

Guidance for Residential/Domestic Automatic Fire Suppression Systems (AFSS)

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1 Introduction

- 1.1 The London Fire Brigade plays a key leadership role in promoting better understanding of the benefits of sprinklers as part of a core commitment to reducing the impact of fire on people, property and the environment in London.
- 1.2 Working to encourage the promotion of AFSS both within London and nationally to meet the aims and objectives contained within the LFB safety plan and AFSS position statement, LFB is committed to the aim of reducing the number of accidental fires resulting in injuries and deaths in the home.

2 Residential/Domestic Automatic Fire Suppression Systems (AFSS)

- 2.1 As part of LFB's sprinkler strategy it is recommended that an AFSS should be installed in:
 - (a) All new residential developments over 18m in height.
 - (b) Existing residential blocks over 18m in height (retrofitting) subject to a risk based approach that should include consideration of the vulnerability of occupants.
 - (c) All new residential care homes and sheltered accommodation.
 - (d) Existing residential care homes and sheltered accommodation, subject to a risk based approach that should include consideration of the vulnerability of occupants.
 - (e) All homes occupied by the most vulnerable in our communities.
- 2.2 AFSS can be divided into two categories – domestic/residential and commercial. This policy focuses on the former and aims to give an overview to those LFB personnel who work with housing providers to assist in the promotion and fitting of AFSS, particularly in the homes of those who are most at risk from fire. The main benefits of AFSS are that they:
 - (a) Help to suppress a fire at a very early stage.
 - (b) Prevent a fire spreading or developing.
 - (c) Increase the chances of survival and minimise fire and water egress.
 - (d) Reduce the risk to firefighters.
- 2.3 The installation of an AFSS should be actively encouraged where the premises are occupied by or intended for people with some or all of the following characteristics:
 - (a) Limited mobility.
 - (b) Cognitive issues such as dementia.
 - (c) Mental health issues.
 - (d) Smokers.
 - (e) Dependencies such as drug or alcohol.
 - (f) People who have had a fire or fires in their home before.

- 2.4 Those who would most benefit from the installation of an AFSS are those who would find it difficult to either alert the emergency services in the event of a fire and/or who would find it difficult to escape or even move away from the seat of the fire. There are multiple reasons as to why an individual may not be able to escape independently. This could be because they have mobility issues and are physically unable to escape; or it could be that the person could panic or become confused as to how they should vacate the premises.
- 2.5 'Think Sprinkler' AFSS Fire Suppression System Toolkit has been produced in support of LFB's AFSS Position Statement. The toolkit can be used by all departments to communicate LFB's sprinkler position and to help promote a more widespread use of sprinklers. .

Sprinkler myths

- 2.6 Domestic sprinklers have received negative publicity in the past leading to a variety of concerns regarding their installation. For example:
- 2.7 Excessive water egress is often thought to be the consequence of an actuated sprinkler head. In reality sprinklers are designed to detect a fire and then control and suppress it, thus preventing the spread of fire resulting in less water being used compared to that by attending fire crew hoses/jets, resulting in less water damage.
- 2.8 LFB recommends that AFSS should be linked to a fire alarm monitoring organisation in order to operate a remote alarm at the time of actuation, to ensure that emergency services are dispatched as early as possible.
- 2.9 Fire crews will isolate the supply of water upon the orders of the Officer In Charge once the fire is extinguished. The AFSS will reduce both the fire severity and spread of fire, raising the chance of survival for the occupant(s) and reducing risk to firefighters responding to the incident.
- 2.10 It is often thought that all the sprinkler heads in a property will activate at the same time when a fire is detected. However, AFSS are configured to activate only the sprinkler head(s) in the immediate area of the fire.
- 2.11 Another common misconception is that a smoke detector provides enough protection, therefore a sprinkler system is not needed. Whilst it is true that smoke detectors do save lives by alerting occupants to a fire, they do not control a fire. For people with an impaired ability to respond appropriately to an alarm, this means that a sprinkler system could provide vital protection whilst the fire service responds to the incident.

Highlighting the importance of AFSS

- 2.12 In the course of a home fire safety visit (HFSV), LFB provides smoke detectors where required. LFB do not have the funds available to provide AFSS in the same manner. The aim of the LFB Sprinkler Strategy is therefore to raise awareness of the benefits of AFSS to housing providers, health and social care managers, property developers and other relevant parties so that they are encouraged to fit/retrofit suitable systems in homes intended for or housing people who are at greater risk, as outlined in 2.2 above. In order to do this, several initiatives have been implemented by LFB:
- Sprinkler Strategy.
 - AFSS Part-Funding Competition.
 - Community Safety Investment Fund.
 - AFSS Research Project.
 - Sprinkler Toolkit.

3 LFB sprinkler strategy

- 3.1 Each borough commander and Regulatory Fire Safety team leader works closely with their respective local authorities and local housing providers to encourage the fitting/retrofitting of sprinklers by outlining the benefits to individuals, especially where the resident is at higher risk of fire.
- 3.2 A full time AFSS Co-Ordinator has been created with additional support available at a local level by AFSS Advocates appointed in local fire safety teams pan London. The objective of the advocates/coordinator is to promote the aims and objectives contained within the LFB safety plan and AFSS position statement.
- 3.3 LFB have completed discussions at local level, pan London and national level to educate and influence relevant organisations such as registered social landlords, local authority groups e.g. London Councils, health and social care providers and private property development companies who build specialist housing for those potentially at risk of fire.
- 3.4 LFB do not have monies available to fund AFSS installations at this time. However, money may become available through alternative funding streams, especially as the awareness around the benefits of AFSS increases. Working in partnership with other organisations is key to promoting the importance of fitting AFSS, by making them aware of the benefits, and therefore may encourage funding and/or fitting.
- 3.5 By highlighting the benefits of installing AFSS, the aim is that housing providers will acknowledge the importance of such measures, and see fit to ensure that they fit/retrofit appropriate systems to all their domestic premises.
- 3.6 If funding streams are made available, this next section aims to give guidance on how to proceed and what factors need to be considered.

4 Management of AFSS projects

- 4.1 LFB will help to facilitate partnerships and installations but will not be involved in actual contract management. It should also be noted that the depth of LFB's involvement may well vary from project to project.
- 4.2 LFB have published a Guidance Note, "GN89 Retrofitting Automatic Fire Suppression Systems in Residential Premises" to provide fire safety in respect of retrofitting AFSS in residential/domestic premises on issues that should be considered in the design and installation of the retro-fitting of a domestic/residential AFSS.
- 4.3 A number of factors that should be considered by both the partner and LFB to ensure that any issues have been addressed:
 - (a) Targeting - As funding streams are limited, the most at-risk residents should be targeted first.
 - (b) Procurement of system and its installation is the responsibility of the partner organisation at the outset all AFSS should meet three tests:
 - 1. The system should be designed in accordance with an appropriate national or international standard.
 - 2. The system components should have been tested and listed in accordance with an appropriate standard.

3. The designer and installer should be in possession of third party accreditations should be designed in accordance with an appropriate national or international standard.
 4. Managing the installation will be the responsibility of the procuring organisation. The Brigade will provide suitable technical advice, subject to available resources, but will not carry out market research on behalf of other organisations.
- (c) Cost of the installation - it is expected that the partner will meet all costs. Those installing and maintaining an AFSS will need to be appropriately qualified.
- (d) Consideration will need to be given to the water supply available; whether it is to be mains-supplied or an alternative method used.
- (e) Subject to resident consent, LFB should carry out a HFSV in premises identified for AFSS installation, with the resident present.
- (f) The partner should keep the borough commander/FSR team leader informed of installations, accidental actuations, fires and any other issues that may arise.

5 Technical guidance

Domestic/residential sprinkler systems

- 5.1 AFSS should be designed and installed in accordance with the following standards for residential/domestic premises:
- BS 9251:2014 Fire sprinkler systems for domestic and residential occupancies-Code of practice for design and installation.
 - BS EN 16925:2018 Fixed firefighting systems- Automatic residential sprinkler systems- Design, installation and maintenance
 - BS 8458:2015 Fixed fire protection systems-Residential and domestic watermist systems- Code of practice for design and installation.
 - LPS 1655:Issue 1, Requirements and Test Methods for the LPCB Approval and Listing of Personal Protection Watermist Systems

Document history

Assessments

An equality, sustainability or health, safety and welfare impact assessment and/or a risk assessment was last completed on:

EIA	17/05/06	SDIA	H - 17/11/14	HSWIA		RA	
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Audit trail

Listed below is a brief audit trail, detailing amendments made to this policy/procedure.

Page/para nos.	Brief description of change	Date
	Reviewed as current and new review date. No amendments needed.	24/08/2009
	Reviewed as current, no changes needed	30/04/2010
Throughout	Department names updated in line with the Top Management Review.	25/10/2011
Throughout	Head of Communications post has been deleted, content updated to Head of Media and Internal Communications to reflect changes.	27/02/2014
Page 20	Subject list and FOIA exemptions tables updated.	27/01/2015
Throughout	Reviewed as current with major changes throughout. Please read policy to familiarise yourself with content.	19/02/2015
Throughout	Top Management Review changes.	04/06/2015
Page 6	SDIA date added.	03/07/2015
Page 1 Page 2, para 1.1	Owner title changed and minor amendments made throughout to reflect the changes in organisational structure and governance due to the abolition of the London Fire and Emergency Planning Authority, now replaced with the London Fire Commissioner.	10/01/2019
Throughout	Reviewed throughout with amendments and updates to reflect LFB position on the installation of AFSS for domestic occupancies.	30/09/2019

Subject list

You can find this policy under the following subjects.

Community fire safety	Programs
Risk assessments	Sprinklers
Fire prevention	Fixed installations
Home fire safety	

Freedom of Information Act exemptions

This policy/procedure has been securely marked due to:

Considered by: (responsible work team)	FOIA exemption	Security marking classification