

Your responsibilities if you have an automatic fire alarm

A handy guide for owners
and 'responsible persons'



Kent Fire &
Rescue Service

Contents

Your responsibilities if you have an automatic fire alarm	3
What is an automatic fire alarm system?	5
Managing automatic fire alarm systems and false alarms	7
Why do I get false alarms?	8
Smoke detectors	9
Heat detectors	10
Manual break glass call points	11
Do you have the right system design?	12
Are you maintaining your system?	15
Action when alarm sounds	15
Does your system need updating?	17

Your responsibilities if you have an automatic fire alarm

This guidance aims to support building occupiers and 'responsible persons' to make sure they are aware of their legal responsibilities and the actions they can take to reduce unwanted calls from their systems and to understand the changes Kent Fire and Rescue Service has made to the way we respond to AFA calls.

How Kent Fire and Rescue Service responds to automatic fire alarms

In the past calls from automatic fire alarm systems (AFA) accounted for a third of all of the Service's calls. Of those 98 per cent were false alarms, often triggered by dust or poorly maintained alarm systems.

This was a big disruption to local buildings and businesses and it took Kent Fire and Rescue Service (KFRS) firefighters away from genuine emergencies. As a result KFRS changed its policy on how it deals with AFAs. **This policy applies to all calls whether they are made from the affected building, through a call handling organisation or some other method.**

From April 2012

- **All calls from automatic fire alarms are challenged by the Service's emergency call handling staff.**
- **During the day (6am to 6pm), unless the incident can be confirmed to be an actual fire or signs of fire, an engine will not be sent.**
- **At night (6pm to 6am a fire engine will be sent to calls to automatic fire alarms where a procedure has not been introduced to confirm a fire. This has been agreed to give those responsible for managing premises extra time to make any required changes to their procedures. This night time arrangement ends in April 2013.**

Policy after April 2013

- All calls from automatic fire alarms are challenged by the Service's emergency call handling staff.
- At all times (during the day and night) unless the

incident can be confirmed to be an actual fire or signs of fire, an engine will not be sent.

Sheltered accommodation

We will ask sheltered accommodation to let us know if the call is a false alarm. If this is not possible then the fire service will attend. However, if you manage a sheltered housing scheme, we will expect you to investigate the cause of false alarms and take any actions necessary to reduce them in future.

What is an automatic fire alarm system?

An automatic fire alarm (AFA) system detects fire by monitoring environmental changes associated with fire e.g. smoke and heat.

AFA's are there to notify the building occupants to evacuate should there be a fire or other emergency. Some systems also report the alarm to an alarm receiving centre (ARC) in order to summon the fire service. Some systems will also actuate equipment to control the spread of fire and smoke e.g. closing fire doors and opening roof vents.

Systems can be automatically actuated (e.g. where they automatically detect smoke or heat and sound the alarm), manually actuated (e.g. where you break the glass to sound the alarm in case of fire), or both. The type of alarm used will be dependant on the building and it's use.

For example:

- a simple office or shop premises may just need a basic manual break glass system connected to alarm sounders.
- a hotel or boarding house where people sleep will usually always require a system with smoke detectors
- more complex premises such as hospitals or shopping centres will generally need a more complex system that will provide very early fire detection as an element of the fire strategy for the building.

AFA systems vary in complexity depending on factors such as the type and construction of the building, its use, and the type of people using the premises.



The AFA system can include:

- Manual break glass call points
- Smoke detectors
- Heat detectors
- Control panels
- Bells and sounders

With the increasing use of AFA systems it is inevitable that the number of false alarms will also increase. This causes unnecessary and costly interruption to your business and unnecessary calls to us. The responsibility for managing, testing and maintaining the fire alarm system sits with the responsible person for the building, not the fire and rescue service.

Managing automatic fire alarm systems and false alarms

If your building has an automatic fire alarm fitted, then it is likely that you will have had a false alarm at some point. You will know that this caused unnecessary disruption to the day to day running of your business and you may have lost income as a result.

Fire safety in buildings is controlled by the Regulatory Reform (Fire Safety) Order 2005. If you are a:

- building owner
- employer
- landlord
- managing agent
- have control of a premises to any extent

then the safety of those who use your premises and your alarm are your responsibility. This will include having suitable fire safety measures in place, arrangements for reacting to a fire alarm sounding, and identifying and dealing with false fire alarms.



Why do I get false alarms?

There are many reasons, but most can be avoided if systems are properly managed. Triggers include:

- pollutants such as dust, steam or smoke from welding setting off smoke detectors;
- extremely high temperatures setting off heat detectors such as an industrial oven or poorly positioned heater
- mistakes in using the system such as not telling everyone in the building when the alarm is being tested
- equipment that is faulty or badly maintained
- fire detectors or red 'break glass' boxes being in the wrong place e.g. where they can be knocked or vandalised
- vandalism
- fire detection systems that are not – or no longer – appropriate for your building or business.

Smoke detectors

Smoke detectors are obviously there to respond to smoke, but they can be triggered by similar pollutants in the air such as:

- fumes from cooking or making toast;
- insects (particularly in the summer);
- welding, soldering or similar activities;
- candles and open fires;
- steam, dust or aerosols;
- and a lack of effective maintenance and cleaning.

If you have smoke detectors in your building, you must make sure that people in the building are aware of them and take extra care, e.g. if staff are using a kitchen or when you have builders carrying out any work that could cause dust or problems that might activate the alarm.

Heat detectors

These are generally used in kitchens, boiler rooms and similar areas where smoke detectors may be too sensitive and generate false alarms. They will trigger an alarm if the temperature in the area goes above the expected level or it increases at a sudden rapid rate e.g. opening of oven doors; unauthorised or unplanned hot works; or lack of effective maintenance.

Manual break glass call points

'Break glass' boxes do not usually cause false alarms as a result of faulty equipment, however the glass can be broken deliberately or by accident.

If the location of your break glass boxes mean they could be vandalised or accidentally broken, they can be fitted with a transparent flap or cover that has to be lifted before the glass can be broken. These can also be supplied with remote 'screamers', which will sound when the cover is lifted, to deter vandalism.

The British standard for non domestic fire alarms is a very comprehensive document that covers virtually all aspects of fire alarm installation. It should be followed when specifying or installing fire alarm systems, but there are occasionally circumstances where it may be necessary to deviate from certain BS recommendations to suit a particular problem or practicality in a certain premises. Where this is the case, the deviation should be fully justified within the fire risk assessment for the premises.

Case study: Pub

A public house had regular false alarms due to customers vandalising the break glass call points. They needed an alarm system due to the size of the premises, the level of noise and the fact that it had sleeping accommodation. There was a full automatic fire detection system with manual break glass call points at every exit, as recommended by the British standard for fire alarm installation, but the frequent false alarms left the landlord worried that staff would become complacent and not carry out the agreed evacuation and safety procedures.

Plastic covers over the 'break glass' boxes were an option, but after a review of his fire risk assessment he realised the layout of the premises meant staff could always see any fire so the 'break glass' boxes could be relocated to places where only the staff could reach them e.g. behind the bar and kitchen. Fire procedures were changed and staff received updated training. The arrangements are working well and false alarms caused by vandalism have been eliminated.

Do you have the right system design?

In some cases false alarms are caused because the AFA system has been poorly designed or the circumstances inside the premises have changed since the system was originally installed.

When an AFA system is designed and specified, it should be designed appropriately so that people in the premises are adequately protected. Consideration should also be given to the likelihood of false alarms and causes of these should be 'designed out' when the system is being planned.

An AFA system which gives many false alarms is unlikely to be effective, as people in the building – staff or visitors – will become complacent and may not follow the fire plan or leave the building when the alarm sounds.

You should consult building design codes and risk assessment guides before specifying your fire alarm system or making modifications and if in doubt ask a

competent person to advise you. Generally where fire alarm systems are installed and maintained according to the British Standard, they are relatively trouble free. However quite often the fire system may become 'over specified' either when it is being designed or if the building is not reassessed when its use changes. The fire risk assessment for any premises should be continually reviewed; in particular this should include the effectiveness and appropriateness of your AFA system.

Case study: Office kitchen

In an office building, a room which was previously used as storage was turned into a small staff kitchenette. The room was originally fitted with a smoke detector which was never changed; because of this it constantly produced false alarms from boiling kettles and making toast.

When changing the room, the responsible person should have reviewed his fire risk assessment to determine whether the smoke detector could be changed to a heat detector or removed altogether.



The legal requirement under both the Building Regulations 2010 and the Regulatory Reform (Fire Safety) Order 2005 is to satisfy life safety provision. Your AFA system should be able to raise the alarm in the event of a fire in enough time to allow for the safe evacuation of the building in line with your fire strategy and fire risk assessment.

Many systems are installed to a 'property protection' standard to raise the alarm in unoccupied premises. Whilst this sometimes achieves an enhanced level of life safety fire alarm coverage, you should consider the likelihood of these systems causing false alarms. In such cases it may be appropriate to downgrade the system, or the auto dialer capacity, when the building is in use and there are people around who can spot a fire or signs of fire and raise the alarm.

Where a system has been installed for the purposes of property protection, it is extremely important that you consult with your insurance company before making any system changes.

Case study: Hotel

Kent Fire and Rescue Service received a number of calls via an alarm receiving centre to fire alarms at a local hotel. They were all false alarms and the main cause appeared to be due to the age of the system, which had faults and over sensitive detectors. This problem was compounded by the fact that virtually every time a fire engine arrived, crews were greeted by the duty manager telling them it was another false alarm.

Clearly there were two issues needing action. Firstly the suitability of the ageing alarm system and secondly the procedures staff followed when responding to the fire alarm activation.

KFRS fire safety inspectors worked with the

responsible person to develop a timetable and plan to replace the old fire alarm system with a newer, more suitable system. As the cost of a replacement system was reasonably high, a proportionate approach from KFRS was adopted.

KFRS asked the hotel to review why there was a need for the AFA to be connected to an auto-dialer system, since the duty manager was clearly already able to check on the location of the activated detector head and the reason for activation. So, as the hotel was staffed 24/7, it was agreed that the connection to an alarm receiving centre was unnecessary.

Since the changes false alarms have been dealt with by staff and they have not needed to call the fire service. When the new system is installed these false alarms will reduce considerably.

Are you maintaining your system?

You have a legal requirement to maintain your system and there is no doubt that well maintained systems generate fewer false alarms, so benefiting your business. You should have your AFA system regularly maintained to the requirements in the British Standard by a competent person. It is likely that this would be a BAFE approved fire alarm engineer or similar.

Where an auto-dialer is connected to the fire alarm panel for alerting an alarm receiving centre, consider isolating this link during testing to avoid unnecessary calls to your monitoring company and the fire service. You should also be aware that in future, you will need to make arrangements to provide independent confirmation of a fire or signs of fire as Kent Fire and Rescue Service will be challenging all calls from the beginning of April 2012.

Action when alarm sounds

Managing the response to a fire alarm sounding is just as important as preventing a fire or false alarm in the first place.

- By law (Regulatory Reform (Fire Safety) Order 2005) the 'responsible person' of the premises must ensure there are suitable procedures in place for when the alarm goes off. This includes trained, designated people who can safely investigate the cause of the fire alarm and escalate or downgrade the situation as required.
- First evacuate people to a safe place, unless your risk assessment and fire plan says otherwise.
- Some fire alarm systems are easily separated into different 'zones' which decreases the size of area to be searched. Some systems will even specify the exact location of the device that has operated.
- Designated staff members (or fire wardens) should be trained to safely find out the cause of the alarm. They need to be competent to ensure there is no fire present and declare the premises safe to re-enter.

- Where a fire is confirmed or there is a genuine doubt, the emergency escalation procedures for the premises should be followed. This would usually be calling the fire service.
- Many premises design a filtering system or short time delay before the full alarm goes off. This gives fire wardens time to search the premises and either confirm a false alarm or a fire prior to a full evacuation. When a system is configured to provide a time delay activation of a second device (such as a smoke detector or manual break glass call point) will usually trigger the system into full alarm status.
- When you have a false alarm the cause should be investigated by someone with the appropriate knowledge of the system and building fire safety measures. You then need to take measures to prevent it happening again. These measures should be justified within a fire risk assessment and continually monitored to ensure the effectiveness of the changes. If in doubt ask a competent person such as a fire safety consultant.

Case study: Shopping centre

KFRS, worked with a medium sized shopping centre with shop units over two floors, to introduce arrangements to manage AFAs and avoid disruption to their business.

The centre developed strict AFA procedures for shop tenants and centre staff. False alarms are minimised by advising tenants about alarm systems compatible with the centre's main fire alarm system; staff training for all; weekly alarm tests, prompt repair of any faults and bi-annual fire evacuation drills.

When an alarm does go off, the location is checked by the tenant and centre staff (during work hours) or centre staff and security (during night hours). A three minute 'grace time' is allowed before the centre is evacuated. If there are signs of fire a call to the fire service is placed immediately.

There are still a few alarm activations, but they are managed by the centre and their tenants and we are only called to actual fires.

Does your system need updating?

As with many industries, fire alarm technology has improved hugely over the years and manufacturers have invested in developing systems that are extremely resilient to false alarms.

If you are installing a system or renewing an existing system, investment in a more advanced AFA that is resilient to false alarms can pay off by reducing unnecessary disruption to your business or premises in the future.

Some systems are specifically designed with the reduction of false alarms in mind, these systems are usually extremely resilient to false alarms yet are extremely sensitive in real fire situations.

Further information can be obtained from various fire alarm manufacturers and installers.

Case study: Bakery

The bakery in a supermarket had frequent false alarms early in the morning when the store was baking its bread because the oven door was near to the ceiling mounted heat detector. Fire crews spotted the problem, but the responsible person at the firm wasn't willing to take action, so KFRS Fire Safety Inspectors went in to assess fire safety arrangements.

They felt that the level of fire alarm fitted in the premises was an over provision. With the firm's responsible person it was decided to remove the heat detector from the bakery as the fire risk assessment showed other control measures were present and the level of risk was acceptable. Procedures were revised, and the auto dialler was turned off during occupied hours, as staff could activate the fire alarm if needed, while during unoccupied hours a local duty key holder could be alerted.

Since the changes there have been no false alarms.



201111-001

.....
CarbonNeutral® publication



FSC
Mixed Sources
Product group from well-managed
forests, controlled sources and
recycled wood or fiber
Cert no. SW-COC-002332
www.fsc.org
© 1996 Forest Stewardship Council