



The Impact of Changes to Automatic Fire Alarm Response in Commercial Buildings

Aligned with National Fire Chiefs Council recommendations, individual fire & rescue services across the UK have implemented a new policy regarding response to automatic fire alarms in certain types of commercial premises.

The changes impact many of our clients and this bulletin outlines what these changes are and what actions are required by business and property owners.

So, why are changes needed?

UK fire and rescue services (FRS) face significant operational strain due to the high volume of automatic fire alarm calls. These calls often result in unnecessary deployments, impacting resource allocation and readiness for genuine emergencies.

The number of FRSs with policies targeting fire false alarms has been increasing since the year ending March 2000 which has resulted in a reduction in the false alarm callouts attended.

- > Annual Call Volume: independent research has however indicated that in England and Wales the fire and rescue services (FRS) attended circa. 250,000 false alarms/ Unwanted Fire Signals (UwFS) in a single year at an estimated cost of £700million (plus costs to businesses and that figure exceeds £1billion). This was a reduction in previous years but still represents major disruption and cost to fire & rescue services.

In England alone the average number of FRS hours lost due to false alarms over a nine year period was 63,312 hours per annum (2010-2018 – see Gov.UK website for details).

In Scotland the FRS responded to approximately 30,000 automated fire alarm calls in addition to other fire & emergency calls made by the public.

- > Unnecessary Deployments: In roughly two-thirds of those incidents, firefighter intervention was deemed unnecessary upon arrival thereby wasting 1000's of hours of fire crew time.
- > False Alarm Rate: Only 2% of these calls were attributed to actual fires.

Office and public properties, along with schools account for the highest rates of fire false alarm incidents.

These statistics highlight the need for more efficient alarm management and response protocols to optimise FRS resources and maintain readiness for genuine emergencies.

How are the false alarms generated?

The Fire Industry Association state that false alarms/ Unwanted Fire Signals (UwFS) will fit into one of four categories and when they occur should be recorded within the system log book under the following descriptions:

1. Unwanted alarms – an incident like burning toast or steam that has produced fire like phenomena that a fire detector has mistaken as the indication of a real fire.
2. Equipment false alarms – an alarm generated by a piece of equipment that is faulty.
3. Malicious false alarms –i.e. someone deliberately breaking a manual call point.
4. False alarms with good intent –i.e. someone smelling smoke or sensing a possible fire.

What are the changes?

When a call is made to the fire service including by a remote alarm receiving centre (ARC) the following procedure will be applied:

> **Fire Alarm Response Call Challenge Procedure:**

Fire control operators will implement a call challenge procedure for all fire alarm activations (with specific exceptions).

> **Scope of Call Challenge:**

Applies to all fire alarm activations except those from premises with known sleeping accommodations (e.g., hotels, hospitals, care homes – see full list below).

> **Call Challenge Process:**

Fire appliances will not be automatically dispatched unless the incident is confirmed as a fire.

The CFOA (Chief Fire Officer's Association) Guidance for the Reduction of False Alarms & Unwanted Fire Signals does however indicate that: FRS will be careful not to recommend the investigation of an alarm during an emergency call. If investigation was possible it should have already been carried out as part of their existing procedures before the emergency call was made. An unplanned investigation at this stage may jeopardise the safety of the investigator.

> **Criteria for Confirmed Fire (please check local FRS for any variations):**

Visual confirmation of fire or signs of fire by the caller.

Alarm activation by any of the following:

- > Manual call point (break glass)
- > Heat detector
- > Multiple smoke detectors
- > Multi-sensor fire detector
- > Sprinkler system
- > Detection other than a single smoke detector, e.g. thermal cameras providing visual verification

However, for fire alarm systems that incorporate any of the above devices, the fire alarm signals received by the alarm receiving centre (ARC) must be capable of distinguishing between these devices and smoke detectors for the signals to be considered as confirmation of fire/signs of fire.



Which premises are affected?

The changes in policy is applicable to the following premise types/ occupancies (please check your local FRS website for details – NB: contact should be made annually to identify any policy changes):

Premises affected by changes:	Exempted Premises
Offices	Mixed-use buildings (e.g. *shops with residential accommodations)
Shops*	Domestic properties
Warehouses	Other sleeping risk premises – including hospitals, sheltered housing, care or homes, houses of multiple occupation, flats, high-rise tower blocks, hotels, bedsits, boarding schools, colleges, universities or halls of residence
Industrial buildings	Educational establishments – schools representing the highest percentage of false alarms attended
Public buildings (e.g., libraries, museums)	Heritage sites - Grade I and Grade II* (star)
Places of worship	Registered Upper Tier Control of Major Accident Hazards (COMAH) sites, nuclear sites covered by the REPPiR legislation
	National critical infrastructure
	Prison/young offenders institutions, Police station and military barracks



How long have the changes been in force?

Since March 2000 the vast majority of FRS have implemented their response policies, more recently London Fire Brigade announced their new policy with effect from 01 October 2024 having responded to over 52,000 false alerts from fire alarms in 2023/24, increasing from 38,000 false alarms the year before. This has recently been followed by Oxfordshire Fire and Rescue Service announcing changes with effect from 10 October 2024.

Dates for FRSs changes in England vary considerably and we strongly recommend that you look online or contact your local FRS for details with some FRS having introduced policies on a phased basis.

Scotland FRS introduced their policy in July 2023 and North Wales in 2014, South Wales in 2020 however Mid and West Wales FRS have decided to not adopt a non-response policy (allowing front line crews to have 'eyes on the ground' so business fire safety risks can be picked up and passed onto relevant teams).

This affects me, what do I do next?

If you're responsible for a building where automatic fire alarms (AFAs) will no longer receive an immediate response without secondary fire confirmation, then it is recommended that you follow these steps:

1. Designate safe investigation:

- > You must assign someone to safely investigate alarm activations in line with a documented safe working practice.
- > Consider how this is undertaken safely both during and outside of business hours.

2. Train occupants:

- > Educate staff on changes, safe investigation procedures, and when to make emergency calls.
- > Document safe working practices and obtain signatures confirming employees understanding of the information, instruction and training provided.
- > Request copies of Tenants fire safety plans and instruct as above if gaps in their procedures are identified.

3. Review work activities:

- > Identify all unattended processes, i.e. production machines running unattended overnight including 3D printing, ovens, heated glue pots, pre-timed heating of machines prior to occupation, charging of mobile handling equipment, charging power tools and charging scanning equipment.

NB: The use of pre-timed portable heaters should be avoided.

- Can all or any activity be avoided or is there potential for longer working hours/ additional shifts?
- Is planned preventative machine maintenance documented and actively monitored?
- Can unattended activity be isolated to a separate smaller building or fire alarm protected compartmented room with minimum 60 minute fire resistance?

- iv. Is there a sprinkler installation or machine/ plant specific automatic fire suppression linked to the fire alarm system and capable of isolating power/ fuel supplies?
 - v. Are there any combustible building materials (cladding/ linings) or combustibles stored in close proximity to unattended processes?
- > Implementation of a hot work permit (HWP) system for your own personnel and contractors working at your premises – see PIB’s “Hot Work Fires - An avoidable risk” technical bulletin and Hot Work Permit documents for further details.

4. Update alarm monitoring company:

- > Inform them about your premises current use and potential hazards (e.g., manufacturing, warehouse).

5. Provide after-hours contact information:

- > Give keyholder details to your alarm monitoring company for out-of-hours responses.
- > Consider the use of approved professional keyholding services.

6. Update fire risk assessment:

- > If procedures change, document them in your assessment and inform all staff.
- > Does your fire risk assessment accurately document building construction, including combustible cladding or extensive combustible linings which could hinder fire and rescue services.

7. Assess the adequacy of coverage, system controls, remote signalling and maintenance of your fire alarm system:

- > Coverage - Installations should conform to BS 5839-1 and provide automatic (smoke/ heat) detection throughout the premises, not just restricted to offices/ welfare facilities which is often the case.

Therefore, workshops and warehouses should also be covered by an appropriate form of detection system for the location (e.g. point type detection, linear heat or aspirating) especially where heat sources are present.

Also, to prevent false alarms from manual call points protective covers should be fitted. While that recommendation is not retrospective, in existing systems in which there is frequent unwanted operation of manual call points, protective covers should be fitted.

- > System controls – **It is strongly recommended** that you consider upgrading to an addressable fire alarm system if you have a conventional fire alarm as this will enable earlier detection, confirmation and location of the source of fire.

The different types of fire alarm systems are:

i. Conventional Fire Alarm Systems:

- > Divide the building into broad zones
- > Can identify which zone has been triggered, but not the specific device
- > Simpler and often less expensive for smaller buildings
- > Wiring is less complex
- > Less precise in pinpointing the exact location of a fire

ii. **Addressable Fire Alarm Systems:** These can be further divided into two types:

a. Digital Addressable Systems:

- > Each device has a unique digital address
- > Can identify the exact device that has been triggered
- > Offer quicker identification of false alarms
- > Easier to modify and expand
- > Typically seen in larger or more complex buildings, however should now be considered for smaller, less complex premises where early confirmation is required

b. Analogue Addressable Systems (preferred by insurers):

- > Also use unique addresses for each device
- > Provide more detailed information about the environment
- > Can detect gradual changes in conditions over time
- > Allow for more precise setting of alarm thresholds
- > Can differentiate between different types of fires (smouldering vs. fast flaming)
- > Often used in more complex or high-risk environments, however should now be considered for smaller, less complex premises where early confirmation is required.

> Both types of addressable systems offer significant advantages over conventional systems in terms of precision, maintenance, and scalability.

> Key differences between Digital and Analogue Addressable Systems:

- > Analogue systems provide more detailed environmental data
- > Analogue systems often have earlier warning capabilities
- > Digital systems are typically simpler and may be more cost-effective for some applications

> Remote signalling – This should ideally meet the following criteria:

Notification of an alarm condition to an alarm receiving centre certified to BS 5979 using alarm transmission systems (ATS) equipment compliant with BS EN 54-21, and set up in accordance with the requirements of PD 6669 with dual path routing equipment.

The dual path equipment must provide a robust means of communication through TCP/IP connections (fibre) and cellular link to the ARC which meets the reporting timeframes for a signalling grade DP3 (dual path 3) or DP4 system, which will ensure that even in the event of a catastrophic failure the problem will be reported in a maximum period of 4 minutes (DP3) or 3 minutes (DP4).

> Ensure regular (at least 6 monthly) and proper maintenance of your fire alarm system. Key points to verify:

- i. Maintenance provider information: Is the contact information readily accessible?
- ii. Certification of maintenance company: Do they possess an LPS1014 or BAFE SP203 Maintenance Certificate?
- iii. Service documentation: Are they issuing the proper BS 5839-1 G6 Inspection and Service certificate after each maintenance visit?
- iv. Additional resources: For more information on system maintenance and minimizing false alarms, refer to BS 5839-1, sections 3 and 6.

8. **FPA/ RISCAuthority – RC47:**
Recommendations for the management of fire detection and alarm systems in the workplace
9. **National Fire Chiefs Council (NFCC)**
previously Chief Fire Officers Association, CFOA Guidance for the reduction of false alarms and unwanted fire signals, 2010
10. **Fire Industry Association:**
Guidance for Responsible Persons on False Alarm Management of Fire Detection and Alarm Systems

Please speak with your usual PIB contact for further advice or alternatively:

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