

New Boat Safety Scheme carbon monoxide alarm requirement
Report by Head of Safety Management

Purpose: The purpose of this report is to consult the committee on the proposal for the mandatory installation of CO alarms on boats with accommodation spaces. The Boat Safety Scheme is also seeking views on introducing checks on smoke alarms in private boats.

1 Background

- 1.1 The current Boat Safety Scheme (BSS) requirements are based on 2002 BSS standards (Non-Private), Hire Boat Requirements 2017 and the Private Boat requirements 2013 which were subsequently adopted by the Authority. All of these adopted standards were based on the Broads Authority Boat Safety Standards Byelaws 2006.
- 1.2 As the currently proposed new requirement differs materially from the standards as set out in the Broads Authority Boat Safety Standards Byelaw 2006 the Authority is required to consult prior to adopting any changes to the standards.

2 The New BSS Requirement

- 2.1 There have been a number of fatalities over the recent years from Carbon Monoxide (CO) poisoning on boats largely from large petrol engine exhausts. However in the past two years new information about CO has brought the need for action into focus. Marine Accident Investigation Branch (MAIB) tests have shown that petrol-engine exhausts cannot just fill a boat with fatal concentrations of CO in seconds, they can also emit enough toxic gas to form a potentially deadly atmosphere within adjacent boats.
- 2.2 The World Health Organisation has published guidelines for indoor exposure to CO are just less than 88 parts per million (ppm) over a 15-minute period or no more than 30 ppm in a 60-minute duration. In August the UK regulations on the safe working exposure limits have seen a significant reduction of allowable concentrations of CO in a workplace atmosphere; 20 ppm for an 8-hour period and 100 ppm in a 15-minute time weighted average short-term exposure.
- 2.3 Initial research from a group of BSS Examiners using four-gas analysers since December last year has yielded results that suggest that each year, examiners may step aboard 300 boats that have 20 ppm and 27 boats that

have 100 ppm of CO in the cabin when equipment is tested as part of the BSS Examination.

- 2.4 This would present an enhanced risk to anyone aboard or entering the boat at that time such as first responders to incidents or BSS Examiners about to start work as engine exhaust fumes have indicated that CO levels in the cabin space increased initially after engines were turned off.
- 2.5 The BSS Management Committee, with the full support of stakeholders on all three Scheme committees, are commending public support for the proposal for mandatory installation of CO alarms on boats with accommodation spaces.
- 2.6 It is proposed that the Broads Authority adopt the new BSS requirement from 1st January 2019 for suitable CO alarms in good condition to be present in all classes of boats with accommodation, Private boats, Hire boats and Non-private (workboats, floating restaurants etc.).
- 2.7 The intended benefits are set out below:
- Firstly, it is intended to help prevent CO poisoning of people and their pets aboard boats from sources of CO generated by the activity of others. e.g. the use of engines and appliances on adjacent boats.
 - Secondly, the enhanced protection will also help protect first-responders/emergency services, BSS Examiners, waterways staff or other workers on, or in the immediate vicinity of the boat.
 - The additional recognised benefits beyond the regulatory target are a) the anticipated effectiveness of CO alarms in preventing death or injury to boat owners placed at risk in their own boats from running the boat's engines or appliances and b) to make craft occupants aware of moderate levels of CO which can be a long-term threat to health if left undetected.
 - Implementing the recommendation will help prevent CO poisoning fatalities and injuries to tenants on boats who may be at higher risk from CO poisoning.
 - The overall effect, based on the previous 20-year history of 30 CO boat fatalities nationally, it could be estimated that the next 20 years could see a reduction down to one boat CO fatality every ten years.
- 2.8 Based on previous consultations submissions and numerous comments made over the past few years on social media, the BSS Office anticipates correspondents will also wish to comment on smoke alarms.
- 2.9 The arguments for third party protection provided by smoke alarms are not as strong as for the need for CO alarms. However, there is sufficient anecdotal evidence that the numbers of deaths in boat fires (12 in the past 10 years with 7 dying from smoke inhalation) could be reduced if working smoke alarms are installed on all boats with accommodation space.

- 2.10 The BSS will also be taking the opportunity to seek opinion on the concept of introducing BSS checks on smoke alarms for private boats. Suitable smoke alarms are already mandatory for boats with overnight accommodation offered for self-drive leisure hire.

3 Consultation

- 3.1 Whilst the Boat Safety Scheme has a requirement to consult those likely to be affected before implementation, the Broads Authority is also required to consult such bodies as appear to represent boating interests on its intention to impose construction standards.
- 3.2 A notice setting out the Broads Authority consultation was published in the Eastern Daily Press on the 22 August 2018 setting out the proposed changes and signposting the Boat Safety Scheme as the administrators of the consultation.
- 3.3 Letters were sent to the Royal Yachting Association, the Broads Hire Boat Federation, the Norfolk and Suffolk Boating Association and British Marine setting out the consultation and the details of how to respond.
- 3.4 All toll payers will be advised of the consultation via a special “broadsheet” due to be distributed in September 2018. Additionally the consultation has been signposted on the Broads Authority website.
- 3.5 The consultation closes on the 09 November 2018. A link to the consultation: www.boatsafetyscheme.org/alarmconsultation2018
- 3.6 The Boat Safety Management Group was consulted by email and feedback on their responses will be represented to the Committee at this meeting.

4 Next Steps

- 4.1 The responses to the national consultation will be considered by the Boat Safety Scheme internal committees and a final decision on the content and implementation of the proposed changes will be considered at the Boat Safety Scheme Management Committee in mid-December.
- 4.2 As the new requirement is relatively simple and pre consultation feedback is that the proposal is well supported by user groups it is not therefore proposed to present the national consultation responses to the Navigation Committee unless there is a substantial lack of support for the new requirement. However the Broads Authority will consider the responses to the consultation before any decision to adopt the new standard.
- 4.3 It is proposed that providing there are no material changes to the proposed requirements following the consultation that the Authority adopt the new Boat Safety Scheme requirement CO Alarms for all classes of boats with accommodation to be implemented from 1 January 2019.

Background papers:	None
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Appendices:	None