



**Service Instruction 0039**  
**Risk Based Response to Automatic Fire Alarm Actuations**

**Document Control**

**Description and Purpose**

This document is intended to give guidance to all personnel on the Services response to Automatic Fire Alarms (AFA) and Unwanted Fire Signals (UwFS).

Active date	Review date	Author	Editor	Publisher
		SM Chris Head	GM Guy Keen	
Permanent	x	Temporary	If temporary, review date must be 3 months or less.	

**Amendment History**

Version	Date	Reasons for Change	Amended by
1.1	10.07.10	Changes to procedure	SMD 2960 Taylor
2.0	28.09.12	Edited and amended by AM Myles Platt (pre-consultation)	WM Martin
	14.11.12	Feedback from draft consultation	GM Keen
2.1	22.11.12	Error correction in Appendix A	GM Keen
2.2	30.04.13	Amends to procedure for fire crews to Educate & Inform	GM Keen
2.3	26.02.15	Annual Review / Issue of revised national guidance	GM Keen

**Risk Assessment (if applicable)**

Date Completed	Review Date	Assessed by	Document location	Verified by(H&S)
November 2010	30.04.2013	SM Longshaw		

**Equalities Impact Assessment**

Initial	Full	Date	Reviewed by	Document location
	xxx	10/01/2012	Ustar Miah	

**Civil Contingencies Impact Assessment (if applicable)**

Date	Assessed by	Document location

**Related Documents**

Doc. Type	Ref. No.	Title	Document location

**Contact**

Department	Email	Telephone ext.
Community Fire Protection		

**Target audience**

All MFS	Ops Crews	Fire safety	Community FS
X	Senior officers	Non uniformed	

**Relevant legislation (if any)**

Fire and Rescue Services Act 2004  
 Regulatory Reform (Fire Safety) Order 2005

## Definition

When an Automatic Fire Alarm (AFA) actuates for any reason other than a fire condition, this is referred to as a false alarm. The point at which the Fire and Rescue Service is requested and responds to a false alarm, is referred to as an Unwanted Fire Signal (UwFS).

## Introduction

UwFS have an adverse impact on the economy and business continuity due to disruption caused in the public and private sectors, the effect on the commercial sector alone in lost time, business disruption and productivity is estimated, nationally, to be in excess of £1 billion each year.

Historically, MF&RS have responded to all AFA actuations with the full risk assessed Pre-Determined Attendance (PDA) to the premises. Emergency response to UwFS adds to the disruption by delaying the investigation process and therefore increasing the time to confirming any false alarm and then repopulating the premises.

There is no legal responsibility on MF&RS to respond to calls originating from an AFA system to establish if there is a fire. The Regulatory Reform (Fire Safety) Order 2005 (the Fire Safety Order) states that the '*Responsible Person*'<sup>1</sup> at the premises is legally responsible and must have in place a Fire Risk Assessment (FRA) that details, amongst other measures, what actions are to be taken upon actuation of the AFA system. It is not sufficient that the FRA relies upon the FRS to investigate the reason for the actuation of the AFA system but the FRA should include action to notify the FRS via the 999 system as soon as a fire, or physical signs of fire, are confirmed.

Despite the best endeavours of the Service, the percentage of AFA actuations which are confirmed as UwFS had continued to rise under the previous protocol (pre-November 2012). This trend is unsustainable given the increasing financial challenges and consequential risks placed upon MF&RS, its stakeholders and the community of Merseyside.

## Risk Based Approach

In respect of a decision to respond or not to unconfirmed AFA's, either way the Authority has to accept risks to the community and to firefighters.

Non-response to unconfirmed AFA actuations presents some risks that could arise from delayed response in the event that a fire has occurred, albeit the experience in Merseyside demonstrates that only a small proportion (as low as 5%) of AFA actuations occur as a result of an actual fire and where this occurs the Service has quickly received back-up calls.

Alternatively, if MF&RS reintroduce a response to unconfirmed AFA's there are still risks that could arise from delayed response in the event of a fire, however in these circumstances the risks would arise as a result of the Authority's shrinking operational response resources being unavailable to attend real emergencies due to being committed to response to AFA actuations. This risk would also be increased to both the Community of Merseyside and to Firefighters as the consequential drain from prevention, protection and safety critical operational training.

Therefore, when the risks are considered in aggregate, the response to unconfirmed AFA actuations (where a fire or signs of fire remain unconfirmed) significantly outweighs the risks from non-attendance.

A full risk assessment complete with mitigation and control measures is detailed at [Appendix C](#).

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<sup>1</sup> The 'Responsible Person' is defined position within the Fire Safety Order

## Protocol:

- MF&RS will no longer provide an emergency response to fire calls generated by AFA systems unless a call is received via the 999 system, confirming a fire, or physical signs of fire, at the premises in question. This protocol will apply 24 hours a day unless an exemption is granted.
- Premises with AFA systems configured to 'double-knock' principles as defined in the MF&RS definition of double knock alarm systems (see [Appendix A](#)) will receive a full emergency response on activation of the second 'knock'.

## Exemptions

### Automatic Exemptions

- **All single private domestic dwellings and all dwellings where the responsibility for the safety of the occupier rests with the individuals who reside there, will automatically BE EXEMPTED from this policy.**
- **Sleeping risk premises are automatically exempt between night time hours from 19:30 to 07:30.**
- All premises that have a reliable AFA system meeting the MF&RS definition of 'double knock' (see [Appendix A](#)). Where a 'double knock' system develops a trend of UwFS the automatic exemption status of the concerned premises may be reviewed and in the absence of a satisfactory resolution, may be revoked.

### Exceptional Exemptions

This protocol allows a further exemption process for premises that do not fit the automatic exemptions criteria: Any Responsible Person that deems that their premises have exceptional circumstances, due to a fire risk assessment which relies on MF&RS responding to investigate fire alarm actuations in order to ensure the safety of occupants, may apply for an exceptional exemption. The aim of an exceptional exemption is to allow Responsible Persons a reasonable window of opportunity to address the failings in their fire risk assessment.

Each case is considered on its own merits and must meet the following conditions:

- The onus is on the Responsible Person to submit their case to MF&RS.
- The case must be based upon high risk to persons resulting from the new MF&RS UwFS protocol.
- Exemptions will not be granted where MF&RS believe that the Responsible Person can take reasonable action to mitigate the risk.
- Exemptions will only be a temporary measure, they will be reviewed within 12 months and MF&RS expect the Responsible Person to work towards achieving a permanent satisfactory solution, e.g. upgrading alarm systems to a 'double knock' system, employing staff to manage the risk etc.

## Procedure

In order to reduce the burden of UwFS on all organisations MF&RS will adopt a risk based approach to the response to and the management of all AFA actuations. This approach will include a robust Call Challenge procedure by Mobilising and Communications Centre (MACC) personnel, Call Back protocols by Fire Alarm Monitoring Organisations and no response to certain actuations – unless a fire or physical signs of fire are confirmed.

### Call Challenge

Call challenging involves a MACC operator questioning any caller to determine whether an emergency response is required following the actuation of an AFA. Where the caller has no reasonable grounds to believe that there is a fire, or physical signs of fire, at the premises (i.e. the call is made prior to any investigation) then the caller will be informed that no emergency response will be mobilised until an investigation is completed, and they should call back immediately upon any confirmation of fire, or physical signs of fire.

As a result of call challenge MACC will mobilise appliances as an emergency response to a confirmation of fire, or physical signs of fire.

In the event that a fire, or physical signs of fire, cannot be confirmed then there will be no emergency response.

### Procedure for Call Handling (MACC) 07.30-19.30 hours.

Upon receipt of a call the MACC operator will determine the call source and property type.

#### Calls from Exempted Premises

For all calls received, regardless of call source, involving any premises that have been formally exempted under this protocol, MACC will mobilise the full emergency **response** PDA.

#### All Other Premises

All other premises will be call challenged whether the call is direct from the premises or via a Fire Alarm Monitoring Organisation.

If a fire, or physical signs of fire, is confirmed then MACC will mobilise the full emergency **response** as determined by the PDA.

If a fire, or physical signs of fire, is **not** confirmed the caller will be told:

“MF&RS will not make an emergency response at this time. Please investigate and if you confirm a fire, or physical signs of fire, then please call back immediately on the 999 system”.

#### ‘Double Knock’ Actuations (Red Bar on Vision BOSS)

All premises that have an Automatic Fire Alarm system meeting the MF&RS definition of ‘double knock’ (see [Appendix A](#)) will receive a full emergency response upon actuation of the ‘second knock’, this will be indicated on the Red Bar system. This will only apply when the call is received from a Fire Alarm

Monitoring Organisation (FAMO). If the call is received from the premises directly then normal call challenge procedures and responses apply.

### **Fire Alarm Monitoring Organisations (FAMO)**

On receipt of a call from a FAMO, with the exception of 'second knock' actuations identified on the red bar system (see 'Double Knock criteria above), MACC will request confirmation that the caller has instigated their 'Call Back' protocol prior to forwarding the alarm call to MF&RS (as recommended in the 'Best practice for summoning a Fire Response via Fire Alarm Monitoring Organisations'<sup>2</sup>). If the FAMO has not utilised this facility they will be asked to do so and informed that 'MF&RS will not make an emergency response at this time. If you re-contact the premises and confirm a fire situation please contact the Service again and we will respond'.

If the FAMO has attempted 'call back' but failed to re-contact the premises they will be told 'MF&RS will not make an emergency response at this time'.

If the FAMO has used 'call back' and confirms a fire exists or there are physical signs of fire, a full emergency response will be mobilised.

If a fire or physical signs of a fire cannot be confirmed, then only one appliance will be mobilised to the address, at normal road speed, to assist the Responsible Person by offering advice and guidance.

### **Monitoring and Review**

All AFA calls to MF&RS will be monitored by Community Fire Protection officers and in the event that premises continue to generate UwFS, MF&RS will assist those premises by working with the Responsible Person, offering advice on how to manage and maintain their AFA systems. This does not prejudice MF&RS fulfilling its responsibility as an Enforcing Authority under the Fire Safety Order. The impact of the new protocol will be continually monitored and reviewed during and beyond the implementation phase.

### **Guidance for Fire Crews attending premises with AFA Systems**

Where Fire Crews attend premises with AFA systems in the course of their duties, it is important that any advice given is consistent with current procedures and protocols and that the level of advice given is appropriate to the level of expertise of the firefighter / fire officer providing the advice.

Further guidance for Fire Crews on giving such advice is given at [Appendix B](#).

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<sup>2</sup> Chief Fire Officers Association Code of Practice

## Summary of Mobilisations

Alarm received to an exempted premises	24 hours	Full Emergency Response
Confirmed fire or physical signs of fire at any premises	24 hours	Full Emergency Response
Alarm Activation – No confirmation of fire or physical signs of fire	24 hours	No response - Caller asked to call back following an investigation that confirms a fire or physical signs of fire
Alarm Activation at a premises with a sleeping risk – No confirmation of fire or physical signs of fire	19.30 - 07.30 hours	Full Emergency response
Alarm Activation at a premises with a sleeping risk – No confirmation of fire or physical signs of fire	07.30 - 19.30 hours	No response - Caller asked to call back following an investigation that confirms a fire or physical signs of fire
Alarm Activation – No FAMO 'call back' procedure	24 hours	No response. FAMO asked to instigate 'call back' procedure
Alarm Activation – FAMO cannot re-contact Premises	24 hours	No response

## Appendix A: MF&RS Definition of Double Knock Alarm System

### Double Knock System Definition

There are many varied interpretations for 'Double Knock' systems across the fire safety industry, for the purposes of exemption under the new protocol for responding to AFAs, MF&RS will only recognise 'Double Knock' systems that it have been inspected by a Fire Protection Officer and confirmed as meeting the criterion in this document.

MF&RS considers a 'double-knock' fire alarm system as one where a signal is not sent to the fire service from the AFA until there have been two notifications received by the system, for example:

- One detector activating sounds a local alarm only; followed by,
- A second device (for example a detector / fixed installation / call point) activating which then routes a fire signal through to the Fire Alarm Monitoring Organisation (FAMO) or generates an immediate 999 call.

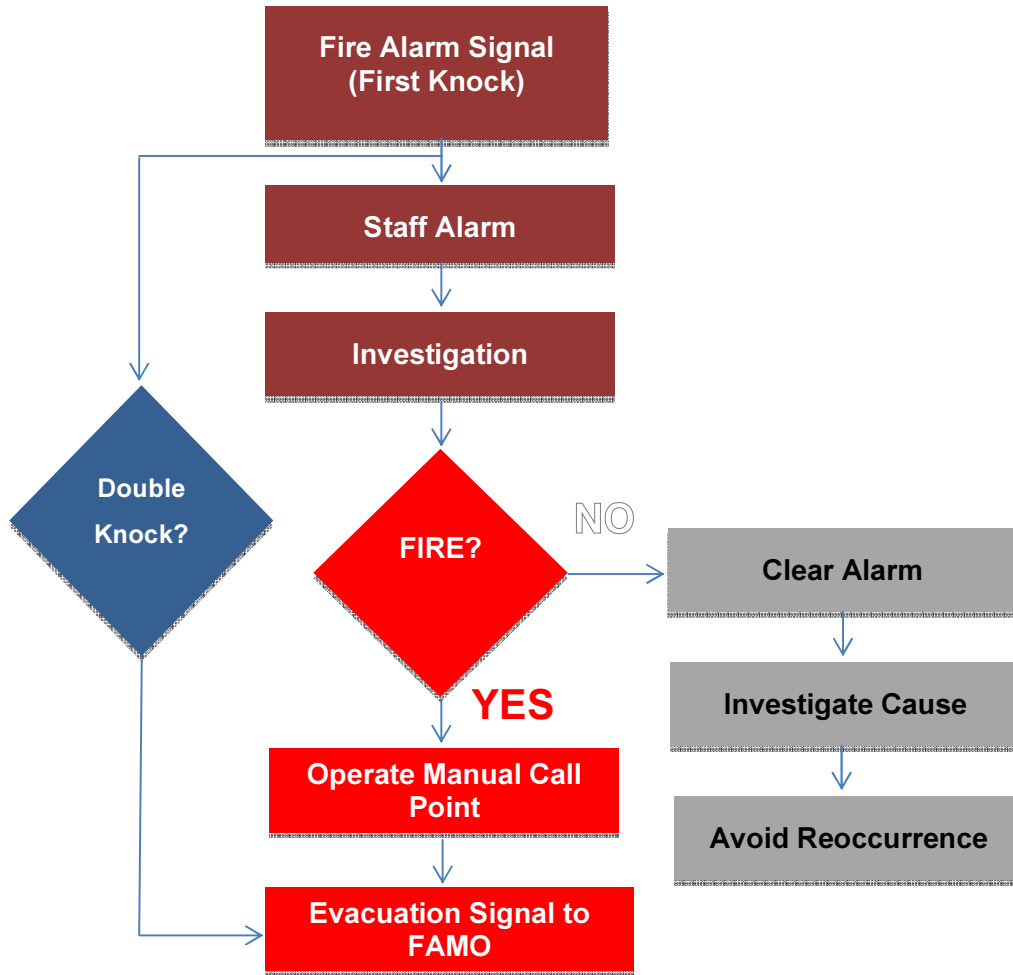
In setting these criteria MFRS make reference to the following sections of BS 5839 pt 1:

*Where speed of response is important in an environment in which false alarms might result from the type of fire detection that is desirable, multi-sensor fire detectors or a system incorporating coincidence detection can enable early detection of fire without an unacceptable rate of false alarms.*

*In some systems there may be significant potential for reduction of false alarms by the use of coincidence detection.*

*A form of filtering involves the use of a staff alarm arrangement (see 5839 Clause 19). This permits an investigation period following activation of an automatic fire detector, prior to operation of fire alarm sounders. Staff alarms that incorporate such an investigation period are now quite common in large, complex and well-managed buildings that are protected by a high number of smoke detectors. The staff alarm arrangement may apply at all times or only at certain times of the day, such as normal working hours; in this case, the system is also a time-related system.*

## Double Knock System Flow Chart





## Appendix B: Guidance for Fire Crews

The purpose of this appendix is to provide MF&RS fire crews with guidance on the advice and further guidance that they give to occupiers when attending a fire alarm actuation that results in an UwFS.

It is not intended as document for members of the public therefore must not be handed out to occupiers.

This guidance should be printed off, encapsulated and stowed on an appliance to assist fire crews.

### Key Points:

- MF&RS fire crews will:
  - **NOT** provide technical fire protection advice;
  - **ONLY** provide advice and guidance that falls within their operational area of expertise;
  - Direct technical queries to the **MF&RS website** (the home page has a direct link to the UwFS page) and / or **Fire Service Direct 0800 731 5958**;
  - **NOT** direct technical queries to the Protection Department offices or officers;
  - **MUST** request the attendance of an Article 31 officer where the risks within the premises are so serious that the use of the premises ought to be restricted or prohibited.

### Examples of Advice and Guidance

#### **DO NOT** advise on:

- Any matters relating to the Occupiers fire risk assessment;
- Any matters relating to altering the construction or use of the building;
- Any technical matters relating to any fire protection systems, (e.g. alarms, fire suppression, emergency lighting, etc).

#### **DO** advise:

- That the occupier is responsible for managing the fire risk within the premises and that failure to do so may put them in breach of the Regulatory Reform (Fire Safety) Order 2005 (the Order);
- That until a fire or physical signs of fire is confirmed then it is the Occupiers responsibility to investigate the actuation of their fire alarm system;
- That as soon as a fire or physical signs of fire are confirmed by any person, then the investigation ceases immediately and a fire call must be passed via the '999' emergency telephone system;
- On examples of physical signs of fire (e.g. signs of heat &/or smoke);

- How to safely investigate the actuation of a fire alarm;
- On how to prevent false alarm actuations, e.g. Regular maintenance by a competent fire alarm engineer, control; housekeeping to prevent fumes from cooking, aerosol sprays, steam from affecting detector heads (not to include any advice on altering the alarm system).

### **In the Event of Serious Fire Safety Concerns**

Where an OiC considers the fire risk to persons in the premises is **so serious it is may cause a threat to life**, then MACC must be informed and an Article 31 Officer requested. The Fire Crew must remain in attendance and await the Article 31 Officer.

There are four main areas of failure that may cause such a risk:

- Means of escape;
- Means of giving warning;
- Fire loading / Combustibles / Ignition Sources ;
- Risk to a 'relevant persons' (persons legally entitled to use the building).

Where the implications are **less serious**, then the OIC must email a completed UwFS **Exception Report (Form FSO SL019)** to Protection Policy Support mailbox. This form is available on the MF&RS portal under the Protection Dept. Shared Documents/Library/UwFS. Hard copies should be kept on the appliance for completion at the premises.

## Appendix C: Risk Assessment

### Risks, Mitigation and Control Measures

SIGNIFICANT RISKS	MITIGATING FACTORS	CONTROL MEASURES
<p>Delay in responding to a fire as a result of MFRA not responding to an AFA where at the time of the call no fire or signs of fire were confirmed.</p> <p>(i) Therefore increased risks to:</p> <ul style="list-style-type: none"> <li>&gt; Persons affected by fire;</li> <li>&gt; Fire crews due to fire growth.</li> <li>&gt; Property</li> <li>&gt; Business Continuity.</li> </ul>	<p>a. A review of previous incidents of fire in Merseyside over the 5 year period immediately prior to the current AFA Protocol confirmed that in the event of any significant fires at premises with AFA systems, the Service received numerous calls confirming a fire within the same time period as the actuation of the alarm;</p> <p>b. The greatest likelihood of a fire not being confirmed would be during night-time hours when less people are likely to be present in an alert state and therefore able to make an emergency call.</p>	<ol style="list-style-type: none"> <li>1. MFRA AFA Protocol Communication Strategy</li> <li>2. MFRA AFA Protocol Automatic Exemption protocol</li> <li>3. MFRA AFA Protocol Exceptional Exemption protocol</li> <li>4. Risk critical training of Operational Personnel.</li> </ol>
<p>Delay in responding to a fire as a result of MFRA operational response resources being committed to incidents that later prove to be UwFS.</p> <p>(ii) Therefore increased risks to:</p> <ul style="list-style-type: none"> <li>&gt; Persons affected by fire;</li> <li>&gt; Fire crews due to fire growth.</li> <li>&gt; Property</li> <li>&gt; Business Continuity.</li> </ul>	<p>a. Prior to the introduction of the new AFA Protocol in November 2012 MFRA were experiencing a growing trend in UwFS. During 2010, 1<sup>st</sup> January – 31 December 2010, there were <b>5801</b> UwFS (4064 to Non Residential premises, 1737 to Residential premises) therefore having <b>9069</b> appliance mobilisations to false alarms at premises which had a 'Responsible Person'. This has a direct affect upon the availability of nearest appliances to attend a real incident and therefore delays response times thus endangering lives of persons and property.</p> <p>b. Government financial reforms have resulted in MFRA reducing it's operational fleet from 42 to 28 pumping appliances, further cuts in 2015-17 will result in a number of station closures and mergers which will decrease this further and by 2020 it is anticipated that MFRA will only have 20 fire appliances and 18 fire stations. This will significantly increase the likelihood and risk of appliance availability being lost due to attendance at UwFS</p> <p>c. Feedback from 2 periods of consultation, (May 2011 &amp; Nov. 2011) conducted by Opinion Research Services "The forum unanimously rejected the policy of treating all AFA's as emergencies. There was a general feeling that this pattern of response is wasteful and diverts emergency resources from more important incidents as well as fire prevention work and training".</p>	<ol style="list-style-type: none"> <li>1. MFRA AFA Protocol call challenge procedure.</li> <li>2. MFRA AFA Protocol Communication Strategy.</li> <li>3. Risk critical training of Operational Personnel.</li> </ol>
<p>Road risk from emergency response mobilisations to responding fire crews and other road users</p> <p>(iii)</p>	<p>MF&amp;RS attendance at <b>5801</b> UwFS is equivalent to:</p> <ul style="list-style-type: none"> <li>- <b>12779</b> 'blue light' mobilisations</li> <li>- <b>12779</b> return journeys</li> </ul> <p>= <b>25558</b> occasions other road users, pedestrians and fire crews are unnecessarily exposed to potential dangers in RTC's.</p>	<ol style="list-style-type: none"> <li>1. MFRA AFA Protocol call challenge procedure.</li> <li>2. MFRA AFA Protocol Communication Strategy</li> </ol>

SIGNIFICANT RISKS	MITIGATING FACTORS	CONTROL MEASURES
(iv) Increased risk to residents in Merseyside due to reduced Prevention and Protection activities.	The average attendance to an UwFS = 2.23 Fire appliances (2/3 appliances per call); Average time taken to respond, manage and return = 22.34 minutes; From <b>5801</b> UwFS, the hours of productivity which can be better utilised for training, community safety activity etc. totals over <b>20,000 hours</b> .	1. MFRA AFA Protocol call challenge procedure. 2. MFRA AFA Protocol Communication Strategy
(v) Risks to persons investigating the actuation of a fire alarm	The new AFA response protocol requires callers at non-exempted premises to investigate the actuation of their fire alarm and confirm the existence of a fire or signs of fire.	1. Responsible Persons are required to have in place a suitable and sufficient fire risk assessment that covers all 'relevant persons', including employee's. This must include the management of their fire alarm system and therefore they are required to ensure that their personnel have sufficient supervision, information and training to ensure their safety from fire. 2. MFRA AFA Protocol Communication Strategy 3. Training made available (at cost) for the safe investigation of AFA actuations made available by MFRA 4. Advice contained within section C of the 2014 CFOA Guidance.
(vi) Increased risk to operational fire crews due to reduction in risk critical training.	The average attendance to an UwFS = 2.23 Fire appliances (2/3 appliances per call); Average time taken to respond, manage and return = 22 minutes 34 seconds; From <b>5801</b> UwFS, the hours of productivity which can be better utilised for training, community safety activity etc. totals over <b>20,000 hours</b> .	1. MFRA AFA Protocol call challenge procedure. 2. MFRA AFA Protocol Communication Strategy