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Welsh Government

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# Time for Action

A report exploring the impact of false alarms in Wales



## Executive Summary

Over the previous ten years the Fire & Rescue Services in Wales have achieved a marked reduction in the overall number of incidents that they attend. Further scrutiny of the Fire Service incident data shows that whilst all incidents attended have reduced by 28%, the number of false alarm calls attended has only reduced by 13%<sup>1</sup>. This report identifies the main reasons for the number of false alarm calls being attended by the Fire & Rescue Services and also identifies the main contributor being those calls initiated by automatic fire alarm systems and in the main, due to equipment.

Responding to false alarms is a wholly unproductive activity for the Fire Service. It incurs direct costs which are estimated to be around £3m per year in Wales, and opportunity costs by committing crews and appliances which could be used for other duties. False alarms also create costs to the owners and occupiers of the buildings affected which are estimated to be in the region of £29m per year. This problem needs urgent action by all concerned. It recommends that this should include the following:

- There are several proven ways, set out in this report, in which the Fire & Rescue Services can reduce false alarms. They should consider these as part of their false alarm reduction strategies, and adopt them where possible.
- There are several key sectors which contribute to the highest number of false alarm calls: Health, Education and Retail. Building owners and managers in these sectors can take simple steps to minimise false alarms and the costs and disruption they create. The Welsh Government should also bring together senior figures from the identified sectors to explore the issues giving rise to the high number of calls each year and push for a radical rethink of current approaches, and facilitate a strengthening of the partnership between the Welsh Fire & Rescue Services and these sectors.
- The Welsh Government also has a role to play in assisting those responsible to drive down the number of false alarm calls and co-ordinating a joint approach between the Fire & Rescue Services and identified organisations to tackling the issues that give rise to the high number of false alarm calls. The Welsh Government should also emphasise the need to tackle the high number of false alarms in the revised National Framework for Fire and Rescue Services. However, the Welsh Government's role is limited and the main responsibility must lie with Fire Services and with the owners and occupiers of premises where these false alarms occur.

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<sup>1</sup> Stats Wales incident data

## Introduction

The role of the Fire & Rescue Service in preventing, protecting and responding to emergency incidents is widely recognised by the Welsh Government and many others as one of great importance. Ensuring the safety and wellbeing of Welsh citizens and protection of property is a key priority.

The Welsh Government recognises the many challenges that the three Welsh Fire & Rescue Services face in responding to the financial downturn and changes to the risk landscape.

False Alarms are an area of concern which, in many cases, appear to be an unnecessary drain on emergency response resources and present an unnecessary risk during the Fire Service response. In seeking to support the Fire & Rescue Authorities tackle this issue, the Welsh Government commissioned a project looking at the specific issues relating to false alarms.

The false alarms project seeks to achieve two specific objectives. Firstly, to explore the underlying issues relating to the high number of false alarms in Wales and secondly, to engage with senior stakeholders to explore the issues and identify options available to all which could have a positive impact in reducing the impact of false alarms on both the Fire & Rescue Service and organisations who are affected by this problem.

This report highlights the key issues which lead to the high number of false alarms taking place within Wales and identifies a range of options for reducing the impact of false alarms which are available to both the Fire & Rescue Service and building occupiers/owners.

## Background

Approximately 40% of all incidents attended by Fire and Rescue Services in Wales during 2013/14 were false alarms. In all three FRSs, this exceeded the number of actual fires that the Service responded to. Such responses incur significant costs to the Service and to the premises concerned, for no gain whatsoever. This is bound to question whether these resources could be used more effectively and efficiently.



### What is a False Alarm?

A false alarm occurs where the Fire & Rescue Service mobilises fire engines to a potential fire or other incident and it later transpires this notification was either made with malicious intent, made with good intentions, or through an automated system but the subsequent outcome was that there was actually no fire or other incident for the Service to deal with.

## Types of False Alarms

**Malicious False Alarms** are calls made with the intention of getting the Fire and Rescue Service to attend a fire-related event which the person making the call knew did not exist.

**Good Intent False Alarms** are calls made in good faith in an attempt to summon the fire and rescue service to attend a fire that was believed to exist, but in fact did not.

**False Alarms due to Apparatus/Equipment** are calls initiated by fire alarm and fire-fighting equipment operating (including accidental initiation of alarm apparatus by persons).

False alarms due to equipment (usually fire alarm systems) are by far the greatest contributor to the problem. It has long been thought that automatic systems are installed in premises to raise the alarm amongst persons within the premises and to alert the Fire & Rescue Service. While many such systems do alert the Fire Service, it is not actually a legal requirement.

Indeed, it can be positively unhelpful if not properly managed. Historical incident information can be used to identify where emergency calls received by the Fire Service originated from automatic fire alarm systems, then actually turned out to be real incidents requiring intervention from the Fire & Rescue Service. This shows that less than 5%<sup>2</sup> of automatic fire alarm (AFA) calls attended by the Fire Services in Wales actually required some form of fire fighting action by fire crews. So around 95% of calls originated from automatic fire alarm systems required no action from the Fire Service.

In many cases the means of raising an alarm is by installing an automatic fire alarm system at the protected premises. These systems have detectors or manual break glass points which, when activated, notify the Fire Service who then make a decision whether to deploy fire engines to respond. As this process is largely automated there is often no physical check completed until fire appliances attend the premises. It is calls originated from these types of systems that give rise to the greatest number of false alarms attended by the Fire & Rescue Services and where the greatest potential for improvement exists.

A false alarm due to equipment therefore occurs when there is no actual fire but the alarm nonetheless activates. There can be lots of reasons for this, including:

- cooking fumes (e.g. burnt toast);
- steam (e.g. shower rooms, industrial processes);
- smoking materials (e.g. cigarettes, matches, candles and incense);
- aerosol sprays;
- hot work from cutting and welding;



<sup>2</sup> Source: Stats Wales Knowledge & Analytical Services data request

- dust build up (poor housekeeping, lack of preventative measures for dusty work such as drilling);
- humidity and temperature change;
- accidental or malicious damage to a 'Break Glass' point; and
- testing or maintenance – without having/following process to manage this.

## The Scale of the Problem

False alarms have been an issue for the UK Fire & Rescue Service for many years. The financial downturn and subsequent realignment of resources has meant that many Fire & Rescue Services are now placing a greater emphasis on reducing all unnecessary calls.

In terms of costs, the Fire Industry Association estimates that false alarms cost the UK up to £1 billion every year<sup>3</sup> and whilst only part of these costs apply to Fire & Rescue Services, the amounts are significant.

For occupiers of premises, false alarms can create avoidable costs due to:

- lost production;
- lost custom for retail premises, when customers are evacuated but do not return;
- disruption due to staff evacuation;
- possible future charging for attendance by the Fire & Rescue Authorities; and
- increased insurance premiums.

Equally, false alarms create avoidable costs for Fire and Rescue Authorities due to:

- staff costs for fire fighters who work on the retained duty system; and
- fuel for fire appliances deployed to false alarms, and related wear and tear.

There are also opportunity costs: crews and appliances deployed to a false alarm are unavailable to respond to other incidents, or for other duties such as training. False alarms also disrupt business and communities, causing unnecessary distress and economic loss. They also increase the risk of accidents or injuries to fire fighters and other road users when vehicles are responding under emergency conditions.

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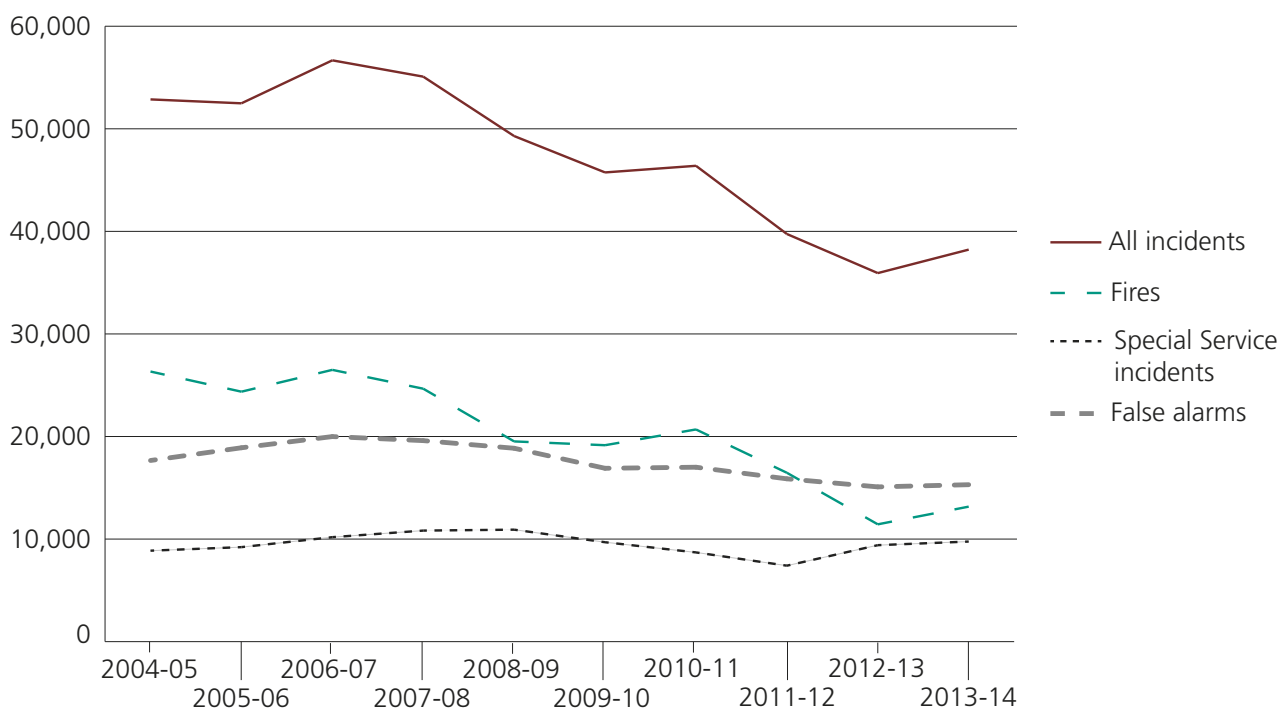
<sup>3</sup> Fire Industry Association Cut False Alarm Costs 2013

There are a number of reasons why the total number of emergency incidents the Fire & Rescue Service attend has reduced over the last decade which could range from technological or societal changes to Fire & Rescue Service intervention and targeted work.

## The position in Wales

The table shows the number of incidents attended by the Welsh Fire & Rescue Services and those that were false alarms. In the 10 year period 2004/05 to 2013/14 the total number of incidents that the Fire & Rescue Services attended has fallen by around 28% whereas the number of false alarms attended has reduced by just 13%. However, the number of false alarms have in effect fluctuated each year, with only slight overall reductions being achieved.

### All Incidents Attended/False Alarms Attended 2004/5 to 2013/14

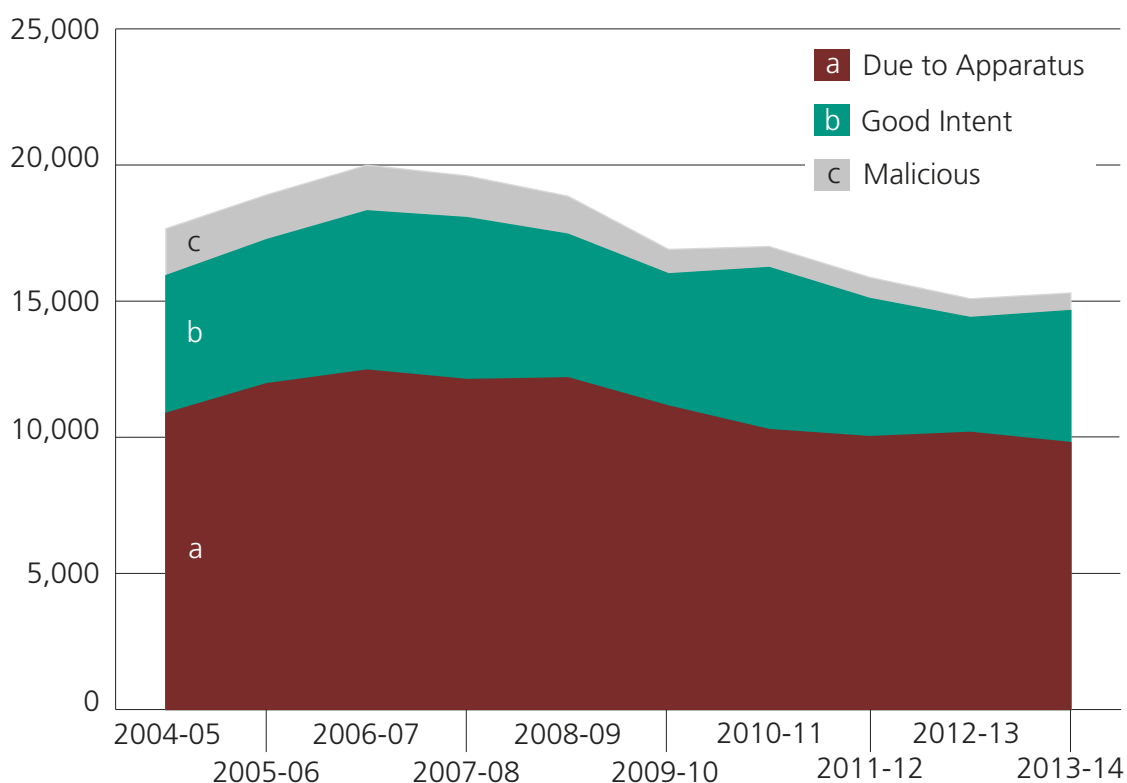


Source: Stats Wales/fires, special service incidents and false alarms attended by the FRS in Wales

The Welsh Fire & Rescue Services are not immune from the financial challenges being faced by many other public sector organisations; as such there is a duty to explore every opportunity to become more efficient. If the number of false alarm calls dealt with in Wales can be more drastically reduced over time, this will contribute to a reduction in demand on the Fire & Rescue Service and may allow for reconfiguration of its assets and the diversion of resources to more productive response and prevention tasks. There are other benefits of reducing false alarms such as ensuring operational resources are not tied up when they could otherwise be available for life threatening calls.

The 10 year profile for all false alarms in Wales<sup>4</sup> shows a positive reduction in malicious false alarm calls, but good intent calls and those due to apparatus are relatively static. By far the biggest cause of false alarms in Wales is those caused by automatic fire alarm equipment and action to tackle these calls is likely to have the most positive impact on reducing the numbers. This is in direct contrast to the average reductions seen in other Fire Services outside of Wales which have, in many cases seen reductions in all false alarms which are in excess of 40%.

## Breakdown of false alarms attended by the Welsh Fire & Rescue Services



<sup>4</sup> Source: Stats Wales/all false alarms attended by the FRS in Wales

During the past 10 years there has been some positive downward movement in the number of false alarm calls, particularly malicious calls, which have fallen by some 63% in the past 10 years. However, false alarms due to apparatus have fallen by 10% in the same period, and it is clear that there is much more that needs to be done to tackle the number of these.

## Costs Associated with False Alarms in Wales

It is often difficult to quantify the exact costs to the Fire & Rescue Service because of the number of variables such as role related costs, fuel use and fire appliance wear and tear. A recent report identified the unit cost of an unwanted fire signal (false alarm) as being around £300 per call<sup>5</sup>. Using this cost provides a reasonable overview of the financial impacts associated with false alarms that the Fire & Rescue Services respond to.

The table below outlines the approximate costs to the Welsh Fire & Rescue Authorities (based on £300 per call) through attendance at false alarms which were caused due to equipment over the previous 5 year period.

Year	False alarms due to equipment	Annual cost based on £300 per call at 2014 prices
2009/10	11147	£3.53m
2010/11	10282	£3.21m
2011/12	10024	£3.12m
2012/13	10181	£3.08m
2013/14	9805	£2.94m

\* it should be noted that the figures above only relate to false alarms which were caused by equipment and does not represent the total number of false alarms.

The data in the chart clearly shows that targeted action to reduce the number of false alarms caused by just equipment faults or false activations could reduce costs by upwards of £3m per year; this amount is the equivalent of funding 83 full time firefighter posts.

Whilst the costs to the Fire & Rescue Services in Wales are significant, there are also financial impacts on the organisations affected by false alarms through issues such as loss of production through unnecessary down time.

<sup>5</sup> The causes of false alarms in buildings BRE briefing paper 2014



The report produced by the Building Research Establishment (BRE) and Buckinghamshire & Milton Keynes Fire & Rescue Authority estimated that each false alarm cost a business approximately £2,900<sup>6</sup>.

If this figure were applied to false alarms in non residential buildings which were caused due to equipment, it is estimated that **the cost to businesses in Wales in 2013/14 alone was in the region of £28m.**

## Time Wasted due to False Alarms

When a fire alarm activates and results in a false alarm there is an impact on both the occupiers of the affected premises and to the Fire & Rescue Service. The time taken to unnecessarily evacuate a building because of an alarm call can be excessive and results in down time.

Once the Fire & Rescue Service has attended the scene to carry out the necessary checks confirming a false alarm, those evacuated must then return to work. Each false alarm call can quite easily result in 0.5 hours lost time per firefighter.

An example of the time implications associated with false alarms can be seen if the total number of false alarms (excluding malicious calls) is calculated. For the year 2013/14 this figure was 14,655 calls<sup>7</sup>. Each time there is a fire alarm, premises are evacuated which leads to periods of down time and inactivity for the premises owner/occupier.

Time wasted on unnecessary false alarm calls can have a significant impact on the time available to undertake vital prevention work and more importantly can impact on the availability of fire crews meaning that they are otherwise unavailable to deal with any real emergencies which may occur during that time.

To demonstrate this point, the Fire & Rescue Service normally operates with a crew of 5 on each fire engine. If we multiply the average false alarm (responding and dealing with the incident) [0.5 hours] by 5 we can assume 2.5 hours for each false alarms call. Using the 2013/14 data (14,655 excluding malicious calls) this equates to over 36,000 hours of productive time in just one year. This time could be better utilised undertaking preventative fire safety activities, for example.

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<sup>6</sup> The causes of false alarms in buildings BRE briefing paper 2014

<sup>7</sup> Source Stats Wales

There are other implications associated with the large number of false alarms calls. For example, the Welsh Fire & Rescue Authorities employ in the region of 2,000 retained or 'on call' fire fighters. Every time they are called upon to attend an incident during working time, they must leave their home or normal workplace to do so. Whilst employers of on call fire fighters actively support their employees in leaving the workplace for the purpose of saving lives and dealing with emergencies, the same could not be said if the reasons were to attend false alarms, particularly at premises with a high number of such alarms.

## Additional Risks

When a fire appliance responds to an incident it often does so at much higher road speeds. Travelling at high speeds in order to attend emergency incidents is essential to improve the time from call to intervention. However, travelling at high speeds on public highways also presents additional risks to fire fighters as well as pedestrians and other road users. A number of accidents have occurred where a fire appliance responding to what is thought to be an emergency incident has collided with another vehicle or person. In some cases the incident that the appliance was responding to turned out to be a false alarm.

The risks associated with fire appliances driving to incidents at high speed and being involved in accidents with innocent road users or pedestrians being injured or killed is not acceptable and every effort to eradicate this should be explored. There is a moral imperative on all involved in reducing false alarm calls to do their part and reduce this unacceptable risk.



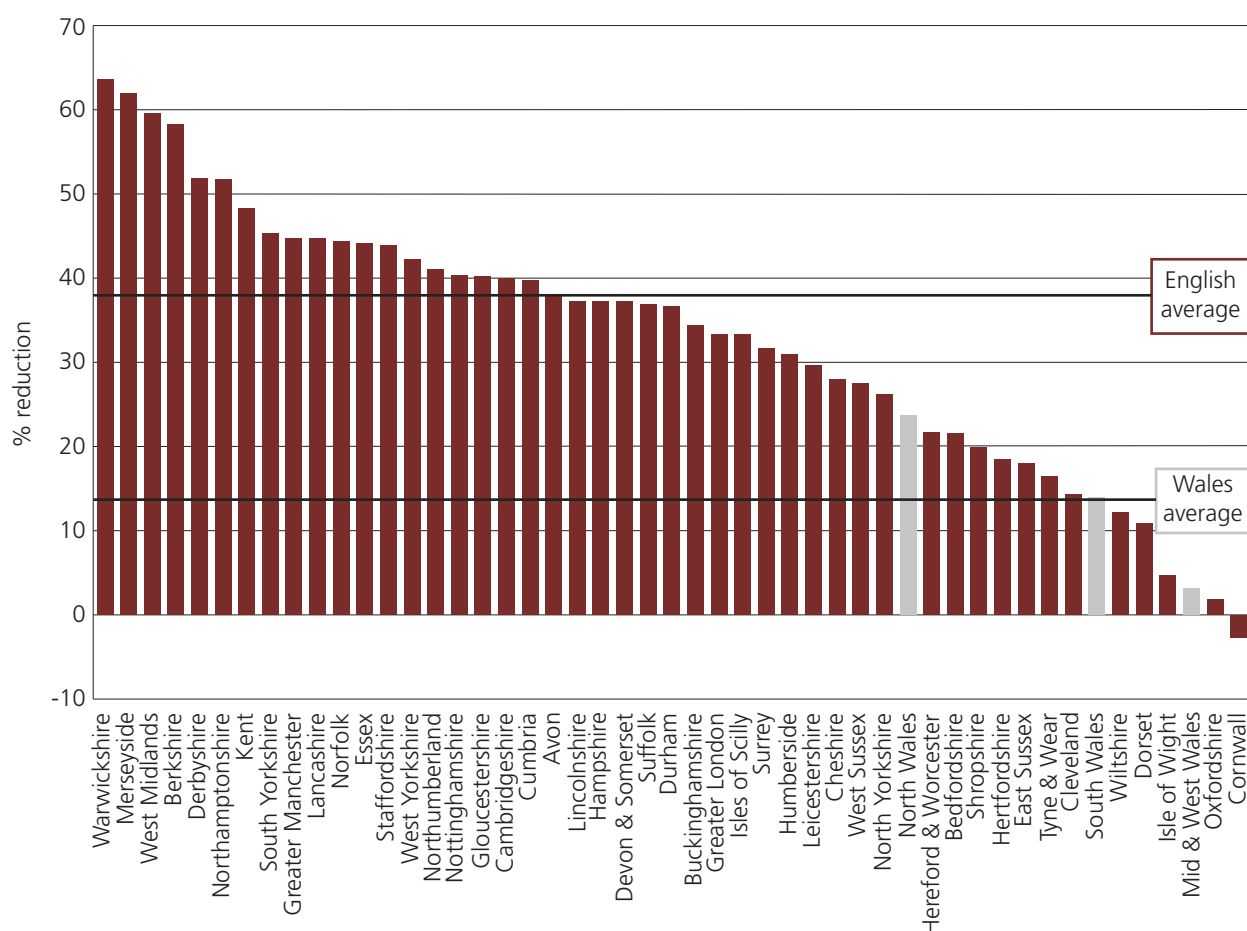
## Progress in Reducing False Alarms

In seeking to reduce the numbers of false alarms in Wales, the Fire Services can learn from other areas of the Fire Service community about specific initiatives to address problems such as dealing with good intent false alarms and false alarms due to equipment. The Welsh Fire & Rescue Authorities should actively tap into already established networks to explore alternative strategies to addressing the problem of persistent false alarms. New and innovative approaches to false alarms should be explored and notable practice identified and where appropriate implemented.

The Welsh Government believes change and improvement in this area is achievable. There is strong evidence of significant reductions in other parts of the UK.

The following chart shows the percentage decrease in false alarms over the previous 10 years. The chart shows the extent to which Fire & Rescue Services in England have managed to secure a reduction in false alarms. Whilst the Welsh Fire & Rescue Services have achieved some notable reductions in the number of false alarms, it is around half what has been achieved elsewhere.

## Reduction in false alarms, 2004/5 to 2013/14



Source: CLG Fire Statistics; StatsWales

## Time for Action

The Welsh Government is rightly placing increased emphasis on tackling this problem and is seeking improvements in performance. In doing so the Welsh Government recognises that the key to tackling false alarms does not rest with the Fire & Rescue Services alone. There is a role for Government and premises occupiers/owners in working with and supporting the Fire & Rescue Services to address the issues.

Each of the Welsh Fire & Rescue Services has well established fire protection departments with dedicated teams who work hard to address the issues relating to false alarms and this work is to be commended.

The intention of this report is to raise awareness amongst a wider group of stakeholders in Wales and to offer a range of options which, if introduced, could make a tangible difference to the current numbers of false alarms.

Tackling false alarms in Wales is a key priority for the Welsh Government as set out in the National Framework Document 2012 onwards<sup>8</sup>. As well as Government setting out its expectations through the National Framework Document, the Local Government (Wales) Measure 2009 sets out statutory performance indicators for false alarms and will continue to do so in the future. These indicators apply to the three Fire & Rescue Services in Wales and are reported on annually.

## The Cause and Location of False Alarms

To tackle the issue of false alarms effectively we need to understand more about what the main causes are and where they happen most often.

The data identifies that false alarms caused by fire alarm equipment are the main cause. In these instances, it is more often than not alarms originated by automatic means which are significant. In simple terms this is a system where sensors (detectors) are fitted within a building and connected to a central system. When a detector is activated, either through smoke or other means, a signal is sent raising the alarm. In the vast majority of cases the reason for the activation is a fault or through human error, for example using a toaster underneath a smoke detector.



If change is to be delivered it is important to narrow down the key issues and take action accordingly. This means focusing on the biggest cause of these alarms: those **due to equipment**.

The total number of false alarms (excluding malicious calls) attended by the three Fire & Rescue Services in 2013/14 was 14,655. However, in order to focus efforts on tackling the problem it is important to understand where most false alarms due to equipment are originating from so that reduction strategies can be developed.

Further analysis of the 2013/14 data identifies that false alarms in 'other buildings' account for almost 50% of these false alarm calls and therefore represents the greater cause of more false alarms than other areas shown in the table.

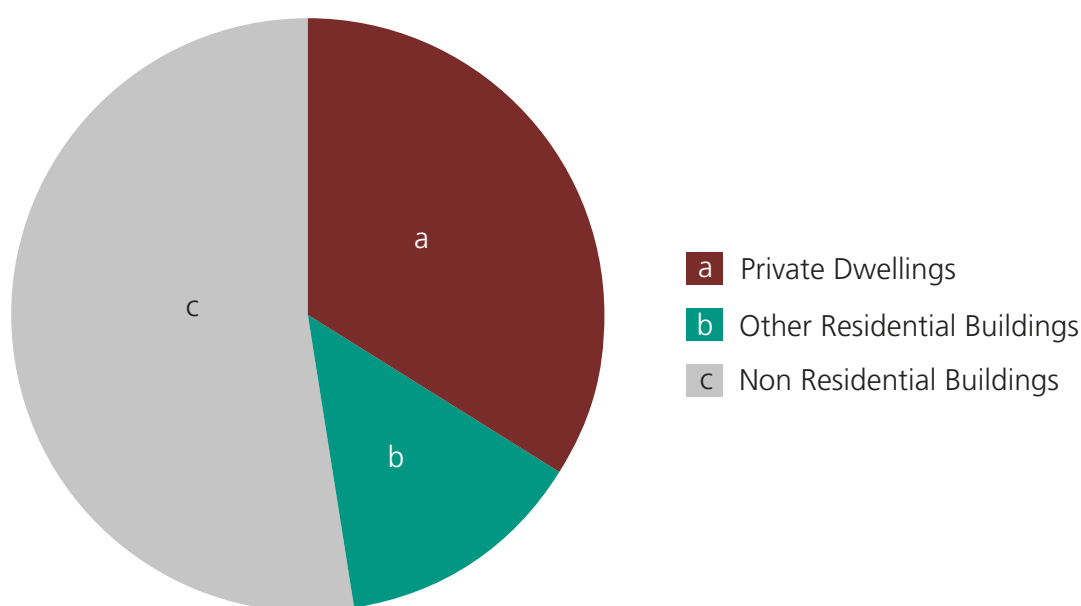
Location	False Alarms (14,655)	Percentage of total
Private Dwellings	4,936	33.7
Other Buildings	6,944	47.4
Other Outdoors	2,375	16.2
Road Vehicles	400	2.7

Note: Other buildings include premises other than private domestic properties such as shops, offices, factories.

<sup>8</sup> Fire & Rescue National Framework 2012 Onwards 3.32

There are a number of options available to Fire Services to help reduce the number of false alarms and some of these are detailed later in this report. It is however clear that there are certain sectors which give rise to more false alarms than others. It is therefore necessary to ensure that the correct sectors within the 'other buildings' sector are identified and then appropriately targeted.

## False Alarms due to Equipment by building type 2013/14



The chart identifies two categories of 'other building', these being 'other residential' and 'non residential buildings'. Of the two categories, the non residential buildings represent by far the greatest number and should therefore be of particular interest in targeting a reduction in false alarm calls.

The table below provides some definitions for other residential and non residential buildings<sup>9</sup>. The premises identified in the right hand column are a selection of premises and do not represent the full list of premises identified within the Fire Service Incident Recording System.

Other Residential Buildings	Includes – Boarding houses, Hostels, residential care homes, sheltered housing.
Non Residential Buildings	Includes – Offices, Retail, Industrial Units, Warehouses, Education facilities.

<sup>9</sup> IRS Taxonomy Lists DCLG Publication 2012

The number of false alarms in non residential buildings during 2013/14 is shown in the pie chart (segment c) as the greatest proportion is 5124<sup>10</sup>, this is broken down by Fire Service as follows:

- North Wales FRS 975 (19%).
- Mid and West Wales FRS 1285 (25%).
- South Wales FRS 2864 (56%).

There are many reasons why the variation is so great. Each Fire Service area will have different demographics. In order to target resources effectively, the Fire Service should have a clear understanding of what these premises are and also what the main causes are so that appropriate solutions can be considered.

## Targeting the Main Offenders

During the period 2013/14 there was a total of 9,802 false alarms which were due to equipment. Of these false alarm calls, 3,347 were in private dwellings and 1,331 in other residential buildings. However, the highest proportion 5,124 (52%) were associated with 'non residential' buildings<sup>11</sup>. Further scrutiny of the data identifies three specific areas within the 'other buildings' category which were:

- hospitals & medical care;
- universities/education; and
- retail.

The main responsibility for minimising false alarms rests with building occupiers and with the Fire Service. However, the Welsh Government has a role in raising awareness of the issue and promoting action, particularly as regards public-sector buildings.

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<sup>10</sup> Source Statswales/KAS data request/false alarms by building type (IRS data) 2012/13 – 2013/14

<sup>11</sup> Source: Stats Wales/false alarms by reason/financial year 2013/14

## Making Change Happen

This report presents a compelling case for change. The number of false alarms attended by the Fire Services in Wales has not reduced to the same extent as other incident types and action is needed to address this. The financial downturn and current austerity measures require all public sector bodies to make best use of their resources and optimise assets wherever possible. The number of false alarms in Wales remains high in comparison to other types of incidents and needs to be reduced at a similar rate. The associated costs and time impacts cannot be ignored and remedial action to reduce the impact of false alarms will clearly demonstrate continuous improvement and value for money.

To ensure joint ownership is achieved all involved must take collective action. Fire Services must continue to strengthen partnerships with high offending premises, consistently monitor call activity and benchmark themselves against others to provide the evidence for taking the necessary action and robust challenge where persistent problems exist. Where necessary, Fire Services should consider taking appropriate action to remedy poor management practices at these premises.

There is a fundamental role that rests with the person responsible for fire safety within premises. There are a number of actions which responsible persons can take to reduce the incidence of false alarms including establishing robust relationships with Fire & Rescue Service fire protection officers to jointly understand the issues and agree adequate control measures.



Those responsible for fire safety within a premises (the responsible person) also have a duty to monitor causes of false alarms and take action which may include re-locating fire alarm equipment, raising awareness amongst occupants and renewing or strengthening existing call protocols with alarm receiving centres. These actions are not exhaustive and represent but a few options, which will be explored in more detail further in this report and are available to the Fire & Rescue Services and premises.

The solution to this problem does not necessarily rest with one individual body and through collective ownership there is a realistic chance of making a significant difference in reducing the number of false alarms.

National regulations require all commercial premises to take responsibility for fire safety. It takes a number of people to help make this happen:

- The Building Owner/Occupier – designating someone to be responsible and making sure they are adequately trained.
- The Fire Alarm Company – to install and maintain the system and make recommendations for best use.

- The Fire Risk Assessor – to make recommendations for overall fire protection, not just the alarm system.
- The Fire & Rescue Service – to work with stakeholders to eradicate false alarms.

## The Key to Preventing Unnecessary Mobilisations in Wales

There are a number of options available to both the Fire & Rescue Service and the occupiers of premises with fire alarms installed to reduce the number of false alarm calls. These options could include any or all of the following:

- Ensuring fire alarm systems are appropriately maintained, thereby reducing the incidences of equipment faults.
- Developing a partnership approach between the building owner/occupier and fire alarm companies raising awareness and improving design, installation, management and maintenance of fire alarm detection systems.
- Robust processes within alarm receiving centres which can filter alarm triggers and remove the automatic notification to Fire & Rescue Service control centres unless a fire is confirmed.
- Call filtering by Fire & Rescue control operators ensuring robust challenge is made to each call which is not backed up by a 999 emergency call.
- Action under the Regulatory Reform (Fire Safety) Order 2005 as regards premises with alarm systems which generate repeated false alarms.
- Reducing or stopping a Fire & Rescue Service attendance to automatic alarms which are not backed up by emergency 999 calls.
- Fire & Rescue Authorities levying a charge to premises which are identified as being persistent offenders.
- Fire & Rescue Services introducing new and innovative ways of responding to incidents which prevent the mobilisation of fire appliances. These might include, for example, 1 fire safety adviser attending an alarm in a car or van, backed up by a fire appliance only if a fire is confirmed.



## Examples of False Alarm Initiatives

The next section of this report will set out a range of options which could be considered by Fire Services as part of their reduction strategies. These options are available to the Fire Service, building occupiers or both to implement.

### Options for the Fire & Rescue Service

#### Action under the Regulatory Reform (Fire Safety) Order 2005

Fire & Rescue Services may consider the use of regulatory enforcement powers to deal with persistent offenders. Fire & Rescue Authorities have statutory powers to enforce fire safety legislation. Where unsatisfactory performance with aspects of fire safety such as the fire alarm system is identified and is detrimental to the safety of occupants, intervention should be considered. Options open to Fire & Rescue Authorities could include:

- Undertaking an audit of the premises under the Fire Safety Order.
- Provision of advice in accordance with the Regulators Code.
- Issue of non-statutory advice (notice of deficiencies).
- Commencement of enforcement action, for example an enforcement notice.
- Prosecution.

#### Reducing Fire & Rescue Service Attendances

There is a large amount of information available on false alarms with which the Fire & Rescue Service deal with. Scrutiny of data can assist in the identification of premises which can be categorised as a persistent offenders, and where this is the case Fire & Rescue Services should consider whether the risks of attending outweigh the risks of non attendance.

Fire crews can be committed to false alarm incidents for considerable periods of time which means these crews are not immediately available to attend other life threatening incidents. A risk assessed approach to attendance which could result in a reduced attendance or not attending unless a fire is confirmed could ensure that crews are not mobilised to known high offending premises unless there is a confirmed fire and the onus is therefore placed on the responsible person at the premises.

Clearly, it has to be recognised that a blanket approach to reduced or non attendance to false alarm calls can carry with it an element of risk. A risk assessed approach would probably treat premises where there is a life risk, for example in hospitals and residential care facilities as special cases. In these instances, rather than no attendance being mobilised by the Fire Service, a reduced attendance could be considered taking into account the time of day and number of staff operating within the premises. It should be emphasised that Fire Service

response policies are a matter for individual Fire & Rescue Authorities to consider taking into account a range of associated factors.

An explanation of how this process operates is, for example West Midlands Fire & Rescue Service who have introduced a revised policy which states that they will no longer respond to calls from alarm receiving centres between 08:00 and 20:00 unless the premises is a specified life risk building. During the remainder of the day they will respond to all calls received but with an appropriate level of response depending on the premises type.

**Case Study 1:** North Wales Fire & Rescue Service revised AFA Policy. The Service was typically attending over 2,000 automatic fire alarm calls each year, of which 96%-97% turned out to be false alarms, i.e. did not result in a fire. The North Wales Fire & Rescue Authority recently considered a proposal to introduce a different approach to attendance. The revised approach will ensure a Fire Service response is always made when there is a confirmed fire at the premises. Specific criteria will be considered as part of the revised approach to take into account different risk levels between, for example, sheltered housing and commercial premises.

Another Fire & Rescue Service, Warwickshire will not attend automatic fire alarm signals from fire detection systems in non domestic buildings between 07:00 and 20:00 unless the signal has been investigated and confirmation of a fire has been given.

## Levying a Charge for Call Outs

The Localism Act 2011 introduced additional powers for Fire & Rescue Authorities by amending the Fire and Rescue Services Act 2004. In particular, Section 18A of the 2004 Act provides the FRAs with a power to charge a person for any action taken by the authority in the United Kingdom or at sea or under the sea, and which is undertaken other than for a commercial purpose. This could potentially include responding to false alarms.

Section 18C sets out cases where a charge may be made for responding to report of fire etc, and in effect provides that a FRA can only charge for responding to a report of fire if:

- (a) the report is of fire at premises that are not domestic premises;
- (b) the report is false;
- (c) the report is made as a direct or indirect result of warning equipment repeatedly malfunctioning or being wrongly installed; and
- (d) there is a persistent problem with false reports of fire at the premises that are made as a direct or indirect result of warning equipment under common control having malfunctioned or being wrongly installed.

Therefore, providing Welsh Fire & Rescue Authorities have undertaken the appropriate consultation, and the criteria within section 18 of the 2004 Act are met, Authorities can ultimately charge persons for action taken in responding to false alarms. The notion of a Fire & Rescue Authority charging for attending false alarm calls is perfectly justified; and is consistent with the principle that owners and occupiers of non-domestic premises should act responsibly to maintain safety and minimise risk.

The Localism Act provides the necessary mechanisms for Fire & Rescue Authorities to take 'appropriate measures' where other efforts have failed to make an impact. To comply with the Act, Fire & Rescue Authorities must have in place the appropriate range of policy guidance so that those responsible for affected premises are fully aware of the parameters of such policies.

**Case Study 2:** In 2012/13 London Fire Brigade attended over 39,000 false alarms. A review of the incident data identified that 26 sites had called the Brigade out over 50 times during this period.

In January 2014 the Brigade introduced a revised policy which introduced a charge of £295 + VAT for persistent false alarm calls generated by automatic fire alarms systems and fire detection systems. The policy does not apply to domestic properties or care homes.

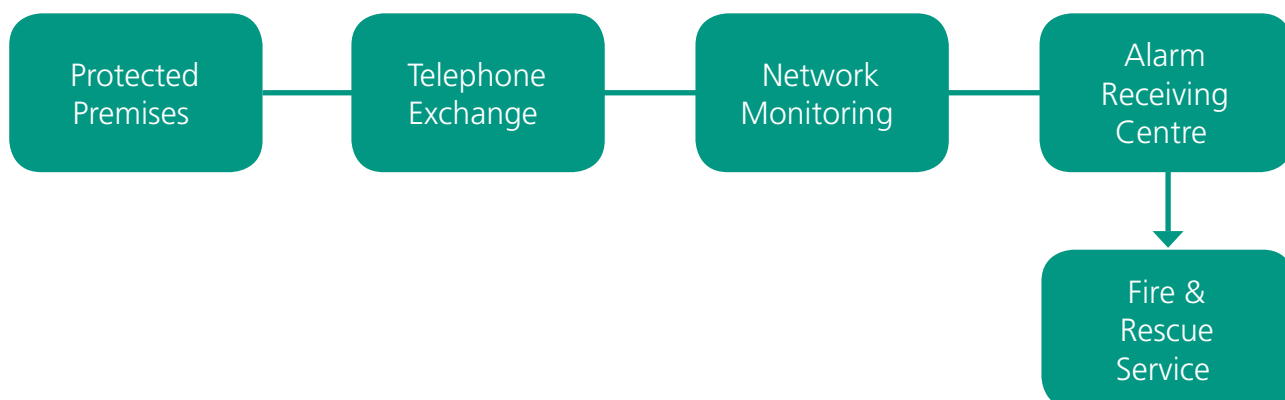
The Brigade will look to recover costs at the point where the tenth false alarm call is attended at the same premises within a twelve month period and for all subsequent call outs within the time period.

## Options for Building Owners/Occupiers

### Maintaining Fire Alarm Systems

False alarms due to equipment have been identified as the biggest contributor to the high number of false alarms in buildings. To understand how initiatives in this area can operate, it is important to have a basic knowledge of how these systems usually work.

### Process for Automatic Alarm Activation to calling the Fire & Rescue Service



## **When a fire alarm system is activated two things tend to happen:**

Firstly, a visual/audible alarm goes off warning occupants that there may be a fire within the premises, secondly; a signal is sent to the fire and rescue service via a third party alarm receiving centre. It is the alarm receiving centre who contacts the Fire & Rescue Service to raise the alert.

The first element of a fire alarm which warns occupants of the possibility of a fire within the premises is entirely appropriate. The potential to reduce the impact of false alarms rests with the second element, namely the notification to the Fire & Rescue Service and any subsequent Fire Service response to the affected premises. As indicated, there are a number of options available to the Fire & Rescue Services working in partnership with alarm receiving centres to take measures to counter these issues.

Regular servicing and maintenance is an important part of limiting the false alarms that may occur on a system.

Fire detection and fire alarm systems for buildings are an important feature of fire safety. There are Codes of Practice for design, installation, commissioning and maintenance which provide recommendations for periodic inspection and testing of systems.

Tests for detectors (all types) should ensure that products of combustion are capable of passing into the sensing chamber of the detector and this testing should be carried out by a competent person. Where testing of this nature is taking place, action should be taken to ensure the alarm receiving centre is notified to reduce the risk of activating the alarm and Fire Service resources being mobilised.

The period between successive inspection and servicing visits should be based upon a risk assessment, taking into account the type of system installed, the environment in which it operates and other factors that may affect the long term operation of the system.

**Case Study 3:** Ground Breaking Partnership into False Alarms. The Scottish Fire & Rescue Service (SFRS) is teaming up with a range of partners including the Fire Industry Association (FIA), Association of British Insurers (ABI), British Association of Fire Equipment (BAFE), Building Research Establishment (BRE) and CBRE group to commence an innovative project into false alarms. SFRS has attended over 100,000 false alarms over the last 3 years, which equated to over 40% of all the incidents they attended. The Service decided to enter into this new partnership to research false alarms, promote the benefits of automatic alarm systems and will see dedicated officers from SFRS seconded to work directly alongside fire alarm industry experts to gather incident intelligence and propose solutions.

## **Adapting Fire Alarm Systems**

A fire alarm system is made up of fire detectors and a control panel, both of which can be adapted to reduce the chance of false alarms. Premises should have the right system for the organisations needs.

## Detectors and Manual Call Points

Fire detectors and manual call points are the front line of fire safety in a building; they will alert occupants to a fire.

There are a few key things that building owners should consider when selecting fire detectors:

- select the right detector for the location/application;
- ensure detectors are located in sensible places;
- check manual call points can't be knocked by mistake; and
- consider varying the performance level of detectors.

It is vitally important that fire alarm systems are suitably and sufficiently maintained and serviced regularly by a third party. This will ensure the system functions in line with its intended purpose and reduce the potential of system faults arising. In some cases the installation of heat detectors where consistent activations occur, through for example cooking and toasters.

## Fire Alarm Control Panels

The control panel monitors the detectors that are fitted within a building. It sends the signal out if a fire is detected and tells the occupier where in the building the problem is. Many panels can 'filter' signals by:

Disablements – switching off parts of the system at certain times of day or when/where activities likely to trigger a false alarm (such as drilling or sanding) are taking place.

Delays – delays can be set to allow the fire warden to check the area before an alarm is sounded and the brigade is called.

**Case Study 4:** Aberystwyth University had around 400 false activations for fire alarms a year meaning the Fire & Rescue Service were on campus almost every day. It was known that these activations were in the main caused by things such as dust, steam from kettles and deodorant sprays.

To try and prevent this huge amount of false call outs the University implemented a fire alarm investigation working with the local Fire & Rescue Service. A system was subsequently put in place to ensure that when an alarm was raised, a trained person investigated the area where the alarm was activating to undertake a check of the area. If it is found that there is no fire and this is a false alarm the Fire & Rescue Service call is cancelled. If the person investigating had not responded within 5 minutes the Fire & Rescue Service are automatically requested to attend.

Multiple Signals – the control panel can be programmed to wait for more than one signal to be sent (from different detectors or a multi-sensor one) before sounding the alarm.

Call Filtering by Fire & Rescue Control Operators can also be a major factor in reducing the burden of unnecessary false alarm calls. When a call is received by a control operator robust challenge around the situation giving rise to the alarm can, in many instances, give the operator sufficient information with which decisions on mobilising fire appliances can be implemented.

A good example of this challenge is where a control operator challenges the cause of an alarm which turns out to be a test of the system. Having confirmed the cause to be a failure to notify the alarm receiving centre the control operator can choose not to mobilise a fire appliance and cancel the call.

**Case Study 5:** Oxfordshire Fire & Rescue Service was identified as one of the worst performing FRS on the number of unwanted fire signals received from automatic fire alarm systems per head of population. Oxfordshire introduced a new unwanted fire signal initiative in 2003 and saw impressive results and savings achieved through call challenge. The savings have been reinvested to support prevention activity.

## Collaborative Options

### Engaging Stakeholders and Developing Partnerships

The number of false alarms dealt with by the Fire & Rescue Services in Wales indicates that a high number of calls are generated by automatic systems, many of which are public sector properties. It is therefore recognised that the key to reducing the number of attendances requires a joint approach whereby the premises that generate repeat false alarm calls understand the scale of the problem, take action to reduce the number of activations and ensure systems and processes are in place to prevent reoccurrences.

**Case Study 6:** Buckinghamshire & Milton Keynes Fire & Rescue Authority has seen very positive outcomes having introduced a role specifically to investigate unwanted fire signals working in partnership with offending premises.

Recent activity has seen a positive outcome with a notable reduction of **45%** in fire alarm signals over the previous seven years.

In essence the approach taken is to review incident recording system (IRS) data to identify the top offenders in relation to false alarms calls. The Officer then engages with those responsible at the premises to identify the causes and seek solutions. Once corrective measures are implemented, subsequent calls can be actively and accurately monitored.

## A Partnership Approach

Fire & Rescue Services in Wales work closely with stakeholders providing fire safety advice and enforcing the Regulatory Reform (Fire Safety) Order 2005. Existing partnerships should be strengthened and a joint approach to tackling the issues associated with false alarms should be pursued. Having received advice from the Fire & Rescue Service, those responsible for the management of fire safety within affected premises have a duty to ensure staff are aware of the common causes of false alarms and action taken to tackle the issues.

Steps to introduce slightly delayed evacuations until a coordinated search of the affected area has been conducted could be one way of addressing the issue. In this instance where a fire alarm activates, the alarm activates, it triggers an audible message informing all occupants to remain within the building whilst a nominated person completed a check of the affected area. If there is a fire the evacuation can commence as normal. However if the alarms is found to be false, the system can be reset and occupants return to their duties. In this situation the Fire & Rescue Service are only notified when a fire is confirmed which data shows is on very rare occasions.

This approach can work effectively where premises are occupied. However, for unoccupied premises such as offices and units which close down during the night time, a risk assessed approach must be applied by the respective Fire & Rescue Service.

## Other areas of Work to Reduce False Alarms

The National Issues Committee (NIC) was introduced to secure improved collaboration between the three Fire & Rescue Authorities. A significant amount of work has been taken by those on the NIC covering a broad range of subject areas. The NIC has completed a piece of work on false alarms and developed a range of outcomes which were reflected in the report<sup>12</sup>. This report was issued in 2011 and set out several key priorities in relation to tackling false alarms.

In addition to the work of the NIC, the Chief Fire Officers Association (CFOA) has been working with stakeholders for a number of years to tackle the issue of false alarms.

CFOA have produced several reports and guides which have been developed in partnership with industry experts and provide excellent advice and guidance on ways of reducing the number of false alarms which occur.

[www.cfoa.org.uk/download/49412](http://www.cfoa.org.uk/download/49412)

Many Fire & Rescue Services outside of Wales have been working with industry and fire specialists to tackle the problem of false alarms for many years. In some areas this effort has seen some hugely significant reductions in the number of false alarm calls being attended. There are several examples of initiatives throughout this report which are worthy of consideration. The benefit of exploring areas of notable practice and replicating approaches should not be underestimated.



<sup>12</sup> Welsh Fire & Rescue Services Automatic Fire Alarm Protocol NIC 2013

## Conclusion

The intention of this report was to explore the issues surrounding the high number of false alarms which the Fire & Rescue Services respond to. The report has highlighted that although there has been a marked reduction in all incidents attended by the Welsh Fire & Rescue Services, the number of false alarm calls attended has remained fairly static and collective action is needed to address this issue.

The information presented within this report has narrowed down the main cause of these calls is due to equipment in premises classed by the Fire Service reporting tool as 'other buildings'. Further analysis of the data has identified that Health, Education and Retail premises are by far the biggest contributors to the calls. Whilst focussing on these areas will mean some positive progress can be made, it is important to ensure all stakeholders remain aware of the other actions that can be introduced and take action to rectify poor performance where it is identified. This should be a continual process.

It is clear that the present financial situation means a concerted effort is needed by all stakeholders to reduce these unnecessary calls which are costly in fiscal terms as well as unnecessary down time to both the Fire & Rescue Services and businesses alike. The Welsh Government strongly believes that a joint approach to the issue can generate the necessary changes required to drastically change the current approach and achieve a marked reduction over the short to medium term.

The Welsh Government should engage senior stakeholders to raise awareness of the current situation and seek a joint approach to improvement. It is envisaged that this stakeholder engagement will be the catalyst for change and support the 3 Welsh Fire & Rescue Services to address the causes of false alarms.

The publication of the National Framework document will underpin the Welsh Government's intentions around false alarms. This will be supported by a set of challenging strategic performance indicators for the Fire & Rescue Services which will drive change.

### Case Study References:

- 1 North Wales Fire & Rescue Authority Agenda Item 6 2<sup>nd</sup> December 2014.
- 2 [www.london-fire.gov.uk/reducingafas](http://www.london-fire.gov.uk/reducingafas)
- 3 [www.fia.uk.com/news](http://www.fia.uk.com/news)
- 4 Aberyswith University false alarms protocol document.
- 5 Oxfordshire Fire & Rescue Service Operational Assurance Peer Review report September 2010.
- 6 The Causes of False Alarms in Buildings BRE briefing paper 2014.



## Recommendations

1. The Welsh Fire & Rescue Services should consider how changes to the way they respond to automatic fire alarm calls could be made which would deliver a greater reduction in the number of false alarms.
2. The National Issues Committee should build upon the previous work on unwanted fire signals and further strengthen the all Wales approach to tackling false alarms.
3. The Welsh Government should engage senior influential figures responsible for those areas which are in the 'highest offender' categories, raise the profile and seek targeted action to tackle the number of false alarms.
4. Welsh Government should reinforce its commitment to tackling false alarms through the National Framework and Strategic Performance Indicator set.

### Data Sources:

Since April 2009 incident data (relating to fires, false alarms and Special Service Incidents) have been submitted by the Fire and Rescue Services to the Department for Communities and Local Government via the Incident Recording System (IRS).

Information on the data collected via IRS system can be found on Department for Communities and Local Government's website: [www.gov.uk/government/publications/incident-recording-system-for-fire-and-rescue-authorities](http://www.gov.uk/government/publications/incident-recording-system-for-fire-and-rescue-authorities)

Data on false alarms are based on aggregates.

Data for the most recent period (2013-14) are provisional. Whilst the data are accurate at the time they extracted from IRS, the database is updated throughout the year, and this may result in revised data appearing in subsequent publications.

Further fire and false alarm data are available via The Welsh Government's Statswales website: at <https://statswales.wales.gov.uk/Catalogue/Community-Safety-and-Social-Inclusion/Community-Safety/Fire-Incidents>

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