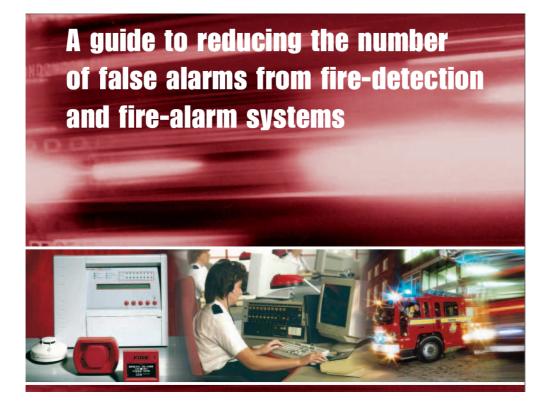
# IRMP 2011-12 Action Plan Recommendation 3

# Review of Attendance at False Alarms caused by Automatic Fire Alarms



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#### IRMP Action Plan 2011-12 Recommendation 3

We will reduce our attendance at false alarms caused by Automatic Fire Alarms (AFAs) after a review of our policies and procedures and the implementation of our findings.

### **Executive Summary**

This review proposes changes to established practices that will reduce the number of attendances that Hereford & Worcester Fire and Rescue Service (HWFRS) makes to unwanted fire signals (UwFS). The review highlights where efficiencies can be made and assists in future decision making by providing data, statistical analysis and anecdotal evidence from national practice that highlight the issues.

In broad terms, challenges to existing practice and the demonstration of efficiencies are highlighted and defined as "Recommendations for Change", Section 4 within this report. These are categorised within the following headings:

- 1. PDA and mobilising
- 2. Risk categorisation
- 3. Time of day considerations
- 4. Unoccupied premises
- 5. Call filtering
- 6. Repeat offenders
- 7. Cost recovery

Fundamental to this review is the principle that for any Automatic Fire Alarm (AFA) incident where a fire is confirmed, a full emergency response will be mobilised.

### 1. Introduction

- 1.1 The trend towards increasing numbers of false alarms generated by AFA systems has prompted a review of our current policy and procedures, as part of the IRMP Action Plan. HWFRS attended over 6,000<sup>1</sup> incidents from AFAs in the last two years (over one third of all incidents), the result of which was over 7,000 vehicle mobilisations and the associated costs in both financial terms and capacity.
- 1.2 There are many tangible benefits to a reduction in attendances by Service personnel to AFA activations. By reducing attendance at AFAs the risk to the public and firefighters during emergency response will be reduced. Reduced AFA attendances will also enable more resources to remain available for confirmed emergency calls. Capacity that is freed from these AFA attendances can be utilised to deliver community safety activities, training, or maintaining equipment in readiness for emergencies.
- 1.3 Whilst Recommendations for Change are demonstrated within this report, they are balanced against community and business risk.
- 1.4 Calls to AFAs are rarely the same as calls to fires. By changing the way the Service deals with AFAs in the future, a significant and unnecessary burden will be released from both the workload of our frontline firefighters and associated fire appliances, whilst also realising a revenue saving.
- 1.5 Mobilisation to certain types of premises as identified in this report will need to continue based on professional judgement and evidence contained within this document. This is due to the link between these premises and national fire death and injury statistics. Other premises types have a legal responsibility to maintain and manage their alarm systems appropriately, and to this end HWFRS may choose not to attend these premises until a fire can be confirmed. HWFRS will also choose to look at time of day recommendations where attendance is aligned to day or night risk activities.
- 1.6 The number of fire appliances sent to an AFA the Pre-Determined Attendance (PDA) will be reduced to minimise the number of vehicle movements in total.
- 1.7 Reducing PDAs for AFA incidents to one appliance will also maintain fire cover for other emergencies in the two-appliance (or three-appliance) station areas, resulting in fewer cover moves being made

<sup>&</sup>lt;sup>1</sup> Refers to incidents that were classed as Automatic Fire Alarm Systems at time of call. See Appendices 1 and 5 for explanation of terminology for Automatic Fire Alarms and Unwanted Fire Signals

from neighbouring fire stations. Reducing the carbon footprint will also assist HWFRS with its environmental/fuel efficiency strategy (IRMP Action Plan Recommendation 7).

- 1.8 Retained and Day Crewed ("on call") staff often provide a crew for the second pump in wholetime station areas, where the majority of AFA/unwanted fire signals occur (See Appendix 1 Fig 5b). As well as financial return in relation to reduced turn out costs for RDS, an associated benefit will be that employers of RDS staff in the community will not lose their workforce on a regular and unnecessary basis.
- 1.9 Reducing attendances or not attending AFAs during the day, for example, will also demonstrate a common sense approach. Most premises will have someone available to investigate the cause of the alarm, who can then confirm if a fire has occurred during the day time. HWFRS will then be able to respond to a confirmed fire, not just an alarm sounding, and send the appropriate number of firefighters and fire appliances immediately, confident that there is a real incident to deal with.

# 2. Recommendations

#### **Pre-Determined Attendance (PDA) and Mobilising (Page 18)**

Recommendation 1	All Pre-Determined Attendances to AFA calls to be one appliance only except where risk factors and Intel information indicate otherwise.
Recommendation 2	Implement robust call filtering in Control to ensure that persons calling in response to alarm actuations at lower risk premises are requested to investigate further the cause of the alarm (see Recommendation 8).
Recommendation 3	Implement return en route as a policy, when a caller confirms any previous call as now a false alarm. This could be applied to all incident types.
Recommendation 4	All responses to AFAs to be at normal road speeds unless the Officer in Charge of the appliance deems otherwise.

### Premises Type (Risk Categorisation) (Page 20)

Recommendation 5	<ul> <li>Attendance at:</li> <li>Dwellings (includes houses in multiple occupation, flats) schools, residential care and other residential (includes special units, sheltered housing, hotels, hostels).</li> </ul>
	<ul> <li>Non attendance at:</li> <li>Hospitals and non residential (includes offices, shops, factories, warehouses, other buildings).</li> </ul>

### Time of day considerations (Page 22)

Recommendation 6	As well as the restriction on the types of premises that the Service attends as identified within Recommendation 5 (Premises Type), the Service can add further restrictions on FRS attendance based on the time of day. It is recommended that this is considered for implementation after a 12 month review of the adopted changes.
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#### Unoccupied premises (Page 25)

	Do not attend unoccupied premises. Key holder to	)
<b>Recommendation 7</b>	investigate and ring 999 if signs of fire discovered, unless	;
	identified as a specific risk through the Intel process.	

#### Call filtering (Page 26)

Recommendation 8	Apply full filter <sup>2</sup> procedure to AFA calls from non-residential premises and hospitals. This complements Recommendation 5.					
Recommendation o	Apply light filter <sup>3</sup> procedure to AFA calls from dwellings, schools, residential care and other residential properties. This complements Recommendation 5.					

#### Repeat offenders (Page 28)

Recommendation 9	No attendance to be made to repeat offenders, following Technical Fire Safety intervention, unless a confirmed fire is reported.
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#### Cost recovery (Page 29)

Recommendation 10	The Authority will not adopt a 'Charging for AFA' policy. The Authority will no longer attend repeat offenders' premises in preference to charging (see Recommendation 9).
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<sup>&</sup>lt;sup>2</sup> A full filter involves questioning the caller to establish if the cause of the AFA is known. If the answer is no, the caller is informed that no attendance will be made, the cause should be investigated and a 999 call is required if a fire is confirmed.

<sup>&</sup>lt;sup>3</sup> A light filter involves questioning the caller to establish if the cause of the AFA is known before mobilising, whilst a preliminary mobilisation is normally underway.

### 3. Findings based on Statistics

NB The national Incident Recording System (IRS) was introduced in January 2009. For the purpose of this review, to ensure that quoted statistics are consistent and directly comparable, all figures quoted are taken from the IRS over the two year period March 2009 to February 2010 and March 2010 to February 2011, unless otherwise stated. For this reason, figures may vary from previously quoted statistics with differing date ranges.

- 3.1.1 From March 2010 to February 2011, just over 8,000 incidents occurred in HWFRS area. Of those, approximately 3,000 (37.9%) were AFA System incidents at the time of call, with 123 (4.1%) of these 3,000 going on to become Primary Fires.
- 3.1.2 Of the 123 incidents, only 37 (1.2%) required any intervention by firefighters, and there were 16 people classed as "casualties", with all but one occurring in a dwelling or other residential classed property.
- 3.1.3 For incidents that were finally classified as unwanted fire signals in 2010-11, 38% occurred in properties classed as dwellings with another 20% occurring in other residential classed properties.

# 3.2 Unwanted Fire Signals (UwFS) from premises types other than Dwelling<sup>4</sup>

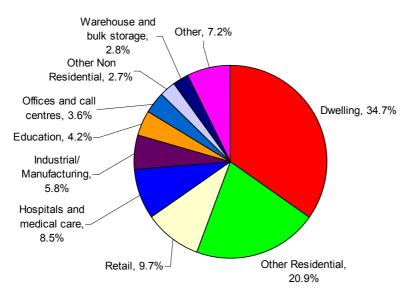
- 3.2.1 Whilst the number of unwanted fire signals from AFA systems has generally declined in premises other than Dwellings, there have been two noticeable areas where increases have occurred:
  - i. Warehouses and bulk storage (10.4% increase).
  - ii. Hospitals (19.2% increase).
- 3.2.2 There was a 17.6% increase for buildings categorised as Public Administration, Security and Safety. Although this is a large percentage increase it is only due to 9 more unwanted fire signals (see Fig 17 on page 11).

<sup>&</sup>lt;sup>4</sup> (See Appendix 4 for IRS property types)

				as % of all	
	Mar-09-	Mar-10-	Grand	property	% increase/
Custom Property Type	Feb-10	Feb-11	Total	types	decrease
Dwelling	898	1144	2042	34.7%	27.4%
Other Residential	644	584	1228	20.9%	-9.3%
Retail	312	256	568	9.7%	-17.9%
Hospitals and medical care	229	273	502	8.5%	19.2%
Industrial/Manufacturing	170	170	340	5.8%	0.0%
Education	141	107	248	4.2%	-24.1%
Offices and call centres	113	101	214	3.6%	-10.6%
Other Non Residential	77	82	159	2.7%	6.5%
Warehouse and bulk storage	77	85	162	2.8%	10.4%
Public admin, security and safety	51	60	111	1.9%	17.6%
Entertainment and culture	52	40	92	1.6%	-23.1%
Sporting venues	37	25	62	1.1%	-32.4%
Food and drink	27	23	50	0.8%	-14.8%
Industrial Processing	16	14	30	0.5%	-12.5%
Vehicle Repair	16	5	21	0.4%	-68.8%
Non residential industrial processing	8	10	18	0.3%	25.0%
Laboratory/research Establishment	9	7	16	0.3%	-22.2%
Non residential religious	3	4	7	0.1%	33.3%
Public Utilities	4	0	4	0.1%	-100.0%
Transport buildings	0	3	3	0.1%	
Car	0	1	1	0.0%	
Car Parks	1	1	2	0.0%	0.0%
Private Garage	0	2	2	0.0%	
Nurseries, market garden		1	1	0.0%	
Other outdoor equipment and					
machinery	2	0	2	0.0%	-100.0%
TOTAL	2887	2998	5885		

# Fig 17 Unwanted Fire Signals (that were AFAs at time of call) – broken down by property type<sup>5</sup>

Fig 18 Unwanted Fire Signals (that were AFAs at time of call) – two years – broken down by property type



<sup>&</sup>lt;sup>5</sup> note: all numbering for Figures in this document refers to Figures set out in the Appendices

- 3.2.3 The general decline in AFAs from non-domestic premises may be attributable to targeted intervention work from Technical Fire Safety officers over recent years.
- 3.2.4 Case Study:

A notable success was achieved in the Cathedral Plaza shopping centre in Worcester, where fitting a new alarm system, retraining staff and extending the delay to allow security staff to investigate the cause of the alarm, has resulted in a reduction of unwanted fire signals by 96%. Not only has this been of benefit to HWFRS, but the shops and businesses have experienced less disruption, where evacuations of the premises equate to lost trade (source: Technical Fire Safety Department South District).

#### 3.3 Unwanted Fire Signals (UwFS) from Dwellings

- 3.3.1 There has been a significant increase in the number of unwanted fire signal calls from Dwellings which make up 34.7% of all AFAs, which has proportionally increased by 27.4% last year compared to the previous year (see Figs 17 and 18 on page 9).
- 3.3.2 When considering measures to address this trend it needs to be taken into account that this is the premises type where the majority of fire deaths and injuries can occur.
- 3.3.3 HWFRS responded to 6,067 calls from AFAs in the two year period from March 2009 to February 2011 (See Fig 3 on page 13).
- 3.3.4 Case Study:

Crews in Worcester station ground attended 1,534 unwanted fire signals in the same two year period. With an average time of 20 minutes taken for each incident, this equates to a cumulative commitment of more than 2550 person hours (equivalent to over 56 day shifts for a crew of 5). This figure could easily be doubled, as many incidents involved the attendance of more than one fire appliance.

#### Fig 3 AFAs and interventions over 2 years

Incident Type	Mar-09- Feb-10	Mar-10- Feb-11	Grand Total
Total incidents	8020	8165	16185
Total AFAs (incl. smoke alarms)	2973	3094	6067
Total AFAs as % of all incidents	37.1%	37.9%	37.5%
Total Primary Fires resulting from AFAs	125	123	248
AFAs resulting in Primary Fires, as % of all AFAs	4.2%	4.1%	4.1%
Incidents where some intervention by FRS Personnel <sup>6</sup>	52	37	89
Intervention as % of all AFAs	1.7%	1.2%	1.5%
Incident where CABA <sup>7</sup> used	11	16	27
CABA used in AFAs resulting in Primary Fires as % of all AFA's <sup>8</sup>	0.4%	0.5%	0.5%

### 3.4 Demographic and Geographic Issues

3.4.1 Over the last two years, unwanted fire signals have accounted for nearly half of all incidents within HWFRS; approximately 47.1% (see Fig. 4 below). This figure will include incidents that were not necessarily AFAs initially.

IncType/SubType	Mar-09- Feb-10	Mar-10- Feb-11	Grand Total	Percentage
Chimney Fire	230	272	502	3.1%
Fire alarm due to Apparatus	2762	2903	5665	35.0%
Good Intent False Alarm	911	860	1771	11.0%
Malicious False Alarm	107	76	183	1.1%
Primary Fire	1206	1191	2397	14.8%
Secondary Fire	1000	1052	2052	12.7%
Special Service	1804	1811	3615	22.3%
Total UwFS	3780	3839	7619	47.1%
Grand Total	8020	8165	16185	

Fig 4 Unwanted Fire Signals as a percentage of all incidents over 2 years<sup>9</sup>

3.4.2 The problem of unwanted fire signals is most acute within the three station areas of Worcester, Redditch and Hereford, where approximately half (52%) of all UwFS occurred over the last 2 years (see Appendix 1 Fig 6).

<sup>&</sup>lt;sup>6</sup> this could be a bucket of water, isolation of fuel supply

<sup>&</sup>lt;sup>7</sup> Compressed Air Breathing Apparatus

<sup>&</sup>lt;sup>8</sup> instances of wearing BA were for respiratory protection rather than firefighting

<sup>&</sup>lt;sup>9</sup> This table is taken from an incident dataset that contains all incidents, including those that did not start as an AFA. See Appendices 1 and 5 for explanation of terminology for Automatic Fire Alarms and Unwanted Fire Signals

3.4.3 This is due to most unwanted fire signals originating from areas that are concentrated within the larger conurbations. However, for the whole Service area, 84.1% of unwanted fire signals occurred in the eight wholetime station areas over the last 2 years (See Fig 5 below).

Fig 5 Oliwanteu Fi	<u> </u>	Good				
	Fire alarm	Intent	Malicious			
	due to	False	False	Total	All	UWFS
Station	Apparatus	Alarm	Alarm	UWFS	incidents	% All
Worcester	1227	282	25	1534	2847	54%
Redditch	866	244	28	1138	2212	51%
Hereford	747	197	29	973	1940	50%
Kidderminster	592	189	41	822	1783	46%
Bromsgrove	441	164	14	619	1300	48%
Droitwich	317	131	4	452	892	51%
Malvern	281	113	8	402	828	49%
Evesham	293	86	10	389	788	49%
Stourport	151	57	7	215	560	38%
Ross-on-Wye	119	35	1	155	362	43%
Ledbury	130	32	1	163	337	48%
Leominster	73	32	5	110	323	34%
Pershore	126	33		159	313	51%
Bewdley	38	27	2	67	263	25%
Bromyard	77	20	1	98	255	38%
Upton upon						
Severn	29	45	1	75	238	32%
Whitchurch	10	19		29	151	19%
Broadway	69	4		73	116	63%
Kingsland	16	5		21	109	19%
Tenbury	10	6	3	19	98	19%
Eardisley	10	4	1	15	96	16%
Peterchurch	12	7		19	76	25%
Ewyas Harold	9	6		15	68	22%
Kington	4	10	1	15	66	23%
Fownhope	16	6		22	57	39%
Leintwardine		3		3	57	5%
Pebworth	2	14	1	17	50	34%
Grand Total	5665	1771	183	7619	16,185	

Fig 5 Unwanted Fire Signals h	y Station Ground of Incident over 2 years
I IG 5 OIIWailleu I lie Signais b	

3.4.4 Dwellings (including flats and houses in multiple occupation) accounted for 34.7% of unwanted fire signals over the last two years, with a further 20.9% from Other Residential premises (special units, sheltered housing, hotels, hostels, etc.) – see Figs 17 and 18 on page 9.

### 3.5 Fires

- 3.5.1 Over the last two years, over 95.3% of AFAs ultimately proved to be a false alarm (and were therefore unwanted fire signals).
- 3.5.2 Intervention of some kind was necessary in 4.7% of incidents that were reported as being AFA incidents. 4.1% of reported AFA incidents were primary fires (248 incidents out of 6067 AFA incidents) (see Fig.7 below).

Incident type at Control	Inc. Type	Mar-09- Feb-10	Mar-09- Feb-10	Mar-10- Feb-11	Mar-10- Feb-11	Grand Total	Grand Total
	False Alarm (UwFS)	2838	95.5%	2941	95.1%	5779	95.3%
AFAs &	Primary Fire	125	4.2%	123	4.0%	248	4.1%
Smoke Alarms	Special Service	8	0.3%	28	0.9%	36	0.6%
Alams	Chimney Fire		0.0%	2	0.1%	2	0.0%
	Secondary Fire	2	0.1%		0.0%	2	0.0%
	Grand Total	2973	100.0%	3094	100.0%	6067	100.0%

Fig 7 AFA and Smoke Alarm incidents at receipt of call<sup>10</sup> - as % of total

- 3.5.3 In 64.1% of occasions where a fire did occur (159 incidents), no firefighting action was necessary. An example may be where a small fire occurred under the grill and was extinguished prior to FRS arrival.
- 3.5.4 A hosereel jet or portable extinguisher was only used at 25 incidents out of 6,067 incidents that originated as AFA calls (0.4% of AFA calls) (see Appendix 1 Fig 20).
- 3.5.5 The remaining 64 incidents required various means of extinguishing the fire. These included smothering using tea towel, cup full of water, etc.
- 3.5.6 Over two thirds, 173 incidents (68.7%), of those AFA incidents where a fire occurred were either in Dwellings or Other Residential premises (see Appendix 1 Figs19 and 19a).

### 3.6 Efficient Use of Resources

- 3.6.1 The average time spent attending such calls is around 20 minutes per incident.
- 3.6.2 The associated interruption to prevention activity, training and work routines is more difficult to quantify; however during day time hours an associated loss due to this disruption must also be considered.

<sup>&</sup>lt;sup>10</sup> AFAs at receipt of call that end up as UwFS make up a proportion of all UwFS; the remaining calls that end up as UwFS started as a different incident type than AFA. Therefore total UwFS in 3.4.2 is higher than in 3.5.3

- 3.6.3 Where RDS (on call) crews are mobilised there is a direct revenue cost in salaries for the personnel attending the station and those who subsequently ride the appliance.
- 3.6.4 Appendix 1 Fig 28 shows the variable cost of sending one RDS pump to an AFA lasting up to one hour, which is approximately £124.13. Savings would depend on the recommendations being adopted. However, the current cost of sending RDS to unwanted fire signals will be estimated once the recommendations have been agreed.
- 3.6.5 In addition to the financial impact, calls on RDS crews' time will have an impact on the releasing employers (predominantly during the day time).
- 3.6.6 The Service has an obligation to support the efficiencies required by the Comprehensive Spending Review. Significantly reducing the number of false alarms attended by front line appliances will contribute towards this, whilst still providing a fast and efficient response to all calls, where appropriate. It is important to ensure the best use of the available resources in all areas of activity.
- 3.6.7 Premises occupiers are obliged to take responsibility for managing their alarm systems, as stipulated by the BS 5839 Fire Alarms legislation. In the past, the Fire and Rescue Service has been helpful by attending, investigating the cause and assisting in resolving fire alarm issues. This is not the role of the Service.
- 3.6.8 Every time an appliance is mobilised there is a direct and indirect cost in terms of finance and capacity. It is imperative that these finite resources are focussed and available where needed to meet the highest levels of risk. Each call means the use of a large vehicle travelling on blue lights on our roads. Whilst staff are well trained and the risk mitigated, there is always an inherent risk carried by this type of activity, both to our staff and the public. The Service has an obligation to minimise this risk and ensure that these mobilisations are both essential and necessary.

#### 3.7 Hereford & Worcester Fire and Rescue historical perspective

3.7.1 The current published policy was introduced in 2006, and was aligned to the Chief Fire Officers Association (CFOA) policy issued at that time. It is onerous and includes a chargeable registration scheme. This scheme delivered very little benefit to either the Service or the customer, although required a significant administrative commitment from HWFRS to monitor AFA activity daily, with no discernable reduction of AFA calls.

### 3.8 Current HWFRS Response Arrangements

- 3.8.1 Fire Control mobilise according to the criteria set out in the 2006 policy. Current response includes an emergency response to all AFAs. If a subsequent 999 call from the premises reports it to be a false alarm, one appliance will proceed for details. Other responding appliances will return to station.
- 3.8.2 Current Pre-Determined Attendances can be broadly categorised as:
  - one appliance for commercial premises.
  - two appliances for dwellings/residential premises.
- 3.8.3 Certain premises also attract an enhanced Pre-Determined Attendance e.g. Worcestershire Royal Hospital receives three appliances for an AFA, with one aerial appliance additionally mobilised for a fire.

### 3.9 Other FRSs - Within CFOA Region

- 3.9.1 West Midlands FS Recently introduced call filtering by Fire Control, with a reduced Pre-Determined Attendance to all premises. They introduced a specialist vehicle for AFA reduction in Birmingham City Centre and a different response depending on the time of day.
- 3.9.2 Warwickshire FRS Recently changed policy whereby there is no response to AFAs during the day, even to sheltered housing or care homes etc. This has brought about a 65% drop in the number of AFAs from commercial premises (NB AFAs from dwellings are not covered by the Warwickshire FRS policy).
- 3.9.3 Shropshire FRS Similar policy to HWFRS. Collaboration has taken place with Shropshire FRS awaiting the outcome of the HWFRS review. Shropshire FRS are interested in adopting HWFRS policy once amended following the review.
- 3.9.4 Staffordshire FRS Full Pre-Determined Attendance sent to domestic premises. One appliance sent to other premises between 0700 and 1900 hours. Full Pre-Determined Attendance sent outside these hours. Emergency response is sent to unoccupied premises.

### 3.10 Notable Practice in Other FRSs – National

- 3.10.1 Essex County FRS Recently changed policy to no mobilisation to factories, offices and shops, or to unoccupied premises. Other premises receive one appliance, or two appliances if deemed high risk. Future refinements may include not attending care homes during the day, or only responding to sleeping risks.
- 3.10.2 Oxfordshire FRS Long established policy. An emergency attendance will be made to premises known to be unoccupied or to premises occupied by vulnerable persons (unless a warden is on site). Fire Control staff will contact any other occupied premises and inform them no response will be made but they must check the cause and call back. If no call back is received within 20 minutes or Fire Control are unable to contact the premises, a reduced Pre-Determined Attendance is mobilised.
- 3.10.3 Hampshire FRS Recently introduced a pilot in the Portsmouth area whereby AFAs are attended by Technical Fire Safety officers, as a non-emergency attendance.
- 3.10.4 Leicestershire FRS follow the CFOA protocol, but is closely aligned to Oxfordshire's policy i.e. call filtering (except for unoccupied or domestic/sleeping risk premises), mobilising to alarms operating and a long term reduction achieved by Technical Fire Safety action. An attendance is made to unoccupied premises.
- 3.10.5 National Guidance currently available:
  - i. CFOA Protocol for the Reduction of False Alarms and Unwanted Fire Signals.
  - ii. CFOA Code of Practice for FAMOs (Fire Alarm Monitoring Organisations).
  - iii. BS 5839 Fire Alarms.
  - iv. Regulatory Reform (Fire Safety) Order, 2005.

### 3.11 HWFRS Significant Statistics (Last two years 2009-11)

3.11.1 Total number of AFAs:

- Total number of AFA Incidents 6,067
- Total number of AFAs as a percentage of all incidents 37.5%
- 3.11.2 Main premises types creating unwanted fire signals:

•	Dwellings	34.7%
•	Other Residential	20.9%
•	Retail	9.7%
•	Hospitals and medical care	8.5%

3.11.3 Main causes of false alarms in Dwellings:

•	Cooking/burnt toast	31%
•	Faulty	20%

- 3.11.4 Number of AFAs that became Primary Fires
  - 248 of 6067 Incidents (4.1% of AFAs) of these fires 159 required no firefighting action by the Service.
- 3.11.5 27 AFAs resulted in Primary Fires requiring Breathing Apparatus (BA/CABA)
  - 21 of these AFAs were confirmed by a person landline or mobile call.
  - 6 (0.01% of AFAs) were from alarm receiving centres, and of these 3 were subsequently backed up by a person landline or mobile call.
- 3.11.6 95.3% of AFAs ultimately proved to be a false alarm.
- 3.11.7 A hosereel jet or portable extinguisher was only used at 25 incidents out of 6067 incidents (0.4% of AFA calls).

## 4. Recommendations for Change

### 4.1 Pre-Determined Attendance (PDA) and Mobilising

Recommendation 1	All Pre-Determined Attendances to AFA calls to be one appliance only except where risk factors and Intel information indicate otherwise.	
Recommendation 2	Implement robust call filtering in Control to ensure that persons calling in response to alarm actuations at lower risk premises are requested to investigate further the cause of the alarm. (see Recommendation 8).	
Recommendation 3	Implement return en route as a policy, when a caller confirms any previous call as now a false alarm. This could be applied to all incident types.	
Recommendation 4	All responses to AFAs to be at normal road speeds unless the Officer in Charge of the appliance deems otherwise.	

#### Issues

- 4.1.1 There is scope to reduce the emergency Pre-Determined Attendance to AFAs, as an AFA call may attract more than one appliance dependent on a number of variable factors. Control staff could also apply more vigorous call filtering and management of deployments with revised policy.
- 4.1.2 Fire Control currently mobilise to all calls arising from AFA actuations. The Pre-determined Attendance varies according to the premises type.
- 4.1.3 An anomaly of the current mobilising system is that where a caller states 'fire alarm' one pump is proposed and if the caller states 'fire detector' the system proposes two pumps.

- 4.1.4 In the last two years, there were 5,779 false alarms from AFA Systems. This represents 95.3% of all AFA related calls (See Fig 7 on page 13).
- 4.1.5 Call filtering could assist by emphasising that a subsequent 999 call should be made following an alarm activation if a fire is confirmed. No mobilising will occur to hospitals and non residential units unless this is confirmed. This will allow a full Pre-Determined Attendance emergency response for a fire to be mobilised, without delay, if required.

- 4.1.6 Confirmation of a false alarm could allow mobilised appliances to stop responding on blue lights and return en route to their previous activities sooner and reduce duration of emergency responses.
- 4.1.7 Reducing the Pre-Determined Attendance to one appliance when a mobilisation is deemed appropriate, will not only enable fire cover to be maintained in the station area that the AFA has occurred, but also reduce the number or mobilisations; for example unwanted fire signals from Dwellings account for 34.7% with two appliances being mobilised. Reducing the Pre-Determined Attendance to one appliance will see an approximatelv immediate reduction of 17% (approx. 1.000 mobilisations) for this property type. Currently mobilisation of two appliances or more will utilise all resources at a one appliance wholetime station and potentially an adjacent station. If that station is a Key Station,<sup>11</sup> cover moves will be made after the first 30 minutes or if activity or other risk factors require sooner. For example, these cover moves are made immediately between 0800-0930 hours and 1630-1800 hours for rush hour in these urban areas.
- 4.1.8 It is recommended that attendance at AFA calls are made at normal road speed. Attendance on blue lights represents a level of risk to our crews and our communities, which it is felt that the Service can mitigate by this approach. The statistics in this report indicate a high likelihood of AFAs resulting in a false alarm which also supports this recommendation.
- 4.1.9 There will be circumstances where, due to the property type, road conditions, travel distance or risk assessment of the Officer in Charge en route, it is deemed necessary to proceed under blue lights.

<sup>&</sup>lt;sup>11</sup> Key Stations - Stations 21, 25, 28, 44, 46, 52

### 4.2 **Premises Type (risk categorisation)**

Recommendation 5	<ul> <li>Attendance at:</li> <li><i>Dwellings</i> (includes houses in multiple occupation, flats) <i>schools, residential care</i> and <i>other residential</i> (includes special units, sheltered housing, hotels, hostels)</li> </ul>
	<ul> <li>Non attendance at :</li> <li>Hospitals and non residential (includes offices, shops, factories, warehouses, other buildings).</li> </ul>

4.2.1 To achieve a significant reduction in the number and scale of mobilisations to unwanted fire signals arising from AFA systems, it is necessary to classify the calls received depending on the origin of the call and the type of premises involved.

#### 4.2.2 **Proposed Categorisation of premises types (or similar)** The following classification of risk types has been used to identify Recommendation 5:

- higher life risk (attended)
- life risk (lower level; managed) (not attended)
- no risk to life (not attended)

#### Issues

- 4.2.3 There are many different ways to quantify premises risk. An accurate assessment of risk is complex, with many variables impacting on the final outcome. For example, two premises, both classed as hotels, can be completely different in terms of size, clientele, staffing, management etc., resulting in different categorisation of risk.
- 4.2.4 For the purposes of AFA/unwanted fire signals reduction, the use of simple, generic premises types to indicate the appropriate FRS response is the most effective solution. This approach provides for more consistent mobilising and improved public understanding of the FRS response policy.

- 4.2.5 Factors that might indicate a higher level of risk include premises containing occupants with limited or no mobility, or severe learning difficulties. Often the risk level is high both during the day and night-time e.g. Residential Care, Special Units, etc.
- 4.2.6 Premises providing sleeping accommodation may be at higher risk overnight, due to the delay of people responding to the alarm, but during the day there will generally be a lower level of risk as people are awake and alert. It should also be considered that people may be asleep at any time of the day, due to shift work, medical reasons, self-administered drugs or alcohol. Therefore, this issue is not always clearly defined. Premises with cooking facilities will also have a raised risk level e.g. Dwellings (houses in multiple occupations, flats, sheltered housing).
- 4.2.7 Some of these premises will have staff, often 24 hours a day, who are able to monitor on site or supervise people, who may be unfamiliar with the building, in the event of a fire. Hospitals and health care premises present particular issues and might be expected to be classified as high risk. However, as there will normally be effective protective measures in place (both active and passive) including compartmentation of buildings and trained staff on duty, the risk in these premises may be considered to be reasonably low.
- 4.2.8 The remaining premises types are those where people are not expected to be at high levels of risk due to the absence of sleeping accommodation, high levels of mobility and alertness and the presence of staff on site. These premises are often workplaces, where the occupants are familiar with the building and have received appropriate training e.g. offices, shops, factories, warehouses.
- 4.2.9 Data gathered indicates that casualties are largely confined to the premises types of Dwellings and Other Residential, particularly Retirement and Residential Care premises. Over the past 10 years in Herefordshire and Worcestershire 70% of fire-related deaths have been elderly people (65 or over). The elderly also feature highly in the casualties and as one of the top three at risk groups in HWFRS's area. This would suggest that it is prudent to continue providing an emergency response to the premises types mentioned above.

### 4.3 Time of day considerations

Recommendation 6	As well as the restriction on the types of premises that the Service attends as identified within Recommendation 5 (Premises Type), the Service can add further restrictions on FRS attendance based on the time of day. It is recommended that this recommendation be considered for implementation after a 12 month review of adopted changes.
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#### Issues

- 4.3.1 As previously stated risk can vary for a number of reasons. There can be a significant and easily defined differential in risk between day time and night time.
- 4.3.2 AFA call levels also vary, with a distinct increase in activity during the day time. More than twice as many AFAs occur during the day (between 07:00 and 20:00 hours) than at night (See Fig 10 below).

#### Fig 10 False Alarm Apparatus - % split between 7am - 8pm

	07:00-19:59	20:00-06:59	Total incidents
Incidents	3846	1819	5665
% split	68%	32%	100%

4.3.3 HWFRS currently does not alter response according to time of day.

- 4.3.4 For the majority of businesses, working hours broadly mirror the day time. During the day, people are awake and alert and workplaces benefit from higher numbers of staff and occupants. This generally will allow an early investigation of the cause to be undertaken by an able occupant, and any fire to be confirmed promptly at the earliest stages of development.
- 4.3.5 Overnight, many premises will be largely unoccupied and the detection of fire is reliant on automatic detection and alarm systems. However, conversely there is no life risk at this time. With no person on site to investigate, a key holder, notified by an Alarm Receiving Centre, should be contacted. Often this takes a long time or may not occur at all.
- 4.3.6 Staff numbers tend to be lower during the night e.g. in care homes, and many premises will be completely unoccupied or rely on intermittent checks by (usually lone) security staff. If a fire has occurred, development time could be increased by the slower investigation time. Whilst there is no life risk to any occupants in many cases, a more

developed fire could pose increasing levels of dynamic risk to firefighters. This could be remedied by an early FRS emergency response, even though the responsibility rests with the premises occupier.

- 4.3.7 To reduce risk to road users and crews, the response could be made at normal road speed, with the crews also remaining available for other emergency calls. However, this slower response contradicts the intention to attend and investigate swiftly.
- 4.3.8 In some premises types, there will be people asleep overnight as a matter of routine. Some of these people may have consumed alcohol or used other self-administered substances, or may be users of prescribed sedatives, etc. Reaction times may be longer and some persons may not be able to respond as expected. Where a sleeping risk exists it is reasonable to expect an FRS response to be made. It may be argued that in certain premises, such as hotels and motels, staff are on site to investigate.
- 4.3.9 However, the same issue of slower investigation time occurs, as well as that of reliability of staff. If for any reason a staff member states to Fire Control staff they are unable to investigate, the default position should be to attend and any shortcomings in training or procedures can be addressed subsequently by Technical Fire Safety officers. It should also be noted that the specification of an AFA system is designed to wake and alert people sleeping under normal conditions at an early stage and the management of this is through the responsible person.
- 4.3.10 AFA activity demonstrates a clear pattern of relatively low activity at night. Around 07:00 hours, the number of false alarms increases, peaking at lunchtime and dinner time, before subsiding around 20:00 hours.
- 4.3.11 It is feasible that the Service could respond to AFAs at night, when the number of calls is low based upon sleeping risk. This trend is also reflected in the number of fires. Fig 29 below shows that of the 248 AFAs that became fires, only 70 occurred between 20:00 hours and 07:00 hours.

23 F	29 AFAS resulting in Frinary Files by time of Can				
		Primary			
	Time of call	Fires	% of total		
	07:00-19:59	178	72%		
	20:00-06:59	70	28%		
	Total	248	100%		

#### Fig 29 AFAs resulting in Primary Fires by time of call

4.3.12 During the day, as businesses open and people are awake and alert, the response becomes, "We will not be attending. Call 999 if a confirmed fire is found". This two-level response is being implemented by a number of FRSs, although it will require more information for the public to absorb, as well as explanation for any anomalies. Selecting the hours due to the overall trend is simpler, more manageable and easier to explain and implement, rather than adopting varying times to accommodate specific premises types.

### 4.4 Unoccupied premises

	Do not attend unoccupied premises. Key holder to
Recommendation 7	investigate and ring 999 if signs of fire discovered, unless identified as a specific risk through the Intel process.

#### Issues

- 4.4.1 Unoccupied premises should have a key holder system in place, but there is always an inherent delay incurred whilst the key holder attends the premises. This will allow unchecked fire development, where a fire has occurred. Some occupied premises may present a similar situation, where an Alarm Receiving Centre has attempted to contact the premises, but there is no response.
- 4.4.2 HWFRS currently attends all AFAs, so non-attendance at unoccupied premises would be a change to current policy.

- 4.4.3 Legally, there is no requirement for an FRS to attend unoccupied premises, where an alarm has actuated. The Fire and Rescue Services Act 2004 places a responsibility on a FRS to respond to a Fire, not a fire alarm actuation. However, the AFA activity at night, when many premises become unoccupied, is significantly lower than during the day.
- 4.4.4 The attendance of a crew early on, at large unoccupied premises without access, does not enable any form of certainty that a fire is not developing inside the building. A crew could realistically carry out a cursory check and leave only for a fire to develop, whereby some element of blame could be attributed to the FRS. The culture of key holders not attending is unlikely to be addressed if the FRS continue to attend in the manner it has been.

### 4.5 Call filtering

	Apply full filter <sup>12</sup> procedure to AFA calls from non-residential premises and hospitals. This complements Recommendation 5.
Recommendation 8	Apply light filter <sup>13</sup> procedure to AFA calls from dwellings, schools, residential care and other residential properties. This complements Recommendation 5.

#### Issues

- 4.5.1 'Call filtering' is the recognised term for Fire Control staff questioning the caller to obtain information that will inform their decision whether to mobilise or not, rather than 'call challenge', which can be interpreted as aggressive. This is the acknowledged best method to reduce unnecessary attendances.
- 4.5.2 HWFRS currently does not actively filter calls for AFAs. Within the last 12 months, following training in anticipation of a previous draft policy, some Watches in Fire Control have applied the principles of call filtering, in the form of information gathering, and successfully showed it to work. For example, no attendance was made to a hospital in an RDS station area where it was confirmed that the cause was burnt toast. However, the current process results in an emergency response still being made in the great majority of cases.

- 4.5.3 One factor to be noted is that any call filtering process to be implemented in Fire Control needs to be succinct, due to the local performance indicator that requires a mobilisation to be made within 90 seconds from the time of receipt of call (or allowances for call handling and performance measures reviewed).
- 4.5.4 The process of call filtering implemented by Fire Control staff will need to be developed with clear guidelines, so that there is a firmer line of questioning and encouragement for premises' occupants to investigate the cause of an alarm, wherever appropriate. Robust call filtering generally involves the Service not attending until the occupier can confirm that a fire is in progress or that the cause is due to a false alarm.

<sup>&</sup>lt;sup>12</sup> A full filter involves questioning the caller to establish if the cause of the AFA is known. If the answer is no, the caller is informed that no attendance will be made, the cause should be investigated and a 999 call is required if a fire is confirmed.

<sup>&</sup>lt;sup>13</sup> A light filter involves questioning the caller to establish if the cause of the AFA is known before mobilising, whilst a preliminary mobilisation is normally underway.

- 4.5.5 This may involve a reduction in the number of premises types currently exempt from call filtering so that even some high life risk premises will be prompted to confirm the circumstances surrounding the call, without causing undue delay to the call management process.
- 4.5.6 This may be achieved by filtering calls received directly in one of two ways:
  - i. Those from high life risk premises types could receive a light filter.
  - ii. Those received directly from other premises types will receive a full filter.

Table representing how potential call filter recommendations may be applied

Premise Type	<u>High Life Risk</u> Dwellings	<u>Managed Risk</u> Hospitals, hotels	<u>Low Risk</u> Retail, Education, Industrial, Offices,
Call Filter	Light Filter	Full Filter	Full Filter
HWFRS Response- 07:00 – 20:00	1 Appliance	NOAT	NOAT
HWFRS Response 20:00 – 07:00	1 Appliance	1 Appliance	1 Appliance

Note: NOAT refers to No Attendance Source: Warwickshire FRS

### 4.6 Repeat offenders

Recommendation 9No attendance to be made to repeat offende Technical Fire Safety intervention, unless con reported.
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<u>Note</u>: on the above recommendation, if there is a confirmed fire at a hospital, the PDA will be increased to 4 appliances.

#### Issues

- 4.6.1 The issue of persistent offenders is discussed in the CFOA's Protocol and in the Localism Bill, where it is linked to the possibility of charging, which is covered in the following section.
- 4.6.2 Persistent offenders are currently dealt with using a range of different measures. This is applied in a variable and inconsistent manner.

- 4.6.3 CFOA's Protocol details a process whereby a FRS will step down its response to AFAs from identified premises over a six month period. This recommendation proposes to use the stepped down response immediately in conjunction with call filtering.
- 4.6.4 Despite Retail showing as the largest non-domestic premises type at 9.7%, hospitals and medical care at 8.5% actually represent a higher proportion of persistent offenders due to the limited number of premises incurring the false alarms (see Fig 18 on page 9). Certain educational establishments (4.2%) are in a similar situation.
- 4.6.5 Technical Fire Safety officers are in contact with these larger sites, where issues are discussed and addressed. However, this is a slow process.
- 4.6.6 For example, some hospitals have 24 hour staffing, security staff, CCTV, good fire separation, as well as the most comprehensive alarm system. It is therefore reasonable to stop attending until the hospital staff have investigated the cause. A full emergency response can then be mobilised if a 999 call is received confirming there to be a fire. The PDA will be increased to 4 appliances on a confirmed fire.
- 4.6.7 There is one premises within HWFRS area where the occupier has refused to cooperate with the Service over its poor AFA performance. These premises currently receive no attendance from HWFRS.

### 4.7 Cost recovery

Recommendation 10The Authority will not adopt a 'Charging for AFA' policy. Authority will no longer attend repeat offenders' premise preference to charging. (see Recommendation 9).	
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#### Issues

4.7.1 HWFRS do not currently charge for attending AFAs.

- 4.7.2 Costs can be determined in line with the recently issued cost recovery policy for special services.
- 4.7.3 The variable cost of an AFA call incurs a direct revenue payment to RDS crews (including day crewed at night) and can be estimated as a minimum of £112,958 per annum (see Fig 28 below). This figure does not include incidents where two or more RDS appliances were mobilised, where cover moves were incurred or where incidents were over one hour in duration. Overtime payments are also not include for wholetime crews at the end of shift. It also does not include the annual retainer fee.
- 4.7.4 A large proportion of the RDS payments will be reduced by altering the PDA to one pump (and other measures in this review), as 84.1% of AFAs occur in wholetime station areas, thereby not requiring mobilisation of RDS crews.

ltem	Calculation	Calculation formula
Disturbance		
cost:	£32.04	£3.70 x 8.66
Turn in cost	£23.31	£6.66 x 3.5
Turn out cost:	£68.78	£13.33 x 5.1
Total Cost:	£124.13	
Incidents:	1,820	
2 years:	£225,916.60	
Ave. per annum	£112,958.30	

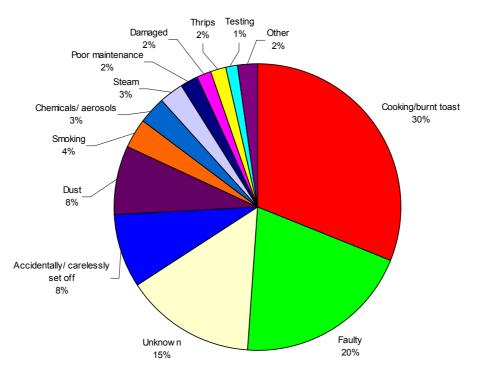
Fig 28 Unwanted Fire Signal incident costings for RDS

### 5. Media Strategy and Implementation

#### Issues

- 5.1 Prior to a revised Policy being issued, information will need to be widely publicised to ensure businesses are aware of the impact of any changes in policy.
- 5.2 The Fire Service message, "Get out, Stay out, Call the Fire Service out" may need to be reviewed to reflect the need in the case of an alarm only for buildings other than Dwellings and Other Residential premises to carry out preliminary investigations.

- 5.3 There will be a need to engage with all stakeholders to explain the impact and the implications of HWFRS policy change relating to the receipt of calls from AFAs and calls routed via ARCs in particular.
- 5.4 A separate communications strategy will need to be created and delivered to address this. Following a sufficient period of time to enable the above strategy to be delivered, the key changes can be implemented.
- 5.5 Some of the changes to the way HWFRS responds to AFAs in the future, following this review, may involve a cultural change regarding the expectations of the public. The current understanding that the Fire and Rescue Service will always arrive when the fire alarm actuates needs to be changed. The FRS culture of automatically attending all calls, and helping to resolve fire alarm system problems, will need to be addressed both internally and externally. The Service will need to remind "Responsible Persons" of their responsibility to maintain and manage their own alarm systems, allowing the FRS to concentrate on their responsibility of responding to real emergencies, not false alarms.
- 5.6 Community Fire Safety input may also be developed to address the recent increase in AFAs from Dwellings. With HFSCs in HWFRS having been delivered for the past nine years, it might be timely to urge the public to spring clean their smoke alarms, check batteries, vacuum out any dust and cobwebs and replace any alarms over ten years old. Fig 23 on page 33 shows that faults and dust accounted for 28% of the 2,042 false alarms in Dwellings.



#### Fig 23 False alarm causes for Dwelling Property Type – 2009-11

#### Outcomes

- 5.7 Information and Advice to the public and business community on the Service website needs to incorporate appropriate information on revised AFA procedures.
- 5.8 Information available to operational crews, which they may use to inform occupiers in a professional manner, needs to be prepared and made readily available (VMDS, website, intranet/SharePoint).

### 6. AFAs that became Fires involving Casualties

Casualties	Incident type at Control	Mar-09- Feb-10	Mar-10- Feb-11	Grand Total
1 casualty	Alarms – AFA and Smoke Alarm	12	14	26
2 casualties	Alarms AFA		1 x 2	1 x 2
Total casualties		12	16	28

6.1 Fig. 26 Number of incidents involving casualties dealt with by Service

- 6.2 The majority of casualties recorded for AFA incidents that became fires were predominantly in Dwellings (75%) and Other Residential (18%). The only other casualties were a tradesman working in a hospital and a factory worker receiving an electric shock from a faulty machine. 17 of the 28 casualties (61%) were over 60 years old. 8 of the 28 (29%) casualties were suspected of being under the influence of alcohol, which contributed to them suffering from smoke inhalation.
- 6.3 There is a balance between the risks faced through responding and the likelihood of a collision leading to serious injury or death of the public or workforce and the likelihood and severity of any fire that is discovered by an AFA system and responded to only when a person can confirm it is a fire. In tandem to this risk is also the possibility of essential resources being deployed at an AFA call that was a "false alarm" when the resource is needed for a response to a real fire or an RTC. A further consideration is the direct and indirect cost to the taxpayer of providing this service, as well as the impact on capacity and disruption from other essential duties (such as training, Community Safety and maintenance of equipment).

### 7. Conclusion

- 7.1 The CFOA Protocol is a long-term strategy for AFA/unwanted fire signal reduction, which will not deliver great reductions for HWFRS. Generally, the principles of CFOA's Protocol are already adopted, but HWFRS may need to go beyond CFOA's guidance to significantly reduce response to AFAs as proposed in the 2011/12 IRMP action plan Recommendation 3.
- 7.2 A number of Services around the country are currently in a similar position and implementing policies to differing extents to suit their local needs. By implementing the Recommendations for Change HWFRS will not be out of step nationally, and will be able to make rational and proportionate changes whilst still delivering reductions in AFA attendances.
- 7.3 These proposals will deliver some efficiencies, and the approximately 3,000 AFA type calls per annum should reduce. However, a residual attendance of approximately up to 50% may well remain based upon the overriding risks.
- 7.4 It cannot be ignored that no longer attending all AFAs will increase organisational risk. For example, Warwickshire FRS have reduced attendance to AFAs by 65% by no longer attending any AFAs during the day and have had complaints from Telecare Service Providers and Care Homes as a result. (This does not include AFAs from Dwellings and would proportionally equate to a 35-40% reduction in HWFRS.)
- 7.5 In order to achieve the objective in Recommendation 3 of the IRMP 2011/12 action plan and "reduce the Service's attendance" at incidents of these types, the Recommendations for Change in this review will need to be adopted, with each inherent associated risk either accepted or carried. Whilst collisions involving Fire Appliances responding to calls are thankfully not a common occurrence, the risks to both the community and the workforce cannot be overlooked and a significant reduction in the exposure to this risk by reducing the number of unnecessary journeys undertaken, can reasonably be justified, based upon the low levels of risk associated with reduced attendances at AFA type calls outlined in this review.

# 8. Glossary

AFA	Automatic Fire Alarm
ARC	Alarm Receiving Centre
BA	Breathing Apparatus
BS	British Standard
CFOA	Chief Fire Officers' Association
CFS	Community Fire Safety
FAMO	Fire Alarm Monitoring Organisation
FRS	Fire & Rescue Service
HFSC	Home Fire Safety Check
HIMO	House in Multiple Occupation
HWFRS	Hereford & Worcester Fire and Rescue Service
Incident	An individual occurrence or event at a geographical location within a station or Service area; may involve a number of mobilisations by appliances and officers from outside of the station/Service area
IRMP	Integrated Risk Management Plan
IRS	Incident Recording System
Mobilisation	A movement by a single appliance or officer to an incident; this can be by an appliance to an incident within its own station area or to another station area
PDA	Pre-Determined Attendance
RDS	Retained Duty System
RR(FS)O	Regulatory Reform (Fire Safety) Order 2005
RTC	Road Traffic Collision
TFS	Technical Fire Safety
TSP	Telecare Service Provider
UwFS	Unwanted Fire Signal
VMDS	Vehicle Mounted Data System