scope of the Fire Safety Order by considering the fire precautions, such as means of escape and fire detection, within at least a sample of flats. This type of fire risk assessment will not be possible in the case of long-leasehold flats, as there is normally no right of access for freeholders.

http://www.ushg.info/fire-risk-management-qualifications/
Discussion points: Fire safety

Fire safety after Lakanal House and Shirley Towers

Fire safety rose up social landlords’ list of priorities after six people died in a blaze at the council-owned Lakanal House tower block in the London Borough of Southwark in 2009. This intensified when a blaze in the Shirley Towers high-rise block, owned by Southampton Council killed two fire fighters in April 2010.

Many Welsh social landlords are members of the National Social Housing Fire Strategy Group (NSHFSG), which represents 188 landlords and more than 1.7 million homes across England and Wales. This group was formed in the aftermath of these two fatal high-rise fires.

The NSHFSG aims to offer a voice for social landlords on fire safety and influence policy development. Although much of the safety framework that applied to housing providers was in place long before these tragic events, they sharply focused attention on fire precautions.

Nick Cross, former head of housing services at Southampton City Council, said: “The key issue for us is not so much what contractors do – it’s us making sure the correct checks are in place at the right time by us and our representatives to ensure the fire stopping has been undertaken.”

This is a point echoed by Mike Owen, chief executive of Merthyr Valleys Homes. Mr Owen said Merthyr Valleys had invested around £750,000 in fire safety works over three years - much of which had gone on ensuring effective ‘compartmentalisation’ in medium and high-rise blocks to prevent smoke transfer.

Mr Cross added that he and his colleagues at Southampton remain completely focused on the issues surrounding fire safety, since the Shirley Towers fire.

However, he said this was perhaps not the case for other council landlords. “My sense is that other councils are not talking much about fire safety or health and safety issues. There was a real focus after the fires at Lakanal House and Shirley Towers, but for the past couple of years this hasn’t been the case.”

Mr Cross said a reason for this was the tough financial times local authorities were currently experiencing. “The financial environment is a clear factor now and it will be a concern that health and safety compliance and issues connected to it may slip down the pecking order with competing priorities.”

Case Study

Southern Housing Group

Southern Housing Group (an English housing association with almost 20,000 properties) is keen to make its tenants feel they live in a warm and welcoming environment, but, this can run the risk of falling foul of legislation in relation to allowing objects in communal areas which could potentially be deemed a fire hazard.

Rachel Bancroft, group health and safety manager at Southern Housing Group, said the landlord adopts a ‘managed approach’ to the issue. For instance, in its corridors Southern might allow a picture and a doormat and a potted plant. Southern then produces flyers showing pictures of what’s acceptable and what isn’t. Southern has regular communications with tenants about fire safety through communal newsletters.

Bancoft said: “I know some landlords might say it’s easier to go for zero tolerance, but we never wanted that. We want residents to take ownership. We don’t want our residents to feel they are living in a hospital.”

Case Study

Hyde Group

Hyde owns and manages 44,000 homes in London and the South East. It has recently overhauled the approach of its health and safety compliance team to ensure it is providing its tenants and residents the safest possible environment.

Liz Dunn is Hyde’s compliance manager and, since joining the landlord in early 2015, has conducted a thorough review of all aspects of its compliance work. As a result, the compliance team has grown from two full-time staff to eight contract managers.

Liz said the focus on gas safety and ensuring fire risk assessments are correctly acted upon were a key part of the expansion of the team. This has become particularly important in light of recent regulatory action in these areas involving other landlords.

‘We are aware of the level of risk we face and complexity of regulations and various pieces of legislation,’ she said. ‘We don’t want to do anything less than full compliance across all areas. Hyde has put its money where its mouth is and backed us with the resources we need to deliver in this crucial area of tenant safety.’

Regulation and Governance

From April 2016, this governance work has been overseen by the Regulatory Board for Wales. Housing association boards are responsible for ensuring their organisation complies with its responsibilities, as set out in The Regulatory Framework for Housing Associations Registered in Wales (December 2011). If the regulator deems a housing association has failed to meet a delivery outcome, this gives it grounds for the use of its enforcement powers. The Landlord Services section of the list of delivery outcomes states: ‘[landlords] deliver maintenance programmes efficiently and effectively.’

Recent regulatory guidance on risks facing the housing sector in Wales also states that the regulator ‘expects’ the board to contribute to ‘the delivery of service outcomes in relation to the duty of care/health and safety of their tenants’ on fire safety and gas servicing.”

When the regulator compiles its annual assessment of an association, it will check the extent to which the landlord is adequately assessing health and safety risks. Were a landlord to be found to be failing in an area such as fire or gas safety, for instance, this could form the basis for regulatory action. When the regulator compiles its regular report on associations, it will check the extent to which the landlord is adequately assessing health and safety risks. In some instances, this will see the regulator warn a housing association that it needs to formalise its fire safety plan, or similar.

Board members will want to ensure their executive team is managing the risk around delivery outcomes by conducting regular fire risk assessments and swiftly acting on their findings, or that clear policies and procedures are in place so that a landlord is not simply passing responsibility for fire safety to tenants.

Discussion points: Fire safety
Complexity of rules and regulations

As the table on page 42 demonstrates, there are several items of legislation and accompanying regulations and guidance that social landlords must keep on top of if they are to comply with their legal obligations on fire safety. At present, updates to regulation require to be cross-referenced with previous guidance, thus introducing scope for error. Several respondents to the research identified this as an area where less complexity would simplify the role of compliance, without reducing tenant safety.

A clearer and more straightforward set of requirements for landlords would also have the benefit of potentially freeing up resources otherwise expended on ensuring legal compliance.

One suggestion was a simple ‘grid’ approach that could be used by landlords and their contractors that would contain all relevant fire, gas and carbon monoxide duties in one place. Further detail could then be linked to and explored as required. The table on page 42 provides a suggested template.
Overview on carbon monoxide and gas safety
Carbon monoxide is known as the silent killer, with 60 accidental CO deaths recorded in England and Wales in 2013. The Department of Health estimating 4,000 people attended A&E the same year after suffering CO poisoning.

Carbon monoxide is known as the silent killer, with 60 accidental CO deaths recorded in England and Wales in 2013. The Department of Health estimating 4,000 people attended A&E the same year after suffering CO poisoning. Although the fatalities are down from 45 a year in 2001, figures have fluctuated in recent years and there is a view that the statistics could be more accurate.

Despite the risks presented by an odourless and colourless gas, a recent survey in 2014 of the general public by the Gas Safety Trust, found only 13 per cent of 2,000 respondents were aware of the symptoms of CO poisoning (headaches, vomiting, breathlessness, weakness, confusion, chest pain – can be similar to flu symptoms). A report in January 2015 by the All-Party Parliamentary Carbon Monoxide (CO) Group found a widespread lack of awareness among members of the public that CO is also produced by fuel-burning appliances other than gas boilers, such as wood-burning stoves or gas cookers.

It is also the case that recent studies have found a lack of awareness in the medical profession of the symptoms of CO poisoning. The APPCOG has, again, been prominent in this area. Despite this situation, a 2015 report by Kings College London and Public Health England found a pattern of increasing CO poisoning admissions to hospital with increasing levels of deprivation. As social housing tends to be in more deprived areas, this finding suggests social tenants are therefore at higher risk of CO poisoning.

At present there is no requirement for social landlords in Wales to install CO alarms in all homes. As with national frameworks recently introduced in England through changes to Part J of the Building Regulations, a CO alarm is required in every room whenever a new or replacement solid fuel-burning appliance (such as a wood-burning stove) is installed. However, this excludes other types of fixed combustion appliances such as gas boilers.

It is important to note, however, that the current situation may soon change. In the Fire and Rescue National Framework 2016, published by the Welsh Government in November 2015, it is clearly stated that: ‘The Welsh Government intends to prescribe requirements in relation to the installation of smoke and carbon monoxide detectors.’ The document notes that the recently passed Renting Homes (Wales) Act 2016 contains provisions that would allow the Welsh Government to take such steps through regulations. Such a move would align with the call made by the All-Party Parliamentary Carbon Monoxide (CO) Group – which published the Carbon Monoxide: From Awareness to Action report in January 2015. In this report, the APPCOG called for social landlords to be required to meet tougher standards on CO. In its report it said ‘Building Regulations should be amended to require social housing providers to fit and maintain standard-compliant carbon monoxide alarms wherever a fuel-burning appliance is installed.’

In its contribution to the research, the APPCOG also outlined the potential for social landlords and their operatives to play a ‘trusted messenger’ role in spreading information about the risks of CO poisoning. The table on page 43 clearly illustrates the scope for confusion and the need for social landlords to keep on top of their requirements. The benefits set out in the previous chapter of a more straightforward approach to compliance with fire requirements apply equally to those for gas and carbon monoxide.
**Overview on carbon monoxide and gas safety**

**Gas safety and carbon monoxide legislation, regulations and guidance: existing, new and upgraded dwellings**

**Building Regulations – part J**

These cover the requirements in terms of flues, ventilation and storage for all new or refurbished homes in England that contain combustion appliances. Part J was updated in October 2015 to include requirement J3 that covers the ‘warning of release of carbon monoxide for solid fuel burning appliances’. This states: ‘Where a new or replacement fixed solid fuel appliance is installed in a dwelling, a carbon monoxide alarm should be provided in the room where the appliance is located.’ This requirement on CO alarms does not extend to gas-burning appliances.

**Gas Safety (Installation and Use) Regulations 1998**

The key legislation covering gas safety in the UK is the Gas Safety (Installation and Use) Regulations 1998. These specify that landlords must ensure that the gas fittings and flues are maintained in a safe condition and that a gas safety check is carried out annually on each appliance/flue. The Approved Code of Practice (ACOP) and guidance gives practical advice on the Gas Safety (Installation and Use) Regulations.

If a tenant has concerns about gas safety, they may raise it with Gas Safe Register (the replacement for CORGI) or the Health and Safety Executive. [http://www.hse.gov.uk/gas/domestic/newschemecontract.htm](http://www.hse.gov.uk/gas/domestic/newschemecontract.htm)

The HSE may make enquiries or investigate, for example where landlords have failed to maintain gas appliances, or where unsafe gas work has been carried out. This may result in enforcement action where appropriate. Further information from the HSE can be found at: [http://www.hse.gov.uk/gas/domestic/index.htm](http://www.hse.gov.uk/gas/domestic/index.htm)

**Hard-wired or battery-operated alarms?**

The traditional view when installing CO alarms is they are most effective when they are hard-wired into a property, with a battery back-up.

However, this view is changing. This is principally because of the additional cost and disruption of installing hard-wired alarms. Also, hard-wired alarms are required to have a back-up battery that landlords need to ensure is working. Such checks are usually carried out during the annual gas service for the property.

The current thinking at some social landlords is mixed. For some battery-powered CO alarm products are worth exploring, as they are cheaper to install and would require the battery to be on-site or remotely checked anyway on at least an annual basis. Others are continuing with the hard-wired approach.

The issue of ensuring residents can’t simply remove batteries is tackled by better positioning of alarms and designing products where removing the battery is much less straightforward for the resident and/or where sensor technology alerts the landlord to the removal of batteries.

**Case Study: Cartrefi Cymunedol Gwynedd Cyf**

**Carbon monoxide detectors**

Cartrefi Cymunedol Gwynedd Cyf (CCG) supplies a carbon monoxide detector if there is a gas, oil or solid fuel appliance in the property. These detectors are checked during the annual gas service and replace by CCG if faulty or out of date.

Gareth Roberts, Mechanical & Electrical Compliance Manager said: “Carbon monoxide alarms are a useful back-up precaution but must not be regarded as a substitute for proper installation and maintenance of gas equipment. However, we strive to install hard wired with lithium battery CO detectors to all our homes where gas, oil or solid fuel is present in line with the Welsh Housing Quality Standard and provide additional units in some circumstances to provide that extra reassurance to vulnerable tenants.”

**Talking Point:** The City of Lincoln Council is implementing a programme to install carbon monoxide alarms in all its 7,800 council homes by 2018. The council has decided to install a mains hard-wired carbon monoxide detector in each of its properties to enhance the safety of its tenants. The programme, which will cost over £845,000 during a 10-year period, covers both installation and maintenance.

**Discussion points: Carbon monoxide and gas safety**

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*References:


Case Study: Kirklees Neighbourhood Housing trialling smart CO alarms

Kirklees Neighbourhood Housing in West Yorkshire has recently completed installation of 150 BS45 approved battery-powered, ‘smart’ carbon monoxide alarms in the homes of vulnerable tenants. This is part of a trial being funded by the north of England’s gas distributor, Northern Gas Networks (NGN).

KNH, which manages 23,000 homes on behalf of Kirklees Council, works with NGN and gas safety campaigner Stacey Rodgers, as part of the Kirklees Carbon Monoxide Awareness Network, and so was keen to take part in the pilot. Ms Rodgers’, 10-year-old son, Dominic, died of carbon monoxide poisoning from a neighbour’s flue and faulty boiler. Ms Rodgers set up The Dominic Rodgers Trust in 2004 to raise awareness of the dangers of CO.

Smart Compliance is the manufacturer that has developed the new Smart CO1 detectors used in the trial scheme. All carbon monoxide emissions (including low levels) are remotely monitored on a 24/7 basis and where CO is detected, the device issues text message notifications to a nominated mobile phone, whether the tenant, homeowner, a close friend or family member. Simultaneous alerts also go to the landlord and emergency services, where relevant. This ensures vulnerable people in particular can be kept safer at home. The detectors also issue weekly reports to confirm that they are fully functional and send alerts to landlords when the batteries need to be replaced and where the device has been tampered with. This information is stored in a secure, central database.

Smart Compliance estimate these features of the CO1 detector could save landlords tens of thousands of pounds a year on attending false alarms and the associated administration costs.

Paul Goodwin, who manages KNH’s Gas and Electric team, said: ‘It’s great technology and you get a lot of information out of these alarms. The database can show different levels of CO at different times of days. This information could be useful when dealing with claims of potential CO poisoning.’

Paul added that the trial had reported a number of false alarms, although the reduction in response times to potential activations was important. At the moment KNH only offers standard carbon monoxide alarms to homes in limited circumstances, such as homes containing solid fuel appliances, open flue boilers and where someone is sleeping in the lounge and there is an open-flue fire. It has no plans to alter this approach at present.

Tom Bell, head of social strategy at NGN, said of the trial scheme: ‘Raising awareness of the dangers of carbon monoxide poisoning is an issue we take extremely seriously, as is the health and safety of all our customers. Other gas distribution networks across the country are also taking part in the scheme and we hope that together we will be able to make significant progress in informing people of the risks associated with exposure to CO.’

It should be noted that the HouseMark report dates from 2010, but the resistance from some social landlords to installing CO alarms in all homes was based on the following:

‘Most of our [gas] boilers are modern ‘fail safe’ appliances and we therefore believe that these do not need a [CO] detector adjacent to them.’

‘These aren’t fitted as a rule but we have installed CO detectors into properties where the tenant is sleeping in the front room and refuses an electric [fire] alternative. These are normally exceptional circumstances where there’s no other practical alternative.’

‘We only fit CO alarms where we are aware that a resident is sleeping in a room that has an open-flued appliance, e.g. a back boiler. A letter is sent to the resident to raise their awareness of the risk.’

‘Some tenants, particularly those who are vulnerable, may be less safe if they become reliant on the device and that this may make gaining access to carry out the annual service more difficult.’

‘We analyse every gas boiler and get a recording of CO emissions. If this is above the regulation limits, then the boiler will be investigated. All our boilers are checked every year and there is an active plan to replace open flues with room sealed flues.’

In the light of further research – see references to Hackney findings on page 36 – the APPCOG recommendations and recent developments in technology, these views may well be becoming outdated.


Overview on carbon monoxide and gas safety

Investment in CO alarms

A HouseMark report in 2010, Provision of Carbon Monoxide Detectors in Social Rented Homes, surveyed 138 social landlords covering 1.13 million homes and found that 86 per cent had installed CO alarms ‘to some or all of their homes with gas or solid fuel heating’ appliances. It concluded that priority was given by these landlords to installing CO alarms in properties with solid fuel-burning appliances and that ‘a few’ organisations were fitting CO alarms to all properties supplied with gas and solid fuel-heating, or planned to do so.

The report cited part of the reason for this as being that the government of the time was not minded to require CO alarms where any fuel-burning appliance is installed. This was due to a report in September 2009 commissioned by the Department for Communities and Local Government that found ‘installing CO detectors alongside new gas appliances already incorporating secondary safety systems gives low cost benefit’.

The DCLG expanded on this point in evidence to the DCLG select committee of MPs in February 2012 when then minister Andrew Stunnell said: ‘Solid fuel appliances are about 10 times more likely than gas to generate CO emissions when they should not do.’

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Overview on carbon monoxide and gas safety

Fire, Gas and Carbon Monoxide Safety Regulations: what Welsh social landlords need to know
Discussion points: Carbon monoxide and gas safety

Case Study: Hyde Group

The approach Hyde takes to protecting tenants against CO poisoning is three-fold.

First, if a property has a solid fuel-burning appliance, Hyde will install a CO alarm. Second, if there are concealed flues, Hyde will install a CO alarm. Third, if a gas engineer says a particular property needs a CO alarm for any reason, Hyde will install it—no questions asked.

Daren Jones, gas manager at Hyde, said: "We’d like to see Building Regulations amended to require CO alarms to be installed in all homes. It would be much easier if it was in black and white and then everyone knew where they stood. It removes that ambiguity."

Hyde is conducting a pilot using ‘smart’ CO detectors in partnership with manufacturer Smart Compliance. Five CO alarms are being installed in each of Hyde’s three regions: Peterborough–Northampton, London and the South Coast. Data from the alarms is collected by Hyde and analysed to determine the potential benefit of rolling out CO alarms more widely.

Daren said: ‘We want to see what the benefits are compared to the other approaches we take. Technology has a big role to play in the future of fire and gas safety. The key thing for us at present is to ensure the systems are reliable and robust.’

Data collection on CO incidents and "trusted messengers"

In its report in January 2015—Carbon Monoxide: From Awareness to Action—"the All-Party Parliamentary Carbon Monoxide (CO) Group (APPCOG) highlighted the need for better data on CO incidents. Improved data would help tenants and landlords to mitigate the risk of CO poisoning.

The APPCOG report emphasised the need for the UK to establish a central data hub which would be empowered to collate all relevant CO performance data. The report highlighted the opportunity afforded by the advent of ‘smart’ CO alarms that communicate remotely with a central hub to convey performance information (see Kirklees Neighbourhood Housing case study, above). This could include reporting any CO alarm triggers, battery lifetime, any faults or tampering with the device.

Writing in the report’s foreword, Baroness Finlay, co-chair of the APPCOG, said there was an opportunity for the data from smart CO detectors to feed into the central hub. The Gas Safety Trust maintains the central CO hub that was launched in January 2015, at the same time as the APPCOG report. The hub at www.coportal.org provides a comprehensive database of information on standards and legislation as well as data on CO incidents.

In the same report, the APPCOG also highlighted the importance of the role played by social landlords in ensuring CO safety information is correctly provided to residents. In its response to this research, the APPCOG said: ‘As well as identifying unsafe appliances, engineers allowed into properties can also act as trusted messengers’ to deliver CO safety messaging.‘

The APPCOG argues that CO deaths and injuries will only be reduced by increased awareness of the dangers— as previously mentioned, such awareness levels among the general public are not high. The more trust an individual has for the messenger, the greater the likelihood of that message being heeded. As the 2015 research by Kings College Hospital and Public Health England demonstrated, residents of social housing are a particularly high-risk group for CO poisoning. Steps taken by social landlords to ensure residents are aware of the dangers of CO are therefore particularly important.

For CO alarm performance data to be meaningful, it must be comprehensive enough to identify any shortfalls in CO safety information provision. The APPCOG recommended that the National Records of Accidents to Housing (NRAH) should be extended to capture data on CO level and CO incidents.

The APPCOG also recommended that data on CO incidents should be collected and shared, with a central hub approved through Ofgem supplier conditions, building on existing purely incident-based data. To enable this, alarm and data collection standards should pre-empt the large amounts of data soon to be recorded through ‘smart’ homes, and a framework for pooling this input from academia should be created. Public Health England, with a remit to cover incidents involving all fuels, should be involved in the population-level data work.

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http://pubmed.ncbi.nlm.nih.gov/content/early/2015/03/27/pubmed25820261
Discussion points: Carbon monoxide and gas safety

Cookers and other fuel-burning appliances as a greater CO risk
In 2010, London arm’s-length management organisation Hackney Homes, conducted a study with Public Health England to estimate the prevalence of carbon monoxide exposure in dwellings\(^5\). Hackney Homes installed CO detectors in its 23,000 homes and Public Health England monitored the results. There were 106 CO incidents reported in the six months from November 2011.

The study revealed that, even within homes where gas boilers were fully serviced and maintained, CO risk remained in a relatively large number of properties. Following further investigation, Hackney Homes discovered that almost a third of incidents (29.9 per cent) were caused by faulty gas cookers. An additional 10.6 per cent were due to improper cooking methods. These included using foil round the gas hob ring and using oversize pots and pans on small rings, hence increasing the concentration of CO due to greater flame dispersal.

This means that other gas appliances, such as gas cookers that are not subject to the same regulations and checks as gas boilers, are as much, if not a greater risk. The study found that, even if gas boilers are fully serviced, if other gas appliances are present in homes, CO alarms should be installed.

Discussion points: Carbon monoxide and gas safety

Gas maintenance and servicing

Annual Landlord Gas Safety checks and maintenance requirements generally apply to gas appliances, flues and fittings installed in rented residential properties. Appliances owned by the tenant such as gas cookers are not however covered, within the terms of the Gas Safety Installation and Use Regulations 1998. Nevertheless, open flued gas fires installed by a tenant can lead to some uncertainty for landlords because the Health and Safety at Work Act 1974 requires a landlord to ensure that any purpose provided flue (chimney) within a rented property that has a gas appliance attached is safe and fit for use. This will inevitably require a gas engineer to remove the gas fire, check the opening dimensions are correct, of a solid construction, made of suitable materials and will also require a flue flow test to ensure potential products of combustion will have clear passage to atmosphere. Subsequently, the gas service engineer will need to ensure that the tenant’s fire is then refitted as per the manufacturer’s instructions and that it is ultimately safe for use. In order to do this the engineer will therefore need to test and service the appliance as per manufacturer’s instructions or where manufacturer’s instructions are not available make the appliance safe and disconnect it from the gas supply.

This means that in order for a landlord to meet their legal duty of care on the landlord to undertake testing of the flue which is part of the fabric of the building. The Health and Safety at Work Act 1974 requires a landlord to ensure that any purpose provided flue (chimney) within a rented property that has a gas appliance attached is safe and fit for use. This will inevitably require a gas engineer to remove the gas fire, check the opening dimensions are correct, of a solid construction, made of suitable materials and will also require a flue flow test to ensure potential products of combustion will have clear passage to atmosphere. Subsequently, the gas service engineer will need to ensure that the tenant’s fire is then refitted as per the manufacturer’s instructions and that it is ultimately safe for use. In order to do this the engineer will therefore need to test and service the appliance as per manufacturer’s instructions or where manufacturer’s instructions are not available make the appliance safe and disconnect it from the gas supply.

The Health and Safety Executive (HSE) also point out in their leaflet A guide to landlords’ duties: Gas Safety (Installation and Use) Regulations 1998 that a landlord cannot delegate these duties to a tenant. In addition, the HSE states in its guidance that a landlord ‘should not assume that an annual service inspection meets the safety check requirement, or that a safety check will, on its own, be sufficient to provide effective maintenance’. The only way to provide effective maintenance is to undertake a service of the appliance as per the specific manufacturer’s instructions.

This also raises the question of whether an annual gas safety inspection will provide adequate protection to tenants from the risks of CO poisoning. As highlighted in the recent carbon monoxide report67 by the All Party Parliamentary Carbon Monoxide Group and explored in the case study above on Kirklees Neighbourhood Housing, one additional safe guard that landlords could take would be to install ‘smart’ CO alarms. As well as automatically contacting the landlord and fire service if there is a CO leak, these smart alarms provide a 24/7 evidence base of intelligence on gas and CO safety.

Gas maintenance access

Another issue, and perhaps the biggest barrier to carrying out gas safety checks, is gaining access to properties. Many landlords report they go to great lengths to be as convenient to tenants as possible, offering weekend and evening appointments, but many tenants still refuse access.

Home Group has led a campaign of 50 housing associations in lobbying the government to extend access rights to bring them into line with those of local authorities.

When the campaign launched in 2014 Mark Henderson, chief executive of Home Group, wrote in Inside Housing: ‘The Gas Access Campaign isn’t advocating a change which would see housing associations knock down a door at first refusal but a clear and transparent process allowing customers many opportunities to grant access. It’s the same right of entry local authorities have exercised responsibly for years. At the point it becomes clear a tenant is not engaging it would reduce time taken to obtain a court order from as much as four months to 24 hours. Lives are at stake and the issue is far too important to ignore.’

At this point in time, however, the Government is not minded to adopt this approach.

The campaign has also proposed amending the Gas Safety (Installation and Use) Regulations to allow an ‘MOT-style approach to gas safety checks’. The campaign website says: ‘This would mean that checks could be carried out up to one month before the expiry of the current gas safety check record, but the new safety check record would be dated such that it is valid for a full twelve months from the expiry date of the current safety check record. This ensures that the safety check cycle is not shortened each year’.

The HSE’s Stuart Kitchingman spoke at the 2016 Association of Gas Safety Managers (AGSM) Gas Safety Management Conference and confirmed the HSE’s support of the move to an MOT style of LGSR, following a comprehensive consultation process.

For the purposes of paragraph 15(6), a safety check carried out not less than 10 months and not more than 12 months after the date of the most recent safety checks shall be treated as if made at the end of that period.

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67 The HSE’s Stuart Kitchingman spoke at the 2016 Association of Gas Safety Managers (AGSM) Gas Safety Management Conference and confirmed the HSE’s support of the move to an MOT style of LGSR, following a comprehensive consultation process.
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Case Study
North Wales Housing Association
Gas Safety
North Wales Housing Association (NWHA) has dedicated significant time and resources to improving gas safety. As part of this process a large proportion of its stock was fitted with carbon monoxide detectors to aid early detection of issues. This has produced some interesting results.

On average NWHA receive approximately five activation calls per year, and three fumes escape reports. In the past, the association sent their in-house team to inspect and isolate the gas supply until a qualified contractor could attend (usually 5-7 days). However, this did not factor for migration of products of combustion from other properties, and caused disruption to the tenant with the loss of gas for several days. (Note: any confirmed case of CO poisoning (confirmed by a blood test) is reportable under RIDDOR and must be investigated by the gas transporter or HSE dependent on situation).

Following a review, the association decided to bring the gas inspection service in house so that the investigation could be conducted same day, any potential CO or fumes hazard eliminated and disruption to the tenant minimised.

NWHA recognised that taking on this responsibility in house meant that new skills and competencies were required. To train and equip a single engineer costs approximately £1,000 – training, a specialist gas analyser and personal CO alarm are required. To complete an investigation takes half a day at an approximate cost of £100 (including on-costs) compared to £350 where the responsibility is outsourced.

Case Study
Cartrefi Cymunedol Gwynedd Cyf
Gas Safety
Cartrefi Cymunedol Gwynedd Cyf (CCG) has signed up to the Gas Access Campaign to highlight to their tenants how important it is to keep their boiler servicing appointment.

Recently CCG introduced a new cash incentive to help tackle the issue – tenants who allow first time access for the gas safety check are entered into a prize draw – with a winner announced every three months.

Gareth Roberts, Mechanical & Electrical Compliance Manager said “We’re pleased to introduce this incentive to encourage tenants to let our workers into their homes to carry out our regular cyclical safety checks. Tenant safety is very important to us, it’s a legal requirement to make sure boilers and fires are safe and to provide a safety certificate to the tenant each year. The hope is that this prize draw will encourage more tenants to work with us to ensure their homes are safe”.

CCG is also asking its Neighbourhood Services Team to tackle persistent missed appointments by undertaking visits to help encourage those hardest to reach to co-operate fully with the M&E team.

Case Study
Hyde Group
Gas Safety
Daren Jones, Hyde’s gas manager, said Hyde has 25,500 properties with gas and operates a 10-month gas safety service cycle. To enforce this, Hyde operatives attempt two visits to properties and if these fail to gain access, it works with resident services to explore whether the tenant may have vulnerabilities.

If this is not the case, Hyde commences legal proceedings to gain forced entry. Around 40-100 properties with access issues are being tracked at any one time. This ensures a very low rate of non-compliant homes of 0.01%.

Daren described the current situation on gaining access to difficult properties as ‘frustrating’. He said: “We need to jump through so many hoops, compared to local authorities. It costs us more than £1 million a year in legal fees. Gas safety compliance is our number one priority. If anything we are investing more in this area than less.”
In general 'No', however, if any alteration is deemed significant by the gas and carbon monoxide
Quick reference grids on fire,
gas and carbon monoxide

Fire safety rules for social and private rented sectors (PRS): Wales

<table>
<thead>
<tr>
<th>TENURE</th>
<th>RELEVANT FIRE/SMOKE LEGISLATION</th>
<th>RESPONSIBLE ENFORCING BODY</th>
<th>SMOKE ALARM REQUIRED ON ALL HOMES?</th>
<th>SMOKE ALARM REQUIRED IN ALL UPGRADED OR RETROFITTED HOMES?</th>
<th>UPCOMING REGULATION OR LEGISLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL HOUSING</td>
<td>Welsh Housing Quality Standard (WHQS)</td>
<td>Welsh Government</td>
<td>Yes – the WHQS requires smoke alarms on all floors by 2020</td>
<td>NO*</td>
<td></td>
</tr>
<tr>
<td>PRIVATE RENTED SECTOR</td>
<td>Part J – Building Regulations</td>
<td>Local Authority Building Control</td>
<td></td>
<td>NO*</td>
<td></td>
</tr>
</tbody>
</table>

If you are responsible for a dwelling, you have a legal requirement to fit a smoke alarm in all social and privately rented homes. The recently passed Renting Homes (Wales) Act 2016 contains provisions that would allow the Welsh Government to take such steps through regulations.

Gas and carbon monoxide safety rules for social and private rented sectors (PRS): Wales

<table>
<thead>
<tr>
<th>TENURE</th>
<th>RELEVANT GAS AND CO LEGISLATION</th>
<th>RESPONSIBLE ENFORCING BODY</th>
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<td></td>
<td>NO**</td>
<td></td>
</tr>
</tbody>
</table>

*A Part J of the Building Regulations, a carbon monoxide alarm is required in every room whenever a new or replacement solid fuel-burning appliance (such as a wood-burning stove) is installed.

**In the WHQS, smoke alarms are required in all social and privately rented homes. The recently passed Renting Homes (Wales) Act 2016 contains provisions that would allow the Welsh Government to take such steps through regulations.

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Quick reference grids on fire, gas and carbon monoxide

Fire, Gas and Carbon Monoxide Safety Regulations: what Welsh social landlords need to know

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Appendix 1

Research questions on health and safety issues around fire, gas and carbon monoxide

Questions for social landlords:
1. What aspects of health and safety do you actively monitor and measure performance on, focusing on fire, smoke and gas?
2. What legislation is this complying with? Are you working towards meeting new legislation coming in the future?
3. What is your strategy here and how are you delivering it? (We are looking for case studies of innovative approaches)
4. Do you keep extensive records that need to be submitted to a regulating body? Apart from the risk of accident, what policing is there of your approach to gas/smoke/fire risk monitoring?
5. To what extent has your organisation invested in new technology to help your performance in health and safety on fire, smoke and gas?
6. Are you working with any partners as part of your strategy? If so whom please?
7. What are the key challenges in this area of health and safety as you see it? What are your key achievements?
8. What would you like to see changed in terms of regulations to make your job/responsibilities more straightforward?

Appendix 2 – Glossary of terms

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery-powered</td>
<td>Carbon monoxide (CO), smoke and other alarms/detectors that are run from batteries and not hard wired to an electric power source</td>
</tr>
<tr>
<td>CO</td>
<td>CO is the chemical symbol for carbon monoxide, a colourless, odourless, tasteless and highly poisonous gas that is commonly produced when carbon-based fuels (such as wood, oil and gas) do not burn properly. If present in high concentrations and undetected it can be fatal. Chronic (persistent and long-term) exposure to lower levels of CO, as can occur with faulty domestic boilers, may go unrecognised. The symptoms include milder versions of those seen in acute CO poisoning, with headache, nausea, dizziness, light-headedness, fatigue and sleepiness, difficulty concentrating and memory problems, as well as changes in mood. People may be aware that something is wrong, but be unable to identify exactly what is the matter, or may attribute the problems to overwork, stress or depression. If symptoms disappear while away at work, reappearing on returning home, or if other people in the same premises develop similar symptoms, it may become more obvious that there is an environmental cause. Although most people seem to recover following chronic low level CO exposure when the source is removed, it can lead to anoxic brain injury.</td>
</tr>
<tr>
<td>Fire alarm</td>
<td>An alarm that is activated when fire is detected. These can be manual or automatic. There are eight categories of fire alarm, with the range intended to cover all building and use types</td>
</tr>
<tr>
<td>Hard-wired</td>
<td>Carbon monoxide, smoke and other alarms can be connected to the main electricity supply (hard-wired). However, they still require a battery back-up. These can be alkaline batteries (which need annual changing) or the alarm can be supplied with rechargeable lithium batteries, which will last the lifetime of the alarm, or alarms fitted with sealed 10 year batteries. Mains alarms need to be installed by a qualified electrician.</td>
</tr>
<tr>
<td>Heat alarm</td>
<td>Carbon monoxide (CO), smoke and other alarms/detectors that are run from batteries and not hard wired to an electric power source</td>
</tr>
<tr>
<td>Smart alarms</td>
<td>Smart alarms, including smoke and CO alarms, perform additional functions to the detection and alerts performed by traditional devices, often through a connection such as Wi-Fi, GSM (Global System for Mobile communication). In everyday terms it’s used for sending text messages, ultra-narrow band, etc. For instance, a smart CO device may communicate data about the extent of CO levels and specific location of an incident in a property to a portal and mobile phone through the GSM network, in addition to standard audible and visual alerts. These smart devices are also capable of reporting faults with the batteries and sensors or that they have been tampered with</td>
</tr>
<tr>
<td>Smoke alarm</td>
<td>An alarm that activates automatically when it detects smoke</td>
</tr>
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</table>
About the authors

Stuart Macdonald is an award-winning journalist and former editor of Inside Housing magazine. He is the founding director of communications consultancy See Media, which works with landlords and their suppliers in the UK affordable housing sector. At Inside Housing, Stuart launched the successful ‘Safe as Houses’ campaign aimed at raising awareness of fire and gas safety issues among social landlords.

Denise Chevin is a writer, researcher and award-winning editor in the built environment. She edited Building Magazine and its web site Building.co.uk and prior to that revamped and edited the social housing magazine, Housing Today. Denise is also research fellow of the Smith Institute and has written a number of parliamentary reports including No More Lost Generations, looking at youth unemployment.

Acknowledgements

The authors are very grateful to all the individuals and organisations that contributed to this research. We have listed everyone below. We have made every effort to ensure the report is accurate and, to this end have worked in particular with Sharon Fleming, Lead Associate Consultant, HouseMark, who has made a significant contribution to the accuracy and content of this publication. In addition, we thank Ross Fraser, former chief executive at HouseMark, for his review and editing of the contents.

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Mike Owen, chief executive, Merthyr Valley Homes
Donald Heaney, head of governance and inspection, Department for Social Development (Northern Ireland)

Grŵp Cartrefi Cymunedol Cymru (Community Housing Cymru), Health and Safety Network
Housing Directorate, Welsh Government
Nick Cross, head of housing services, Southampton City Council
Paul Goodwin, gas and electric team manager, Kirklees Neighbourhood Homes
Rachel Bancroft, health and safety manager, Southern Housing Group

Robert Groom, fire risk manager, Peabody
Scott Wallace, director, Smart Appliances
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