



**17 August 2007**

**Go boating – Stay safe**

**NR0607**

## **A STATEMENT RECOMMENDING SMOKE ALARMS IN BOATS**

The BSS has moved to make its strongest recommendation that boats with overnight accommodation are fitted with at least one suitable and effective smoke alarm. The hope is to persuade boaters to use smoke alarms as part of their fire action plan to aid detection and ultimately escape from fire.

Early detection of a fire can help boaters deal with a small fire before it gets out of control or give everyone aboard the chance to escape without being overcome by smoke or poisonous fumes, particularly whilst asleep and so unaware of the advancing and deadly danger.

Smoke alarm technology has advanced significantly over the past few years with more features being available in alarms, such as optical sensors, extremely long life lithium batteries and the facility to 'hush' the alarm when, for example, cooking food.

To enjoy the maximum protection an alarm can offer, there are three key points to consider, choosing the right type of alarm; fixing it in the best place; and, having a routine of pressing the test button to check the alarm's ability to work.

The alarm of choice is an optical alarm with a long-life battery, a hush button and one that meets either BS 5446:2000 Part 1, or BS EN 14606:2005, preferably also carrying a certification mark.

The recommendations have been developed with the help of one of the UK's leading bodies on fire protection issues, the Fire Protection Association (FPA). A set of guidelines is available on the BSS website and these have been drawn from the FPA report and reviewed by all the major suppliers of battery-powered smoke alarms.

The guidelines cover the alarm choices in more detail; advice on positioning the units, and, guidance on the routine care, testing and maintenance.

The headline points from these BSS smoke alarm guidelines are as follows:

- Owners of boats with overnight accommodation are advised to have at least one smoke alarm of the recommended type.
- Although any type of proprietary smoke alarm may provide a degree of protection, the recommended type is an optical or photoelectric cell alarm because this type is particularly

sensitive to dense smoke from a smouldering fire. The alternative ionisation type is best suited to flaming or fast developing fires.

- A smoke alarm with an extra-long life battery, also known as a lithium battery or 10-year sealed-in battery, is recommended. Boaters will have more confidence in the continued protection over many years, without having to remember to replace the unit's battery.
- Choosing an alarm with a hush button is recommended because this will allow the alarm to be easily temporarily silenced, for example, if activated when making toast.
- An alarm that has been independently certified that it meets either the BS 5446-1:2000 or BS EN 14604:2005 standards offers more assurance that it will work if and when it is needed to. The British Standards Institution 'Kitemark', or the mark of the Loss Prevention Certification Board (LPCB), are evidence of independent certification.
- Mounting an alarm in the right position is vital. For maximum levels of protection, it must detect a fire in its earliest stages. Generally alarms should be mounted on the deckhead or ceiling, 30cm from the cabin sides and within five metres of each protected area of the vessel. On some boats this may mean installing more than one alarm, and it is recommended to choose units that can be linked together.
- At the same time, an alarm must be able to wake anyone sleeping aboard, potentially from deepest sleep. The advice is to try out the alarm(s) in situ before fixing it in position. If the trial suggests that not everyone would be woken if fire started, a different spot should be tried, or more alarms installed – again with the recommendation about linking.
- Making alarm testing second nature is essential in order to pick up any problems with the alarm before it is put to the test for real. Boaters are strongly recommended to press the test button on each alarm as part of their boarding routine. Boaters that live or stay aboard for longer than a week are urged to get into the habit of testing alarms once a week.

The BSS recommendations form part of its partnership activities with Warwickshire Fire and Rescue Service to improve safety for boaters through advice and information. This partnership also hopes to influence many more boat builders to install the best types of smoke alarms from new. A proposed non-statutory code to be published in due course for operators of hireboats and similar vessels which will likely cover the subject of smoke alarms.

Nigel Grant, former Head of Community Fire Safety and Youth Development for Warwickshire Fire and Rescue Service, said,

*"In the future I can see that smoke alarms will become the norm on boats and I'm keen for alarms, of the best type and well placed, to be used as another vital part of a boat owner's fire action plan made with family members. But, it is crucial that boat owners understand that testing the alarm routinely by pushing the button is better than pushing their luck."*

The smoke alarm guidelines supporting this recommendation are available from the links on the home page of [www.boatsafety.com](http://www.boatsafety.com) as too is the advice on making a fire action plan.

**– END –**

## Technical advice at the BSS

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### Notes for editors

The Fire Protection Association (FPA) is the UK's national fire safety organisation. It was established in 1946 with the support from the insurance industry. Its purpose is to protect people, property and the environment by advancing fire prevention and protection techniques. It is one of 28 similar national bodies worldwide.

The FPA report '*Smoke alarms on recreational boats*' is available on the [www.boatsafetyscheme.com/downloads/Smokealarmsonrecreationalboats.pdf](http://www.boatsafetyscheme.com/downloads/Smokealarmsonrecreationalboats.pdf)

### Notes on alarms

*Optical alarms* detect smoke by light scattered from smoke particles in the atmosphere. These units are sensitive to optically dense smoke such as that formed in smouldering fires.

*Ionisation alarms* operate as a result of smoke causing a reduction in a current flowing between electrodes in an ionisation chamber. These units are sensitive to smoke containing small particles such as those produced by rapidly developing, flaming fires.

The FPA report suggests owners of boats with complex cabin structures or multiple risk environments should consider fitting more than one alarm and possibly combining optical alarms with ionisation and possibly carbon monoxide alarms. Such multiple installations should be linked if possible e.g. by wireless systems, 12v bell-wire, etc., which are relatively simple and cost effective.

Our recommendation for very long-life batteries reflects the claimed lifespan of 10 years. This life span is usually tested for land dwellings use and as the damp and aggressive atmospheres found on boats made shorten battery life.

The major suppliers of alarms in the UK have been surveyed as to their views about their own products and their effectiveness for installation. The price range of the recommended type alarms went from around £15 to £40. A wider choice may be available through online purchasing.

Since the review of the BSS requirements in 2004 smoke alarm technology has advanced significantly with features such as optical sensors, hush buttons, long-life batteries and advanced self-test programming.

### Notes on the current use of alarms:

Around 82% of households have smoke alarms in the UK

Warwickshire Fire and Rescue Service surveyed boaters through a form on its website during July-August 2006. There were 93 respondents. Over one in 4 of respondents had either no emergency action plan prepared, or if they had, it was not shared with their crew.

Under half indicated they had no smoke alarms on board. Of the owners without smoke alarms, 50% said, either they hadn't thought about them or they hadn't thought an alarm was necessary. A third had no reason why they hadn't fitted one already.

However, where alarms were fitted, nearly all were tested routinely.

### Background notes on policy:

Smoke alarms will never be a substitute for fire prevention through proper installation, maintenance and safety practices for vessels but they are a valuable aid if something does go wrong.

Previously, navigation authorities decided that it was not appropriate to require that smoke alarms be fitted nor for the published BSS advice to be changed. This was because of the lack of specific manufacturing and testing standards for smoke alarms for recreational vessels; concerns at the time about the reliability of available equipment; and, the lack of suitable installation guidance in the marine environment.

Within the 2004 BSS modernisation consultation document it was suggested that if an appropriate manufacturing and test standard was developed, then in association with competent bodies, it may be possible to develop the BSS advice on alarms.

Warwickshire Fire and Rescue Service (WFRS) studied the BSS modernisation consultation and from that contact developed a partnership between WFRS and BSS in September 2006.

In 2006, the WFRS believed the BSS might be able to change its position regarding smoke alarms. On that basis background research was undertaken to assess any changes to manufacturing standards and available equipment since the modernisation consultation.

The arguments both in favour of a changed BSS position, championed by the Association of Waterways Cruising Clubs, and against change, were considered by the BSS Advisory Committee members in February 2007. The Committee agreed that the BSS should move to recommend the use of smoke alarms on boats where manufacturers claim marine suitability and competent advice on effective location and type of smoke detector was offered.

The BSS Management Committee endorsed the BSSAC recommendation on the basis that the early detection of fires can help prevent their escalation and thus it supports the navigation objectives for the Scheme.

A proposed tri-badged [Maritime and Coastguard Agency (MCA), Association of Inland Navigation Authorities (AINA) and British Marine Federation (BMF)] non-statutory code for operators of hire boats and similar classes of vessel will be published in due course. It is likely to cover the subject of smoke alarms.

#### BSS background

The Boat Safety Scheme (BSS) is owned jointly by British Waterways and the Environment Agency. It has also been adopted by at least 12 other navigation and harbour authorities. The objectives set for the Scheme are to help address the risks of fire, explosion and pollution introduced by vessels that have been inadequately equipped or maintained and to advise and inform boat owners about pollution avoidance and how to keep themselves and their crews safe. All of these objectives relate to the use of boats, their installations and appliances.

These objectives are met through setting minimum condition requirements related to the installations on boats, supported by an examination regime. They are also met through a process of public communication both by the Scheme directly, and through partnerships with other organisations.