NFCC National Fire Chiefs Council

The professional voice of the UK Fire & Rescue Service

Request for mandatory installation of smoke alarms on inland-boats

Introduction

The National Fire Chiefs Council (NFCC) through its Home Safety Committee (HSC) fully supports the mandatory installation of smoke detection in boats through the Boat Safety Scheme (BSS) examination checking procedures for privately owned and managed vessels. This would support the positive move by the BSS to introduce mandatory installation of carbon monoxide alarms, which has recently been introduced. The NFCC also supports the continuation of the advice to fit a heat detector in the kitchen and/or cooking areas of vessels as guidance. The NFCC promotes the installation and maintenance of detection in all homes. This is currently supported by all UK fire and rescue services who also provide prevention advice.

There are many risks within the boat domestic environment and the leisure environment when boats are used for overnight accommodation, which can add to the potential for a fire. Many people do not appreciate the risks associated with boats and their domestic equipment and installations. Even a moderate sized boat can carry hundreds of litres of diesel, tens of kilograms of Liquefied Petroleum Gas (LPG) and 20-50 litres of petrol. These fuels are combined with readily combustible materials such as wood and fibre/glass reinforced-plastic and they are all placed in close proximity to sources of heat and ignition such as engines or appliances, 12 or 24V DC and 240V AC electrics and solid fuel stoves (Fire Kills boat safety campaign 2019).

Due to these risks, the NFCC considers boats to present a much higher risk of fire than land-based dwellings.

Fire and rescue services have supported the voluntary installation of smoke detection in boats for many years. Based on the risk, the NFCC fully supports the mandatory installation of smoke detection in inland-boats to provide an early warning to the occupier and neighbouring boat occupiers to be able to call for help or escape to a safe place.

Evidence for change

In 1988, only 8% of households in England had a working smoke alarm. Current figures show that approximately 90% of households now have a working smoke alarm[1]. This improvement has largely resulted from a significant programme of home safety visits undertaken by fire and rescue services, and from regular publicity campaigns around the simple messages of fitting smoke alarms and testing them regularly. To prevent fire injury and minimise fire damage it is crucial that any outbreak of fire in the home is quickly detected and the alarm raised at the earliest possible stage of smoke production and fire growth.
Key public fire safety messages and prevention activities such as home safety visits should be aimed at protecting all occupants of all dwellings.

[1] English Housing Survey, MHCLG. Available at: https://www.gov.uk/government/collections/english-housing-survey

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The NFCC encourages those who can (or have a legislative responsibility to do so) to provide suitable and sufficient fire detection and warning and support those who can't, due to age, ill health and/or social circumstance to get the help and assistance needed to adequately protect themselves from fire. Specialist domestic fire alarms are readily available for persons with impaired hearing to increase audibility and consideration should be given to the provision of an interlinked smoke alarm within the bedroom.
The NFCC aims to ensure that all homes within the UK are provided with a standard of fire detection and warning that is appropriate to the layout, fire risks and hazards within the home and best suited to the health and circumstances of the occupants (NFCC position statement release 2019).

Boat incident data (Home office data which includes all boats)
The average number of boat fires over the last 5 years is 157; the annual figure does not appear to be reducing.

Number of primary fires on boats by type of boat, 2013/14 to 2017/18					
Boat type	**2013/14**	**2014/15**	**2015/16**	**2016/17**	**2017/18**
Barge	32	42	43	42	33
Fishing boat	10	10	13	16	18
Houseboat (permanent dwelling)	17	14	13	12	11
Large passenger vessel	6	4	5	8	5
Motor yacht	45	27	33	33	36
Naval vessel	6	6	3	3	6
Other merchant vessel	9	3	10	9	4
Other vessel	42	37	29	43	44
Tanker	1	3	1	0	0
Total	**168**	**146**	**150**	**166**	**157**

The data below shows that the majority of fires are accidental, these fires will be preventable.

Number of primary fires on boats by motive, 2013/14 to 2017/18					
Motive	**2013/14**	**2014/15**	**2015/16**	**2016/17**	**2017/18**
Accidental	130	101	101	113	104
Deliberate - others property	21	23	20	21	24
Not known	6	13	15	15	15
Deliberate - unknown owner	10	8	13	14	14
Deliberate - own property	1	1	1	3	0
Total	168	146	150	166	157

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The below data suggests that the occupier/ owner was present at the time of the fire. This would support the need for early detection by means of a smoke alarm, so the fire does not lead to an injury or fatality.

Number of primary fires on boats by cause, 2013/14 to 2017/18						
Cause	**2013/14**	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**Total**
Heat source and combustibles brought together deliberately	32	30	34	36	36	168
Overheating, unknown cause	15	14	23	25	21	98
Combustible articles too close to heat source (or fire)	17	17	19	27	16	96
Fault in equipment or appliance	22	17	8	12	19	78
Other	16	13	15	17	10	71

The below data shows, although low, there have been cases where the fire has spread to other boats / property placing others at risk.

Number of primary fires on boats which spread to other boats/property, 2013/14 to 2017/18	
FINANCIAL YEAR	**Number of fires**
2013/14	2
2014/15	2
2015/16	0
2016/17	1
2017/18	0

Again, there does not appear to be a decrease in the number of casualties / fatalities in the boating community.

Number of victims of primary fires on boats by type of injury, 2013/14 to 2017/18					
	2013/14	**2014/15**	**2015/16**	**2016/17**	**2017/18**
Fatality	1	1	1	1	2
Hospital, severe	6	5	13	3	7
Hospital, slight	11	17	9	10	10
First aid	3	7	3	6	9
Precautionary checks	2	2	3	2	13
Total	**23**	**32**	**29**	**22**	**41**

The below table shows that all ages are vulnerable to being a casualty or fatality in a boat fire. This is not the case with inland homes.

Number of victims of primary fires on boats by age of victim, 2013/14 to 2017/18	
Age victim	Total
28 and below	14
30and over	19
40 and over	19
50 and over	30
60 and over	22

The above data has been provided by the Home office. To view specific incident feedback see BSS 2018 incident reports (Annual report of incidents and accidents recorded, **Doc K1,** BSSTC)

What would be the requirement?

The Fire Industry Association (fact file 70), states the following:

BACKGROUND
This fact file gives information for how smoke alarms should be used in boats and includes a list of smoke alarms recommended by manufacturers as being suitable for boats. This information is suitable for boats up to 24 metres used for leisure, hire or residential purposes. For other classes of craft, such as commercial or work boats, regulations requiring specified equipment may apply.

FIRE SAFETY ON BOATS
The BSS leaflet Fire Safety on Boats gives valuable advice on how to prevent fire hazards on boats. It recommends that fitting Optical sensor smoke alarms with hush buttons and 'sealed for life' batteries are best for boats. Optical, also called photoelectric alarms, are much less prone to nuisance alarms from cooking fumes and the hush button allows rapid silencing if a nuisance alarm occurs. The smoke alarms should be installed as per the manufacturer's and the BSS instruction's as far as is practical. The following is some additional advice.

HOW MANY SMOKE ALARMS SHOULD BE FITTED
The more suitable and routinely tested alarms you have installed the more confident you can be about the early detection of a developing fire and about hearing an alarm when this happens. If you have more than one alarm consider interconnecting alarms. No areas of the boat to be protected should be further than 5m from an alarm. In the case of large vessels, such as some narrow boats, the dimensions of the vessel may mean a slower reaction time for a single alarm and so you may need to install multiple units for maximum protection.

WHERE TO FIT SMOKE ALARMS
The ideal place is along the centreline of the boat in the same cabin space where a heater or cooker is in use, but not too close to any appliance. It also needs to be mounted on a well-insulated part of the ceiling avoiding cold spots. If you can, try to avoid putting it any closer than 300mm to any vertical surface. If headroom is a problem and you really have no choice, mount it on a wall between 150mm -

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300mm below the ceiling height, but not directly above a ventilator or opening window. Make sure it is easy to reach so you can test it routinely and so that you can press the hush button with ease. Always put smoke alarms where you will be able to hear them, particularly when you're asleep or when doors are closed. Try testing the alarm in place before you fix it in position.

WHERE NOT TO PUT A SMOKE ALARM

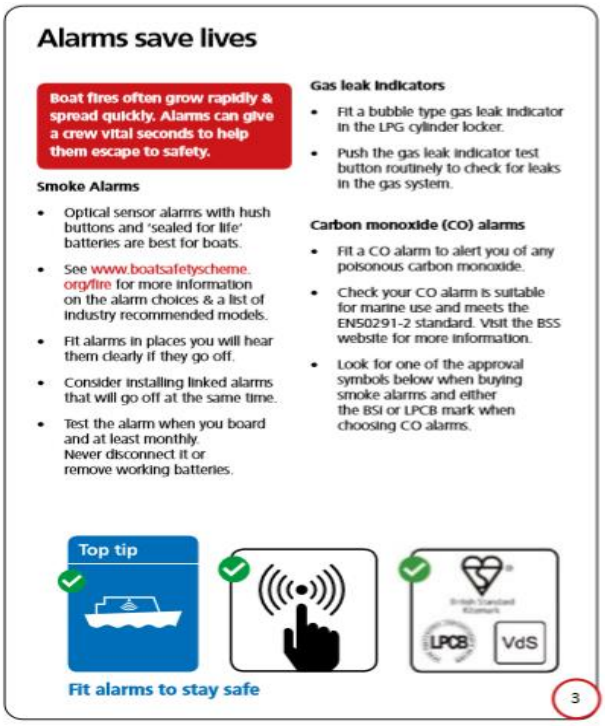
Don't fix a smoke alarm:

- in the galley or bathroom, where it could be accidentally triggered by cooking fumes or steam; or,
- where you can't hear it while you're asleep; or,
- too close to a cooker or heater where the alarm will produce false alerts; or,
- flush to the ceiling and try to avoid positioning the alarm close to any roof ventilator.

TEST SMOKE ALARMS REGULARLY

Smoke alarms should be frequently tested at least once a month, while a boat is in use and, also after periods when the boat was unused.

Fire Kills campaign



Current legislation

In 2018, changes were made to the Housing (Scotland) Act 1987 in relation to fire and smoke alarms which will apply to **all homes in Scotland**.

The main requirements are:

- At least one smoke alarm installed in the room most frequently used for general daytime living purposes,
- At least one smoke alarm in every circulation space on each storey, such as hallways and landings
- At least one heat alarm installed in every kitchen,
- All alarms should be ceiling mounted, and
- All alarms should be interlinked.

There will be a two-year period for compliance once the regulations are in force, meaning homeowners would have until early 2021 to comply.

NFCC Position statement

The NFCC supports this move to a mandatory introduction of detection. Our own position statement is in line with legislation however, it is guidance only. We feel a move to mandatory installation of smoke alarms on boats would be a positive step forward to protecting our most at risk members of our communities.
(The following position statement was released in 2019 to give advice to all owners of domestic properties):

The National Fire Chiefs Council (NFCC) is committed to creating safer, healthier and more resilient communities. In support of this strategic objective, it is considered that improving the standard of fire detection within dwellings would contribute significantly to reducing fire casualties and fatalities and also materially reduce fire losses arising from accidental fires.
In addition, it is important that public fire safety information and advice keeps pace with changing technical standards, advances in technology and also reflects the range of products being manufactured, supplied and retailed in the UK.
Fitting a smoke alarm on every floor of a home should be recognised as a minimum standard (in a circulation space such as a hall or landing).
It is recommended that, additionally, smoke alarms are fitted in every room in the house which is regularly inhabited (i.e. bedrooms, living rooms, dining rooms) based upon the fire risk to the occupants.
It is additionally recommended that a heat alarm should be fitted in the kitchen.
Where possible, these alarms should be inter-linked so that all will actuate within the property irrespective of the fire location.
All smoke alarms (including hard wired or those with removal batteries) should be replaced after ten years, or by the 'replace by' date indicated on the base or earlier if found to be defective.

Fire Industry Association (FIA) supporting statement

The FIA has worked closely with the Boat Safety Scheme (BSS) for a number of years culminating in the publication of FIA fact file 70 (smoke alarms for boats) and also advising BSS on guidance for their members in choosing, installing and maintaining smoke alarms. For domestic properties, smoke alarms are recognised to be vital life safety devices and are generally considered to be mandatory to meet the building regulations 2010. The increase in the number of citizens residing on or using inland boats as a form of accommodation would strongly support the installation of smoke alarms therein to alert of the dangers of fire at the earliest opportunity. The FIA fully endorses the work of both the NFCC and Boat Safety Scheme to strengthen recommendations to fit smoke alarms to improve fire detection and safety of residents on boats.

Previous CFOA statement2011

CFOA's positional statement in 2011 stated that "Fire and Rescue Services have worked tirelessly to reduce the number of fatalities in dwelling fires. Since 1979 these have been reduced by 59%, this means that some 500 people a year have been saved from dying in a fire. As the numbers reduce it becomes increasingly more difficult to maintain the rate of reduction. People can still die in a house with a smoke detector as they can die in a car with seat belts. Until the feat of fitting sprinklers in domestic properties in the UK is achieved, living safely is as important as driving safely. Having a smoke detector is part, not all, of the answer – don't leave fat pans or candles unattended, don't smoke in bed, etc – all part of safe living. You should also have a 'Fireplan' what to do if the alarm goes off, knowing which door or window to use could save your life.

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Home office

The Home Office recognises the important role that smoke alarms play in helping to prevent fire-related casualties and encourages their use and regular maintenance through its Fire Kills campaign. Analysis of fire incident statistics and the English Housing Survey demonstrates that you are more than seven eight times more likely to die in a fire in the home if you don't have a working smoke alarm. The campaign has been promoting the use of smoke alarms since its inception in 1988, most recently in March-April 2019, when it ran a TV, radio and online advertising campaign encouraging their use. For many years, Fire Kills has worked closely with the Boat Safety Scheme to promote Boat Fire Safety Week and to encourage those living aboard to ensure that they have working smoke alarms to ensure early detection of fire.

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