Consultation document

on the modernisation of

Boat Safety Scheme

requirements for privately owned vessels

July 2004.

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Section 1

Foreword and introduction by Ian White, Chairman of AINA[1]

1.1 This consultation paper sets out in detail the Association's proposals for modernising the Boat Safety Scheme including revised legal requirements concerning vessels that are both privately owned and privately managed. The aim of the modernisation is to provide for the efficient and effective management of those risks introduced by vessels that have been inadequately equipped or maintained and to guide vessel owners on matters of risk avoidance.

1.2 Modernisation will provide a structure for a modern, risk-based approach whereby new 'goal-setting' general requirements replace the existing detailed technical standards. It will also set out framework for balancing the responsibilities of the navigation authorities and the responsibilities of the individual boater.

1.3 Our members make safety a key aspect of their activities with the common goal to make every visit to the waterways safe and pleasant for all and so create a safer environment that attracts people to the waterways. It's clearly the case the vast majority of people involved with boating agree that safe boating for all is fundamental to a thriving and vibrant boating community.

1.4 Whilst recognising that it is not possible to eliminate all risk it is clear that navigation authorities have a duty, as far as is reasonably practical, to minimise the risks which may affect the health and safety of visitors to the inland waterways, the waterways' workforce and any others affected by their operation.

1.5 The Boat Safety Scheme is one of the means our members use to try to achieve those aims, so it must be effective and being linked to legal obligations imposed on vessel owners, it must also be reasonable.

1.6 The 2001 independent review of the BSS was clear that government advice on regulatory frameworks must be adopted, a process was begun with the aim of delivering a straightforward, simple, practical and effective approach to safety based on clearly identified risks.

1.8 This public consultation follows an extensive and detailed consideration over the past 18 months involving close collaboration with the stakeholder groups

[1] AINA [Association of Inland Navigation Authorities] provides a single voice on waterway management issues for 30 member organisations including the three large navigation authorities – British Waterways, the Environment Agency and the Broads Authority. AINA members between them own or manage some 5,000 km of waterway representing almost a complete UK coverage. Each member has its own constitution, aims and objectives and, in many cases, Acts of Parliament regulating the operation of its waterways.

represented on the BSS Technical, Advisory and Management committees, together with the BSS Office, the navigation authorities, trade associations, experts in specific subjects and outside regulatory bodies.

1.9 I would like to pay tribute to the hard work of all involved with a particular thank you going to the BSS committees. They have invested a lot of time in thoroughly checking every aspect of the BSS requirements and in careful consideration of what is needed to provide effective safety measures.

1.10 I would be grateful if now you would add your views to help shape the future of the Scheme. Your comments will help ensure that the final result will have benefited from the full representation of views from stakeholders, thereby helping us prevent fires, spread of fire, explosions and pollution on our waterways and reach out with sound and pragmatic safety advice.

We look forward to receiving your views.

Ian White
Chairman, AINA

Section 2 *Summary of proposals*

2.1 What is being consulted on?

2.1.1 The key proposals we are seeking views on are:

i. the replacement of the 91 existing legally enforceable standards listed at Annex A3 with 34 'goal-setting' general requirements listed in section 5;
ii. changing the existing ways of complying with the general requirements as set out in the BSS Guide [see section 5];
iii. the introduction of a straightforward compliance appeals process in order to safeguard the interests of vessel owners, [see section 4];
iv. the introduction of measures to assist boat owners to manage risks for which they have a self-responsibility. [see section 5];
v. for the first time introducing measures aimed at further encouraging owner and crew co-operation to protect the environment [see section 5].

2.1.1 The proposals support the modernisation of the Boat Safety Scheme requirements and processes in respect of the safety of vessels that are both privately owned and privately managed.

2.1.2 It is also an opportunity to comment on the AINA objectives and principles that are the foundations of the proposals.

2.1.4 A regulatory impact assessment of the proposals has also been carried out setting out the options considered at the time the proposals were drawn up and assessing the impact of the options in terms of the costs, benefits and risks. You are recommended to read it and invited to comment on its assumptions and findings.

2.2 Why are the changes needed?

2.2.1 The changes are needed to ensure the BSS regulations are in line with accepted risk management practices in accordance with the implementation of the recommendations of the BSS Review in 2001. The proposals provide a firm foundation resulting in a robust, sustainable and effective Boat Safety Scheme. Modernisation will help ensure:

- that only essential safety and environmental requirements are addressed by way of mandatory general requirements and that these general requirements be risk based and relevant to known risks;
- risk avoidance and general awareness information is used as an alternative to mandatory requirements where this is regarded as the most effective way of managing the risks;
- mandatory requirements are clearly explained and clearly separate from 'best practice' guidance;
- a transparent alignment with the changes to general regulation currently being brought about by both EU and UK regulators;
- recognition of additional compliance options allowing for novel solutions and technological advances by way of a straightforward appeals process.

2.3 Who will the proposals affect?

2.3.1 The consultation is directed at all those who have an interest in the safety of vessels on inland waterways. It includes in particular owners of vessels, navigation authorities, marine trade, marine insurance industry and BSS Examiners.

2.4 What will be the financial impact?

2.4.1 General - Improvements to safety associated with even more effective measures will reduce general costs associated with a reduction of numbers and or severity of incidents of fire, explosion and pollution.

2.4.2 The implementation costs for the navigation authorities will be around £95,000.

i. vessel owners – Taking the inland private leisure fleet as a whole, the financial impact concerning the BSS examination to vessel owners is likely to be cost-neutral. The proposed new means of compliance will affect a very small section of the inland fleet. These are very modest and mostly very low cost.
ii. BSS Examiners - The impact on the examiners will be minimal and will involve attendance at locally based seminars in the first quarter of 2005.
iii. marine trade - The impact on the marine trade will be minimal, no additional capital investment will be needed and the requirements will match current accepted international standards developed in support of the Recreational Craft Regulations.

2.5 How will these proposals be taken forward and when?

2.5.1 We intend to consider responses to this consultation and review them at committee and publish our response to the outcome of the consultation during late 2004.

2.5.2 During the late 2004 the proposed general BSS requirements will be subject to notification to the EU Commission.

2.5.3 It is intended to publish the general BSS requirements in early 2005, followed by implementation in April 2005.

2.5.4 The general requirements will be published on the BSS website, with links from all adopting navigation authorities and waterscape.com. The navigation authorities will also make available printed versions of the general requirements to their customers.

2.6 What is not being consulted on?

2.6.1 Requirements for classes of vessels other than those privately used or privately managed are not the subject of this consultation.

2.6.2 This consultation does not affect the owners or operators of classes of vessel such as those used for hire or reward. It is intended to consult separately concerning a proposal to apply the additional seven compliance items and four personal safety checks identified at 5.2 to such vessels.

2.7 About this consultation

2.7.1 This consultation document was published in early July 2004. All responses should be received by **5pm Thursday 30th September 2004**

2.7.2 Additional copies are available from the BSS Office. You can also download an electronic version from the BSS website at www.boatsafetyscheme.com.

2.7.3 Also available as above is a short version of this consultation document intended to help those who are interested to contribute decide whether or not they need to read the full document.

Section 3 *Background to the consultation*

3.1 History of safety standards

3.1.1 Safety specifications for inland waterways to help prevent fire and explosion date back on certain rivers to the very earliest years of the twentieth century.

3.1.2 A proliferation of standards and requirements came into effect before the point in the mid-1990s when the three main navigation authorities agreed a set of requirements, mostly construction standards.

3.1.3 In 1997 some navigation authorities introduced a requirement similar to the vehicle MOT process. It must be verified that vessels meet required standards by gaining a certificate every four years through an independent examination before they can be registered or licensed for use on inland navigations

3.1.4 Progressively towards the end of the 1990's international standards were introduced in support of the Recreational Craft Directive (RCD) and these were generally accepted as equivalent to BSS Standards.

3.1.5 In 2001 an independent review of the Scheme concluded that the navigation authorities regulatory approach should be firmly guided by the Cabinet Office's Better Regulations Task Force principles of good regulation.

3.2 The Review's conclusions

3.2.1 The panel concluded that reasonable regulation should only be applied where necessary and that change be made for a robust, sustainable and effective scheme, able to control essential elements of safety and provide good advice on best practice. The navigation authorities accepted the review panel's recommendations which concluded, amongst other things that:

- only standards relating to essential safety and environmental hazards should be mandatory;
- individual vessel owners should play a significant part in safety improvements supported by a Scheme that publicises and promotes good practice;
- BSS requirements will be expressed in as simple and clear language as practicable and will be capable of being applied consistently;
- BSS requirements will be risk based founded on known hazards;
- apart from changes in law or other safety regulations, whenever possible, there should be no retrospective introduction of higher standards;
- the Scheme should ensure that it is in harmony with the RCD;
- there should be a clear and straightforward appeals process for examinations that includes novel compliance options;
- improved reporting and gathering of incident data should inform the standards making and revising process;
- the BSS is not a standards making body and any regulation would draw upon internationally agreed construction standards and that the BSS should defer to national and international primary regulators and standards.

3.3 Impact of the Review

3.3.1 The immediate Review impact was a re-classification of 25% of the BSS Check List Items into an 'advisory' status. These related to items that could reasonably be regarded as the owner's responsibility that could harm only people onboard the vessel at the time.

3.3.2 A guide to the BSS was also published in January 2002 with the explanations for and background to the requirements as well as information about the potential hazards and risks, the examination checks and getting a vessel examined. This guide is also supported by an online version available at www.boatsafetyscheme.com.

3.3.3 Leaflets and other means of communicating the potential risks and hazards associated with vessel installations have been used to support the regulatory approach to safety.

3.3.4 To reinforce the new BSS requirements and to ensure a consistency of approach in the application of the requirements a number of enhancements to examiner training and the examination have been introduced since early 2002.

3.3.5 BSS Office became active in collecting and reviewing incident and accident data which is used to inform policy decisions especially decisions prioritising the publication of risk avoidance information.

3.4 Further development arising from the review

3.4.1 The Association of Inland Navigation Authorities (AINA) has defined its approach to setting mandatory requirements as the 'minimum necessary to help prevent explosions, fires, the spread of fires, and pollution'. AINA also decided the Scheme will used to communicate risk avoidance and safety advice relating to the personal health and safety of boaters.

3.5 Re-appraising BSS Standards

3.5.1 Pre-consultation started with the BSS Technical Committee (BSSTC) [Annex B1, committee members] in late 2002. From a purely technical perspective, each existing BSS requirement was analysed against the purpose of helping to prevent either fires, spread of fire, explosions or pollution. The BSSTC agreed a set of general requirements intended to be used by the navigation authorities as legal requirements. The committee's report also sought to withdraw the BSS from any conflict with the provision of the RCD.

3.5.2 The BSSTC's report went to the BSS Advisory Committee (BSSAC) [Annex B1] for consideration and overlaying policy and practical considerations. This process began with in May 2003 with agreement on the principles that should be applied to the proposed general requirements and associated accepted methods of compliance [see Section 4.5.1].

3.5.3 Then all elements of the existing BSS Standards [see Annex A1], the proposed new general requirements from BSSTC, any other new proposals and the range of compliance requirements listed within the existing BSS Guide were considered by the BSSAC against those principles.

3.5.4 The BSS contracted a leading UK firm of risk analysis consultants, Advantage Technical Consulting, to conduct a risk review and produce a risk model. The results have helped with the review the impact of the existing BSS requirements on incident

causes and have supported judgements made in developing the proportionate risk control measures set out within the proposals outlined in this public consultation.

3.5.5 All recommendations of BSSTC and BSSAC have been considered by the BSS Management Committee (BSSMC) and their agreed recommended proposals are presented in sections 4 and 5 for your consideration.

Section 4 *Key objectives and principles underpinning the proposals*

4.1 Key objectives and principles underpinning the proposals

4.1.1 Before going on to present the proposals in detail, the opportunity is taken to set out the framework used to develop the proposals that follow this section. The framework includes the objectives for the Boat Safety Scheme as defined by the navigation authorities and principles and process adopted that support the development work. From this structure the context of the proposals should become clear.

4.2 The key objectives of the BSS

AINA members have three objectives for the BSS in connection with the use of vessels, their fuels, installations, systems and appliances:

i. to help minimise the risks to all waterway users and those navigation authority staff/agents working on/by waterways and to help protect adjacent property;

ii. to assist owners, skippers, crews and their guests to identify and control the risks for which they have a responsibility;

iii. to help prevent pollution.

4.3 Achieving the objectives

4.3.1 The navigation authorities employ, through the BSS, three broad approaches to meet these purposes:

1. influencing behaviour - promoting risk avoidance and general awareness information, and developing effective safety partnerships e.g. encouraging the adoption of safe petrol re-fuelling practice;
2. examiner's role – at the time of the BSS examination BSS Examiners will assist vessel owners to identify hazards and manage risks e.g. identifying and advising owners about the potential for 230 volt electric shocks;
3. stipulating general requirements - relating to the safe condition and operation of a vessel and its installations and legally enforceable by the navigation authority at all times a vessel is on the waterways. Regular verification of compliance with these requirements is achieved at the time of the BSS examinations e.g. all spare petrol for portable and outboard engines must be stored in a way that the risk of fire and explosion is minimised.

4.4 Achieving the right balance between the responsibilities of the navigation authorities and the responsibilities of the individual boater

4.4.1 The process to determine when requirements should be used, or when the promotion of safe behaviour by the vessel owner is the most effective route is key to the BSS making a reasonable regulatory balance. The process uses information from the risk review and regulations from outside bodies to strike the right balance.

4.4.2 In determining the right balance, certain principles were developed and applied by members of the BSS Advisory Committee.

4.4.3 The principles applied were determined with reference to three factors namely:

- the class of vessel concerned, i.e. privately owned and privately managed or let/plying for hire or having other similar commercial interest;
- the precise nature or seriousness of the risk to be managed, and;
- the identification of potentially affected parties, i.e. people who have no control over the circumstances surrounding the hazard.

4.4.5 The principles adopted for privately owned vessels are as follows:

i. Based on their 2003 Statement of Objectives, the navigation authorities use of requirements will be kept to the means to prevent explosions, fires, the spread of fires and pollution;

ii. the chosen approach must have broad stakeholder support and must come through a fully accountable and transparent assessment process;

iii. any requirements must practical and based on known and foreseeable risks. e.g. will the requirement address the actual risk, or is it skipper or crew inter-action rather than the inherent condition of the vessel installation responsible for the hazard;

iv. the approach will be proportionate reflecting a balance of the risk and practical benefits. It is considered neither practical nor desirable for the navigation authorities to seek to remove all risk. In determining the balance between the risk and benefit of introducing requirements, the effectiveness of supporting vessel owners make their own judgements about the risks in question was taken into account.

Q1 With regard to 4.4, does the framework for achieving the right balance between the responsibilities of the navigation authorities and the responsibilities of the individual boater succeed in its intention?

4.5 The key features of requirements for privately owned vessels

4.5.1 As referred to above, the BSS Advisory Committee developed the assessment framework so that the requirements in respect of privately owned vessels will be:

1. be expressed in as simple and clear language;
2. be proportionate, including cost, to risks based on known and foreseeable hazards;
3. avoid non-retrospective application of higher safety standards except where it is not reasonable or legal so to do;
4. be supported by a transparent case made and the purpose clearly communicated;
5. be capable of being checked and applied consistently by BSS Examiners;
6. be communicable to owners, trade fitters and BSS Examiners;
7. allow for additional compliance options where practicable;
8. be in accordance with UK regulations, including those made from EU directives, and draw upon relevant internationally agreed construction and safety standards and ‘best practice’;
9. robust against external scrutiny by lead regulators;
10. capable of being enforced by the navigation authorities’ to achieve similar ends in similar circumstances.

Q2 With regard to 4.5, do you believe that the key features for BSS requirements meet the objectives for fair, straightforward, equitable and reasonable regulation?

4.6 The BSS Requirements and the new 'goal-setting' approach

4.6.1 As with much of modern health and safety law, the proposed new general BSS requirements are mostly 'goal setting', that is setting out what must be achieved but not how it must be done. In essence, depending upon how an individual navigation authority's by-laws or statutes are written, the general BSS requirements will represent the law, or the conditions on which a licence or registration may be issued or withdrawn.

4.6.2 The BSS Guide will set out accepted ways of how to achieve the goals. By following its practical advice, compliance will be certain. However, It remains open to anyone who has not followed the published means of compliance contained within the BSS Guide to prove that they have complied with the general BSS requirement in some other way.

4.6.3 If alternative means are used, they may be accepted subject to scrutiny by way of an appeal or possibly by a court in the event the navigation authority deciding to enforce the requirement.

4.6.4 It is proposed that a BSS Compliance Appeals Panel will be set up to give navigation authorities a fast-track route to an assurance that in the event of an owner appeal, what was found is technically equivalent and does not present an unacceptable risk. If it is equivalent then the means of compliance can be immediately added to the compliance options for all vessels with the same arrangement.

4.6.5 With regard to examinations, the BSS Committees noted that with this goal setting approach, it is crucial that examiners are consistent and accurate in verifying whether a requirement has been complied with, or not. Thus the improvements to quality control measures will continue.

4.6.6 The BSS Office will also support vessel owners with advice and information, both personal and general. This will help owners to ensure that their vessels are maintained in a condition that complies with the requirements at all times.

Q3 With regard to 4.6. do you believe that moving away from detailed and specific standards to 'goal-setting' requirements is a suitable approach?

4.7 Safeguards are in place to protect private vessel owners

4.7.1 A key feature of the proposals is that there are safeguards against unjust or unreasonable regulation. Greater prominence and easier access to these safeguards will be designed into new features on the BSS website and Guide. Navigation authority staff will also be encouraged to make vessel owners aware of routes for support and advice from the BSS Office.

4.7.2 The following safeguards are proposed -

<u>Appeals panels</u>

Panels comprising of a small number of independent competent representatives of boaters, marine trade and examiners will convene quickly once required. This will be

when the appellant and panel chair has been able to his or her satisfaction gather suitable evidence for the purposes of such an appeal.

1. BSS Compliance Appeal Panel - rights of appeal ensuring future national or international standards developments, technological innovation and the customer's own novel solutions are taken into account,
2. BSS Technical Equivalence Panel is already in place for cases where a CE marked boat does not meet the criteria laid down in the existing checking procedures. BSS Technical Equivalence Panel provides AINA members with a fast-track route aimed at achieving an assurance that what was found is equivalent and does not present an unacceptable risk.

Open access

3. Owners are encouraged to contact the BSS Office technical support service with queries pre or post examination. Both examiners and owners can independently of each other seek clarification on matters of consistent interpretation of general BSS requirements.
4. Stakeholders retain full access to the decision making process in the committee structures, both as individuals and through representative organisations. Full contact details for the BSS Office and committee secretariats are published as are the organisations represented on the three BSS committees (see Annex B1). This information will be kept up to date and is readily accessible on the revised BSS website.

Q4 With regard to 4.7, do you believe that in having immediate access to BSS office interpretation, independent appeals panels and access to representatives on committee structures, there are sufficient safeguards to ensure compliance is recognised or that non-compliance is accurately verified?

4.8 Conclusion

4.8.1 It is submitted that the framework outlined above constitutes a modern risk management process that will permit the Scheme to become more effective. The details of the proposals developed according to these principles are set out in the next section.

Section 5 *The changes being consulted on*

5.1 Aims

5.1.1 The aim of the BSS is to:

- minimise the risk of incidents on vessels caused by fire, spread of fire or explosion;
- assist vessel owners identify and manage the risks for which they have the responsibility;
- minimise the risk of pollution from vessels.

5.2 What is being consulted on?

5.2.1 It is proposed to achieve the aims by:

- adopting principles and processes that underpin better regulation [see Section 4];
- re-stating the current prescriptive BSS standards as more general BSS requirements that set goals to be achieved;
- introducing changes to the published means of compliance with the requirements;
- introducing seven new points of compliance found necessary to support the general requirements;
- accepting, where appropriate, the previous exemption level as meeting the proposed general requirements;
- having in place effective measures aimed at influencing vessel owner behaviour,
- introducing proposals to further enhance environmental protection.

5.2.2 For completeness, we have included information concerning the decision not to include the required fitting and maintenance of smoke/fire and carbon monoxide alarms.

5.3 The proposed general BSS requirements

5.3.1 The proposal is to replace the current total of 91 specific and detailed BSS Standards (Annex A2) with 34 BSS ‘goal-setting’ general requirements listed below. These will be a legally enforceable requisite for a boat at anytime the vessel is subject to the navigation authority’s licensing, mooring or other conditions.

<u>Permanently installed fuel systems and fixed engines</u>

1. All permanently installed fuel systems and fixed engines must be designed, installed and maintained to prevent the risks of explosion or of fire starting or spreading.
2. Fuel tank filling arrangements must prevent any overflow from entering the interior of the boat.
3. All fuel filling points must clearly identify the fuel in use.
4. Marking must be provided to identify the location of fuel system emergency shut-off devices, or their means of operation, which are not in open view.
5. All permanently installed fuel systems must be designed, installed and maintained to ensure to ensure fuel-tight integrity.

6. All permanently installed fuel tanks and fuel system connections must be accessible for inspection.

Electrical systems

7. All electrical systems must be designed, installed and maintained to minimise the risks of explosion or of fire starting and spreading.
8. All electrical systems must be capable of being safely and quickly disconnected from their power source(s) in an emergency.
9. Control and emergency devices, or their means of operation, must be marked when not in clear view or when their function is not clear.
10. All battery compartments containing unsealed or open-vented batteries must be adequately ventilated.

Electrical propulsion system

11. All electrical systems must be designed, installed and maintained to minimise the risks of explosion or of fire starting and spreading.
12. All electrical systems must be capable of being safely and quickly disconnected from their power source(s) in an emergency.
13. Control and emergency devices, or their means of operation, must be marked when not in clear view or when their function is not clear.
14. All battery compartments containing unsealed or open-vented batteries must be adequately ventilated.
15. .All motors, controller equipment and charging equipment relating to electrical propulsion must be adequately ventilated

Outboard and portable combustion engines and portable fuel systems

16. All portable and outboard engines and portable fuel systems must be designed, installed and maintained to minimise the risks of explosion or of fire starting and spreading.
17. All spare petrol must be stored to minimise the risk of fire and explosion.
18. All portable and outboard engines with integral petrol or LPG tanks, and all portable petrol tanks, must be stored to minimise the risks of fire or explosion when not in use.

Fire extinguishing and escape

18. All vessels must carry specified fire-fighting equipment.
19. All fire fighting equipment must be in good condition and kept readily accessible for safe use in an emergency.

LPG systems

20. All LPG systems must be designed, installed and maintained to minimise the risks of explosion or of fire starting and spreading.
21. All LPG containers and high-pressure components must be secured in a position where escaping gas does not enter the interior of the boat.
22. All LPG systems must be designed, installed and maintained to ensure gas-tight integrity.

23. All LPG system connections and flexible hoses must be accessible for inspection.

24. All LPG control and shut-off devices, or the means to operate them must be readily accessible.

25. LPG shut off valves, or their means of operation, must be marked when not in clear view or when their function is not clear.

26. All LPG systems must have a suitable means to test that the system is gas-tight.

Appliances and flues

27. All appliances must be designed, installed and maintained to prevent the risks of explosion or of fire starting and spreading.

28. All liquid-fuelled appliances must have an emergency shut-off valve located at a safe distance from the appliance.

29. All appliances of the following types must be fitted with a device that automatically shuts off the fuel supply if there is a flame failure:
    - catalytic appliances;
    - appliances with a pilot light;
    - appliances with a continuously burning flame.

30. All appliance flues must be designed, installed and maintained to minimise the risk of fire.

31. All fuel and power supply systems for appliances must meet the requirements of the relevant other parts of these general requirements.

Pollution prevention

33. Any leakage of fuel or oil from propulsion engine equipment must be contained and prevented from being avoidably discharged overboard.

34. Bilge pumping and toilet systems must be designed, installed and maintained to minimise the risk of avoidable pollution.

Q5 5.3.1 Do the proposed general requirements adequately represent the minimum necessary to help prevent explosion, fire, the spread of fire or pollution in respect of

ii Permanently installed fuel systems and fixed engines

iii Electrical systems

iv Electrical propulsion systems

v Outboard and portable combustion engines and portable fuel systems

vi Fire extinguishing and escape

vii LPG systems

viii Appliances and flues

ix Pollution prevention

5.4 Changes to the current published means of compliance with BSS Standards

5.4.1 The BSS Committees in the process of re-appraising the current BSS Standards agreed that some of the current BSS Standards and published means of compliance were no longer warranted to support the proposed general BSS requirements and should be removed.

5.4.2 The proposed changes are contained within Annex A1. Each of the proposed changes has been tested against the framework outlined at section 4.5 and any hazard avoidance information relevant to removed items will generally be incorporated within published BSS guidance.

Q6 5.4 We would welcome your views on the reasonableness and practicality with regard to the changes to the existing BSS Standards and the proposed means of compliance detailed in Annex A1?

5.5 The seven additional points of compliance

5.5.1 During the appraisal of the existing BSS Standards the BSS support committees identified a small number of additional points of compliance as essential in support of the proposed general BSS requirements.

5.5.2 The following seven additional *means of compliance* points are listed below -

Part 2 Fuel Systems

a) It is proposed that any unused filling points are clearly marked, or disabled. This extends the current application from in-use filling and relates to proposed general requirement 2.

Part 5 Outboard and Portable Combustion Engines & Portable Fuel Systems

b) It is proposed that all components of portable fuel systems including the tank, fuel hose and priming bulb need to be complete, as well as free of leaks, damage and deterioration. This extends the current application beyond the fuel tank alone and relates to the proposed general requirement 15.

c) It is proposed that the maximum capacity of portable outboard tanks be limited to 27 litres, being the maximum capacity easily carried and disallowing currently available nine gallon tanks built to no recognised standard. This is relates to proposed general requirement 16.

d) It is proposed that the check for petrol stowage be amended to allow 2 x10 litre suitable metal containers and/or 2 x 5 litre suitable plastic containers and/or portable outboard tanks up to a capacity of 27 litres. This is related to proposed general requirement 16 and the safe storage of fuel.

Part 6 Fire Extinguishing and Escape

e) It is proposed that portable fire extinguishers stowed out of sight for example in lockers etc., must have their location clearly marked by the labelling of lockers in which portable fire extinguishers are kept. This is to comply with general requirement 19 with regard to accessibility.

f) It is proposed that portable fire extinguishers outside of any express manufacturer's 'expiry' or 'replace by' date, will not be accepted as compliant unless they have a recent service certificate by a recognised technician. It is considered that extinguishers outside of any expiry/replace by date cannot offer sufficient assurance that they remain in good condition or will operate effectively if used. This relates to general requirement 19.

Part 9 Pollution Prevention

g) It is proposed that any toilet system or appliance capable of discharging directly overboard (‘sea-toilets’ and sewage holding tanks) must be fitted with a valve in the line. This relates to general requirement 32 with regard to inadvertently discharging sewage into the navigation.

Q7 5.5.4 Is the introduction of a new means of compliance reasonable, proportionate and practical in respect of:-

a) Permanently installed fuel systems and Fixed engines

b-d) Outboard and portable combustion engines and portable fuel systems

c) Fire extinguishing and escape

f) Pollution prevention

5.6 proposals to incorporate the current age-related exemptions, where appropriate.

5.6.1 Each of the current exemptions for older vessels was considered by overlaying the framework principles [section 4.5]. It was clear that those vessel installations meeting the existing exemption level should be accepted as meeting the proposed new general requirements.

5.6.2 While proposing to accept the exemption levels, the latest industry and other safety standards will be promoted as best practice advice wherever possible and specifically to the point of selection of new or replacement appliances.

5.6.3 This proposal to accept exemption levels did not have unanimous support at committee stage. One user group, the Association of Waterway Cruising Clubs, AWCC raised principled arguments against these proposals. No other stakeholder groups represented on the BSS support committees raised objections to the proposals on exemptions. The arguments for and against the proposals are detailed in a short paper at Annex A2.

Q8 5.6 Do you believe the proposals at 5.6.2 concerning the current age-related exemptions to be reasonable?

5.7 The four additional measures aimed at influencing vessel owner behaviour

5.7.1 It is proposed that at examination, checks on items relating to personal safety will continue. Personal safety checks involve BSS Examiners as competent professionals, carrying out checks albeit that the passing or failing the check is not linked to the issue of a BSS Certificate.

5.7.2 Checks associated with risks to personal safety and will be employed where this approach is regarded as the most effective way of managing the risk. e.g. advising on means of fire escape.

5.7.3 It is proposed to introduce four additional personal safety checks. Arising out of the re-appraisal process and out of the risk review, the additional checks below have been identified as necessary for examination.

<u>Part 3 Electrical Installations</u>

a. It is proposed a check will be made to ascertain that sockets and matching plugs are not inter-changeable between a.c. and d.c systems
b. It is proposed a check will be made to ascertain that a.c. circuits are not capable of being energised by more than one source of electrical power at a time and that

both live and neutral conductors to be broken simultaneously when changing power sources.

c. It is proposed a check will be made to ascertain that 230V shore lead appliance inlet installed on the vessel is of the male pin type.
d. It is proposed a check will be made to ascertain that a residual current device is installed in 230V systems.

5.7.4 In addition, it is proposed to change the status of one currently obligatory check. The flue spillage test to become optional [see Annex A1]. By continuing to offer the test, owners can be given relevant information on which to take a decision as to how to address this area of their responsibility.

Q9 5.7.4 We welcome your views on the proposals to remove the obligation for a flue spillage test and to continue to offer it as an option?

5.8 Proposals aimed at further enhancing environmental protection

5.8.1 It is proposed to enhance, through the BSS Examination, the existing good level of users' environmental awareness and practices by communicating targeted pollution prevention in formation during the examination.

5.8.2 Additionally it is intended that BSS publications and website should encourage access to the best practice information available.

5.8.3 In advocating this initiative, it is keenly recognised that any enhanced role for the Scheme must:

- not incur undue costs for examiners or vessel owners;
- support and not duplicate any activity undertaken by dedicated environmental bodies;
- be targeted at issues relevant to the vessel or vessel equipment, i.e. bilge contamination, sanitation arrangements or the use of domestic cleaning products on vessels.

Q10 5.8.1- 3 We would welcome your views on the proposed enhancements aimed at further protecting the environment.

5.9 Items considered, but not included in these proposals

<u>Smoke alarms</u>

5.9.1 The modernisation project allowed consideration of the potential requirement for, or enhanced personal safety advice concerning smoke/fire detector-alarms.

5.9.2 There were three fatal fires and a number of other serious fires on various types of vessel on inland waterways in 2003. If alarms were fitted on these vessels it is possible that there may have been very different outcomes.

5.9.3 At present there are no specific manufacturing and testing standards for smoke/fire detector-alarms for small recreational vessels such as those on inland waters. Available alarms are made and tested for domestic or caravan use. This fact raises question as to the suitability of domestic/caravan alarms for use in the vessel environment and therefore the Scheme believes it is not appropriate for navigation

authorities to require that smoke alarms be fitted. However the Scheme stands by its advice in its leaflet Avoiding Fire Afloat, that owners should *consider* fitting alarms indicating certification to BS5446 Pt1 and make their own decisions. This leaflet has the approval of the 'Fire kills – You can prevent it' campaign and as such, is distributed to fire and rescue services in the UK by the central government agency responsible.

5.9.4 Factors concerning the reliability of detector equipment on vessels include appropriateness of sensor type, humidity, robustness of components and circuits, fitting instructions and the propensity for false alarms. Various studies note that false alerts are the most important factor in the effective sustained use of alarms. For example, cooking in the confined cabin space could lead to repeated false alerts so that the vessel operator removes the alarm battery.

5.9.5 However if an appropriate manufacturing and test standard was developed that took these factors into account, then in association with competent bodies, it may be possible to develop advice or checks aimed at verifying that the alarm is functional. These checks are likely to be few, but may include checking for; a sound dust-free condition, an effective battery or effective hard wiring; oxidisation of battery terminals; a smoke match test; checking for an expiry date.

Q11 5.9.5 Smoke alarms have potential to alert people to small fires as well as contributing to crew safety. The alerted crew may be able to then swiftly prevent the fire spreading. If standards were developed, would it be reasonable, in view of the relative low cost of such devices, for certified alarms to become either -

a) **a BSS requirement,**
b) **subject of a personal safety check, or,**
c) **incorporated into published advice only?**

<u>Carbon monoxide alarms</u>

5.9.6 In the past ten years, there have been at least 10 recorded fatalities and 11 other casualties connected with carbon monoxide (CO) poisoning on vessels on the inland waterways. It is possible that with many of these incidents, an effective CO alarm may have made a crucial difference.

5.9.7 However, as with smoke/fire alarms, there are no appropriate manufacturing and test standards relating to the use of CO alarms on small vessels.

5.9.8 In line with HSE gas safety policy and taking account of the high level of risk the BSS remains keen to advocate prevention as paramount and regards the promotion of risk avoidance advice as the most effective way of managing the risk. Detection and alarms should be considered as the last fall-back. It is believed that any other message will lead to complacency by vessel users and a potentially dangerous reliance on fallible systems. The Scheme stands by its published advice in the Avoiding the Silent Threat leaflet. Namely it is for owners to *make their own choices* about the use of a CO detector/alarm. They are recommended to seek advice as to suitability for use in vessels from the supplier and seek an assurance that it has been manufactured to the latest standards and certified by a third party body.

5.9.10 Research in the USA on the marine use of co alarms showed users often disconnecting and removing batteries from the units due to the number of false alerts. Fatalities were noted on vessels with disconnected alarms.

5.9.11 However, if a standard was developed that cover manufacture and testing of vessel CO alarms then it may be possible to develop advice and checks similar to those above suggested for smoke alarms.

Q12 5.9.11 CO alarms have potential to alert people to potential immediate hazards of CO poisoning. We would welcome your views on whether certified CO alarms becoming

a) **subject of a personal safety check, or**
b) **incorporated into published advice only**

if and when national or international standards on certification be developed?

Section 6 *About this consultation*

6.1 Scope of consultation

6.1.1 The scope of vessels affected by this consultation are recreational vessels that are both privately owned and privately managed.

6.1.2 Requirements for other classes of vessels are not the subject of this consultation and are to be reviewed separately.

6.2 The use of partial regulatory impact assessment (RIA)

6.2.1 A regulatory impact assessment has been carried out in connection with the proposals outlined in this consultation. Its purpose is to set out the options considered at the time the proposals were drawn up and assess the impact of the options, in terms of the costs, benefits and risks [see Annex D1]. The framework for RIA's are set out by the Cabinet Office's Regulatory Impact Unit and the details can viewed at http://www.cabinet-office.gov.uk/regulation/

6.2.2 The attached partial RIA explored three options presented to the navigation authorities

1. Do nothing,

2. Partial approach – adopt new requirements without modernisation,

3. Full modernisation.

Option 3 is the recommended option as it is the only one that can provide the firm foundation the Scheme needs if it is to be robust, sustainable, efficient and effective.

Q13 6.2 Do you have any views on the costs, benefits and risks identified in the partial RIA as detailed in Annex D1?

6.3 Availability of consultation document

6.3.1 Additional copies are available from Robert McLean at the address below. You can also download an electronic version from the BSS website at www.boatsafetyscheme.com.

6.3.2 Also available as above is a short version of this consultation document intended to help those who are interested to contribute decide whether or not they need to read the full document.

6.4 Responding to the consultation

6.4.1 There are a series of questions to be found in sections 4, 5 and 6 on the principles to the proposals; the changes and the underlying assumptions; on the consultion itself, and, on the impacts of the proposed changes.

6.4.2 The questions are repeated for ease of drafting a response in Annex E. We would be grateful if you would reference each response against either the question number, the paragraph number or both. It would also be helpful to ensure each sheet carries the sender's name and details.

6.4.4 All responses should be received by 5pm **Thursday 30th September 2004**.

6.4.5 The BSS welcomes responses submitted electronically. Please send responses by email to consultation@boatsafetyscheme.com

If you are unable to respond by e-mail, please send your response to:

Robert McLean
Communications Manager
Boat Safety Scheme
Willow Grange
Church Road
WATFORD
WD17 4QA Fax: 01923 201420

6.4.6 If you respond on behalf of a representative group please indicate this on your response. If the group has not had prior dealings with the Boat Safety Scheme Office please provide brief details of membership and purpose.

6.4.7 Confidentiality – your responses may be made public by the BSS Office. If you do not want all or part of your response or your name made public please indicate this in you response.

6.5 Further information

6.5.1 Should you have any questions about how to respond to this consultation please direct them to Robert McLean as above.

6.5.2 This consultation is being carried out in accordance with the criteria published within the 2004 Cabinet Office Code of Practice on Written Consultations. The criteria are listed at Annex C. The navigation authorities' requirements on consultation have also taken account of.

6.6 Comments about the consultation process

6.6.1 If you have any complaints or comments about the consultation process please direct them to :

Eugene Baston
British Waterways
Willow Grange
Church Road
WATFORD
WD17 4QA Fax: 01923 201420

6.7 After the consultation has closed

6.7.1 Consideration will given to the responses received. Once this is done the compiled response will be posted to individual respondents and published on the www.boatsafetyscheme.com for wider access.

6.7.2 The final proposals for the general requirements and means of compliance will be published on the BSS website and in the BSS Guide in early 2005. Replacement inserts for existing copies of the Guide will be distributed to the navigation authorities to make available to their customers. Boat owners who are not customers of AINA

members will be able to order a copy of the Guide online at Waterscape.com or by contacting:

AINA
Fearns Wharf,
Neptune Street,
Leeds,
LS9 8PB

6.8 About this consultation

6.8.1 This consultation document follows the format recommended by the Cabinet Office for such proposals. The criteria applicable to all UK public consultations under the Cabinet Office Code of Practice on Consultation are set out in Annex C.

Q14 6.1-7 We welcome your views on the effectiveness of this consultation process and consultation document.

ANNEX A1

Proposed changes to the current standards and the existing ways of meeting compliance as set out in the BSS Guide

Key to terms used:

BSS Std. = the reference to the current BSS Standards as listed at Annex A3.

Ex. 11.? = the reference to the existing exemption as listed in Part 11 at Annex A3.

(adv) = indicates that this part of the current standard has been classified as 'advisory' since 2002.

PSC = 'personal safety' check. At the time of the BSS examination BSS Examiners will assist boat owners to identify hazards and manage risks e.g. identifying and advising owners about the potential for 230 volt electric shocks.

AMC = amended means of compliance. During the recent appraisal of the existing BSS Standards these additional items were identified as essential in support of the proposed general BSS requirements.

[Note that in most cases where it is proposed to remove a current BSS Standard the relevant safety message will remain within published BSS guidance as a commendation of equipment and installation practice to the latest marine industry and safety standards.]

Part 2 – Permanently Installed Fuel Systems and Fixed Engines

No.	Proposal	Reason	References
2a	It is proposed to remove the current standards for the filling pipe to be taken to deck level and for the deck filling connection to be outside the coaming.	An alternative proposed general BSS requirement ensuring spillage of fuel/vapour will not enter the interior of the boat will adequately address the hazards.	Guide paragraph ref. & BSS Std 2.1/2
2b	It is proposed to incorporate the current exemption within an accepted minimum fuel tank filler internal diameter of 31.5mm (1¼") and actively promote, within published BSS guidance, the industry accepted filler internal diameter of 38mm I/D for new craft and craft undergoing refit	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 2.2 **Ex.11.1**
2c	It is proposed to accept accessible diesel fuel tank filler hose free of damage or deterioration as compliant. It therefore need not necessarily be marked as suitable or supported by an appropriate declaration.	The additional compliance option is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.2
2d	It is proposed to remove the current standard for filling pipes to be adequately supported and accept as compliant filling pipes that are free of leaks, damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.2

2e	It is proposed to remove the current standard for filling pipe joints and connections to be readily accessible and accept as compliant joints and connections made accessible for inspection.	The amended means of compliance is considered proportionate to the risk. [Note - verification of no leaks, etc. will be required at the time of the BSS examination].	Guide paragraph ref. & BSS Std 2.2
2f	It is proposed to remove the current standard requiring deck connections to minimise the risk of cross contamination.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.3 **(adv)**
2g	It is proposed to accept fuel filling points clearly marked with the fuel used as compliant but to remove the current standard requiring water, pump-out and rinse-out deck connections to be clearly marked.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.3
2h	It is proposed to introduce a new means of compliance that any unused filling points are clearly marked or disabled.	The amended means of compliance is considered warranted in terms of known risk and is considered proportionate to that risk.	BSS Std 2.3 **AMC**
2i	It is proposed to remove the current standard for vent pipe of minimum practicable length and accept as compliant vent lines that are self-draining to the tank.	The amended means of compliance is considered proportionate to the risk, easier to understand and better accords with the relevant international standard.	Guide paragraph ref. & BSS Std 2.4
2j	It is proposed to incorporate the current exemption within an accepted minimum fuel vent internal diameter of diameter 9.5mm (3/8”) and actively promote within published BSS guidance the industry accepted internal diameter of 12mm (½ “) for new craft and craft undergoing refit.	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 2.4 **Ex.11.2**
2k	It is proposed to accept that accessible diesel fuel vent hose assessed throughout its length to be free of damage or deterioration may be accepted as compliant and therefore need not necessarily be marked as suitable or supported by an appropriate declaration.	The additional compliance option is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.4**,**
2l	It is proposed to remove the current standard requiring fuel tanks to be installed as low as practicable.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.6 **(adv)**

2m	It is proposed to remove the current standard requiring the fuel tank marked to indicate pressure test (0.25kg/cm2). and accept as compliant fuel tanks that are free of leaks, damage and deterioration.	The existing standard is no longer considered warranted in terms of known risk and the amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.6 **(adv)** **Ex. 11.3**
2n	It is proposed to remove the current standard for fuel tank joints/seams to be efficiently made to sustain a pressure test and accept as compliant fuel tanks that are free of leaks, damage and deterioration.	The amended means of compliance is considered proportionate to the risk	Guide paragraph ref. & BSS Std 2.6
2o	It is proposed to remove the current standard 2.7 requiring 1 metre distance separation between petrol tanks and an engine exhaust or heating appliance and accept as compliant petrol tanks 100mm away.	The amended means of compliance better accords with the relevant international standard.	Guide paragraph ref. & BSS Std 2.7
2p	It is proposed to remove the current standard 2.8 disallowing sight gauges and accept as compliant diesel/paraffin tank strip-type contents gauges where the gauge is : • protected against physical damage; and; • closely coupled (connected) to the tank; and; • fitted with self-closing valves at top and bottom (note that the self-closing valve at the top is not required if the gauge connection is made to the top of the tank; • complete and free of leaks and other damage.	The amended means of compliance is considered: • to be proportionate to the risk; • to allow for an additional compliance option; • to better accord with the relevant international standard.	Guide paragraph ref. & BSS Std 2.8
2q	It is proposed to accept as compliant the current exemption 11.4 for diesel fuelled vessels formerly used for the commercial carriage of freight or passengers or as a tug or as an icebreaker.	The current exemption has been found to be appropriate.	Guide paragraph ref. & BSS Std 2.8 **Ex. 11.4**
2r	It is proposed to remove the current standard requiring fitted dipsticks to be calibrated.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.8 **(adv)**

2s	It is proposed to remove the current standard for fitted dipsticks to be gas tight and accept as compliant fuel tank openings that are properly closed.	The amended means of compliance is considered to help simplify matters.	Guide paragraph ref. & BSS Std 2.8
2t	It is proposed to remove the current standard for dipsticks not to strike the bottom of tank and accept as compliant fuel tanks that are free of leaks, damage and deterioration.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.8 **(adv)**
2u	It is proposed to remove the current standard for fuel tanks to be accessible and fuel tank connections to be readily accessible and accept as compliant tanks and connections accessible for inspection that are free of leaks, damage and deterioration.	The amended means of compliance is considered proportionate to the risk. [Note - verification of no leaks, etc. will be required at the time of the BSS examination].	Guide paragraph ref. & BSS Std 2.9
2v	It is proposed to accept as compliant petrol systems having metallic components in the filling and tank systems electrically bonded to earth but to remove current standard requiring earth bonding on diesel systems.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.10
2w	It is proposed to accept as compliant a 'tools to remove' plug in any fuel tank drain facility but to remove current standard requiring a valve in addition to a drain plug. In addition compliance will depend upon this fuel tank opening being properly closed.	The amended means of compliance incorporates the exemption level and is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.11 **Ex. 11.5**
2x	It is proposed to accept as compliant fuel supply and return connections through top, or as near as practicable to top of the tank on non-gravity fed petrol systems but to remove the current standard requiring the same for diesel systems.	The amended means of compliance incorporates the exemption level and better accords with the relevant international standard and is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.12 **Ex. 11.6**
2y	It is proposed to remove the current standard for a balance pipe to be fitted with valves attached to tank and accept as compliant fuel tank connections that are be free of leaks, damage and deterioration.	The amended means of compliance incorporates the exemption level. [Note - the existing standard was open to subjective application by examiners and the cost of compliance was considered high in terms of the known risk.]	Guide paragraph ref. & BSS Std 2.13 **Ex. 11.7**

2z	It is proposed to remove the current standard requiring flexible tubing not to be installed outside of the engine compartment.	The existing standard does not accord with the relevant international standard and is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.14 **(adv)**
2aa	It is proposed to remove the current standards requiring flexible tubing to be of a minimum practicable length and having a bore greater than half its outside diameter.	The existing standards are no longer considered warranted in the light of quality improvements of fuel hose standards.	Guide paragraph ref. & BSS Std 2.14 **(adv)**
2bb	It is proposed to accept the following injector leak off arrangements as meeting the new general requirements: • those that meet all of the requirements for fuel feed and return pipes, flexible hose and connections, or; • those that utilise the direct return to tank, or; • those that return to the fuel system through a non-return valve.	The amended means of compliance accords with recognised marine engine industry recommendations is considered proportionate to the risk and allows additional compliance options.	Guide paragraph ref. & BSS Std 2.13/14
2cc	It is proposed to accept as compliant fuel filters inside an engine space that are either intrinsically fire resistant or other wise protected against the effects of fire and amend the current standard requiring filters to be only fire resistant.	The amended means of compliance better accords with the relevant international standard and is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.16
2dd	It is proposed to remove the current standard requiring fuel cocks to be fitted as near as possible to the fuel tank.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.17
2ee	It is proposed to accept the following arrangements as equivalent to the provision of a fuel system shut-off cock: • arrangements where all fuel lines, including those on the engine are above the level of the top of the tank, or; • an anti-syphon valve at the tank, or; • an electrically operated valve at the tank, activated to open only during engine starting or running. Provided this facility has a manual override facility.	The amended means of compliance better accords with the relevant international standard and is considered proportionate to the risk and allows more compliance options.	Guide paragraph ref. & BSS Stds 2.13/14/15

2ff	It is proposed to remove the current standard requiring petrol cocks on gravity fed systems to be operable from the steering position.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.17 **(adv)**
2gg	It is proposed to remove the current standard requiring a means of reversing to be operable from the steering position.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.21 **(adv)**
2hh	It is proposed to remove the current standard requiring a engine stop control to be located as near to the steering position as practicable.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.21 **(adv)**
2ii	It is proposed to remove the current standard requiring engine cylinders and exhaust systems to be effectively cooled.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.23 **(adv)**
2jj	It is proposed to remove the standard requiring exhaust pipes to be effectively lagged or shielded but to retain a 'personal safety check' during an examination in terms of addressing risk of personal injury.	The existing standard is no longer considered warranted in terms of known risk of fire, however personal injury risks remain.	Guide paragraph ref. & BSS Std 2.23 **PSC**
2kk	It is proposed to remove the current standard requiring exhaust silencers to be effective in suppressing noise.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.24 **(adv)**
2ll	It is proposed to remove the current standard requiring a current pressure-system insurance policy in respect of steam boilers.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 2.25 **(adv)**
2mm	It is proposed to accept as compliant dual-fuel fuel-injected petrol engines produced for the marine market where the manufacturer provides assurances of compliance with the LP Gas Association Code of Practice No. 18.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 2.26

Part 3 – Electrical Systems

3a	It is proposed to target those battery storage arrangements where there is a known risk of accumulation of hydrogen. The precise list of these known risk arrangements is subject to development but will likely include: ▪ banks of batteries on electrically propelled boats;	The amended means of compliance will be proportionate to the risk	Guide paragraph ref. & BSS Stds 3.1 and 4.2

3a cont/	▪ deep cycle batteries connected to bow thrusters, inverters and bow winches; ▪ 'sealed' battery boxes/compartments.		
3b	It is proposed to accept as compliant batteries that are not within 300mm directly under any un-insulated metallic pipe carrying fuel or LPG.	The amended means of compliance better accords with the relevant international standard and is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 3.1
3c	It is proposed to accept as compliant cables that are free of damage and deterioration and remove the current standards for electric cables to be of adequate current carrying capacity, grade and construction.	The existing requirement is not capable of being checked or consistently applied. The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 3.2
3d	It is proposed to accept as compliant electrical cables below bilge water level that are protected by a watertight enclosure.	The amended means of compliance accords with the relevant international standard and allows an additional compliance option.	Guide paragraph ref. & BSS Std 3.3
3e	It is proposed to remove the current standard requiring electric cables to be installed as high as possible.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 3.4 **(adv)**
3f	It is proposed to remove the current standard for electric cables to be run clear of all sources of heat, and accept as compliant cables that are free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 3.4
3g	It is proposed to remove the current standards requiring distance measurements between electric cables LPG or fuel pipes and accept as compliant cables that are not touching LPG or fuel pipes.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Stds 3.4 & 7.18
3h	It is proposed to remove the current standard requiring PVC cables to be run clear of polystyrene insulation	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 3.4 **(adv)** **Ex. 11.10**

3i	It is proposed to remove the current standard requiring connections to be specifically made with pressure crimped or soldered connections and accept as compliant main battery cables that are fitted with effective connectors (including crimped or soldered connections) which are free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 3.6
3j	It is proposed to remove the current standard requiring electrical devices fitted in petrol/LPG compartments to be ignition protected in accordance with BS EN ISO 28846. It is proposed to review the relevant risks associated with the lack of available ignition protected equipment on a routine basis.	Removal incorporates the exemption level. The existing requirement was not capable of being enforced because of the limited range of equipment made to the BS EN standard and because of the retrospective nature of the current standard.	Guide paragraph ref. & BSS Std 3.7 **Ex. 11.11**
3k	It is proposed to remove the current standard requiring electrical equipment to be two wire insulated.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 3.8 **(adv)**
3l	It is proposed to remove the current standard requiring spark ignition and generating systems and electrical equipment to be effectively suppressed against radio/TV interference.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 3.9 **(adv)**
3m	It is proposed to introduce a new 'personal safety' check during a BSS examination that sockets and plugs are not inter-changeable between a.c. and d.c systems.	The new personal safety check will assist boat owners manage the risk for which they have a self-responsibility and will address the potential fire risk.	**PSC**
3n	It is proposed to introduce a new 'personal safety' check during a BSS examination that a.c. circuits are not capable of being energised by more than one source of electrical power at a time and that both live and neutral conductors to be broken simultaneously when changing power sources.	It is likely that very few installations will have this capability however the new personal safety check will address the potential fire risk.	**PSC**
3o	It is proposed to introduce a new 'personal safety' check during a BSS examination that 230V shore lead sockets installed on the boat are of the male pin type.	The new 'personal safety' check will assist boat owners manage this significant risk.	**PSC**

3p	It is proposed to introduce a new 'personal safety' check that a residual current device (RCD) is installed in 230V systems.	The new 'personal safety' check will assist boat owners manage the risk.	**PSC**

Part 4 – Electrical Propulsion Systems

4a	It is proposed to remove the current standard requiring electric propulsion installations to comply with British Standards and IEE Regulations.	The proposed general requirements adequately address the hazards in a more clear way.	Guide paragraph ref. & BSS Std 4.1 **(adv)**
4b	It is proposed to remove the current standard requiring batteries to be stowed in accordance with IEE Regulations.	The proposed general requirements adequately address the hazards in a more clear way.	Guide paragraph ref. & BSS Std 4.2 **(adv)**
4c	It is proposed to remove the current standard requiring propulsion motor to have an effective means of reversing operable from steering position.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 4.4
4d	It is proposed to remove the current standard requiring propulsion motor master switch to be operable from steering position	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 4.5
4e	It is proposed to remove the current standard requiring charging leads have 3 core flexible cable and replace it with a requirement that cables must be free of damage and deterioration.	The amended requirement is considered proportionate to the risk. [Note – at the examination the existing requirement was not capable of being consistently applied].	Guide paragraph ref. & BSS Std 4.6
4f	It is proposed to remove the current standard requiring charging leads to be splash-proof to BS EN 60309 Part 2 but to retain a personal safety check during an examination in terms of addressing risk of personal injury.	The existing standard is no longer considered warranted in terms of known risk of fire however personal injury risks remain.	Guide paragraph ref. & BSS Std 4.6 **(adv)** **PSC**
4g	It is proposed to remove the current standard requiring charging panels to have a positive switch and warning light fitted.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 4.7 **(adv)**

Part 5 – Outboard and Portable Combustion Engines and Portable Fuel Systems

5a	It is proposed to remove the current standard requiring deck connections to minimise the risk of cross contamination	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 5.1 **(adv)**

5b	It is proposed to cover the marking of deck connections in Part 2 of the requirements.	It is considered that Part 2 is the appropriate place to cover features of the permanent fuel systems.	Guide paragraph ref. & BSS Std 5.1
5c	It is proposed to introduce a reference to Part 7 concerning fixed fuel systems as well as Part 2	The amended means of compliance takes account of LPG fuelled portable combustion engines.	Guide paragraph ref. & BSS Std 5.2
5d	It is proposed to accept as compliant all components of portable fuel systems including the tank, fuel hose and priming bulb that are complete, and free of leaks, damage and deterioration. This extends the current application beyond the fuel tank alone.	The amended means of compliance takes account of the time-limited life and the susceptibility of all component parts of a portable fuel system to damage and deterioration and is based upon known risks.	Guide paragraph ref. & BSS Std 5.2/3 **AMC**
5e	It is proposed to accept as compliant all components of portable fuel systems including the tank, fuel hose and priming bulb that are complete and free of leaks, damage and deterioration and remove the current standard requiring no unauthorised modifications. [see also 5f]	The amended means of compliance is considered proportionate to the risk. [Note – at the examination the existing requirement was not capable of being consistently applied].	Guide paragraph ref. & BSS Std 5.3
5f	It is proposed to accept as compliant only those portable outboard tanks having a maximum capacity of 27 litres - being the maximum capacity easily carried and disallowing large capacity tanks built to no recognised standard.	The amended means of compliance takes account of the significant risks associated with handling large capacities of petrol in inappropriate fuel tanks and accords with the relevant international standard	**AMC**
5g	It is proposed to remove the current standard requiring portable/close coupled fuel tanks to be clearly marked with the type of fuel used.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 5.3 **(adv)**
5h	It is proposed to accept as compliant spare petrol stored in a portable outboard tank up to a capacity of 27 litres. This in addition to spare petrol containers of 2 x10 litre suitable metal containers and/or 2 x 5 litre suitable plastic containers.	It is hoped that the allowance for spare fuel to be contained within an additional portable fuel tank will lead to less decanting of petrol which will have a significant impact on the general level of risk.	Guide paragraph ref. & BSS Std 5.4 **AMC**
5i	It is proposed to remove the current standard requiring engine exhaust noise to be effectively suppressed	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 5.7 **(adv)**

5j	It is proposed to remove the current standard requiring portable diesel generators with integral tanks to be in drained lockers and portable diesel generators/engines to be stored securely.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 5.8 **(adv)**

Part 6 – Fire Extinguishing and Escape

6a	It is proposed that portable fire extinguishers outside of any express manufacturer's 'expiry' or 'replace by' date, and not supported by a recent certificate by a recognised technician, will not be accepted as compliant.	It is considered that extinguishers outside of any expiry/replace by date will not offer sufficient assurance that they remain in good condition or will operate effectively if used.	Guide paragraph ref. & BSS Std 6.1 **AMC**
6b	It is proposed to incorporate the current exemption allowing the navigation authority's previous weight requirements for portable fire extinguisher as an accepted compliance option.	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 6.1 **Ex. 11.12**
6c	It is proposed to accept as compliant a reduction in the required total number of portable fire extinguishers by one if there is no installed open-flamed appliance or engine, and if the boat has only one cabin.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 6.1 **Ex. 11.12**
6d	It is proposed to remove the current standard requiring any portable fire extinguisher dedicated to the task, to capable of discharge into engine space without fully opening primary access.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 6.1 **(adv)**
6e	It is proposed that portable fire extinguishers stowed out of sight, for example in lockers etc., and not having their location clearly marked by the addition of a label indicating that a extinguisher is stored within, will not be accepted as compliant.	It is considered essential that extinguishers are easy to reach in case of fire. The amended means of compliance is considered proportionate to the risk and the requirement accords with the relevant international standard.	**AMC**
6f	It is proposed to remove the current standard concerning fixed extinguishing systems and requiring a remote release device to be readily accessible from outside the risk space.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 6.2

6g	It is proposed to remove the current standard requiring exposed GRP to be fire retardant in accordance with Class 2 BS 476 Part 7	The existing standard is not capable of being checked or consistently applied is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 6.4 **Ex. 11.14**
6h	It is proposed to remove the current standard requiring thermal Insulation to comply with Type A BS 3837 Part 1.	The existing standard is not capable of being checked or consistently applied and conflicts with standards supporting the Recreational Craft Directive.	Guide paragraph ref. & BSS Std 6.5 **Ex. 11.15**
6i	It is proposed to remove the current standard requiring soft furnishings /fabrics/foam material to be of a suitable fire resistant/non-toxic material and upholstery fabric test to comply with BS EN 1021 Parts 1 and 2.	The existing standard is not capable of being checked or consistently applied and conflicts with standards supporting the Recreational Craft Directive.	Guide paragraph ref. & BSS Std 6.6 **Ex. 11.16**
6j	It is proposed to remove the current standard that every accommodation area has at least two means of escape of appropriate dimensions and type but to retain a personal safety check during an examination in terms of addressing risk of personal injury.	Removal incorporates the exemption level. The 'personal safety' check will assist boat owners manage this significant personal risk for which they have a self-responsibility.	Guide paragraph ref. & BSS Std 6.7 **Ex. 11.17** **PSC**

Part 7 - LPG Systems

7a	It is proposed to incorporate within the general requirements and the published means of compliance the current standard requiring LPG installations to be installed to BS 5482-3.	The amended means of compliance will help ensure BSS requirements are clear.	Guide paragraph ref. & BSS Std 7.1
7b	It is proposed to accept as compliant side-opening cylinder locker arrangements fully in accordance with BS EN ISO 10239 subject to the effectiveness of the door seal.	The amended means of compliance accords with the relevant international standard supporting the Recreational Craft Directive.	Guide paragraph ref. & BSS Std 7.2
7c	It is proposed to remove the current standard requiring provision for ventilation in LPG cylinder lockers above the level of the cylinders.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.2 **(adv)** **Ex. 11.18**
7d	It is proposed to accept as compliant cylinder lockers not having a drain from the lowest point of the cylinder locker provided the area below the drain outlet that could potentially retain LPG is displaced by solid inert material resistant to LPG.	The amended means of compliance incorporates the exemption level and is considered proportionate to the risk	Guide paragraph ref. & BSS Std 7.2 **Ex. 11.19**

7e	It is proposed to remove the current standard requiring a cylinder locker or housing not to form an obstruction.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.3 **(adv)**
7f	It is proposed to accept as compliant cylinders and associated equipment that are free of damage and deterioration and remove the standard requiring cylinder or cylinder locker/housing to be located away from a heat source.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.3
7g	It is proposed to remove the current standard requiring LPG cylinders to be accessible and removable in an emergency.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.3
7h	It is proposed to accept as compliant cylinder lockers constructed of the same materials and of the same thickness as the surrounding hull structure or alternatively of metal at least 0.9mm thickness, or FRP of at least 5mm thickness. It is proposed to remove the current standard requiring LPG cylinder lockers to fire resistant for 30 minutes to BS 476-20.	The existing standard is not capable of being checked or consistently applied and conflicts with standards supporting the Recreational Craft Directive. The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.4
7i	It is proposed to accept as compliant cylinder locker drain pipe or hose material in good condition and having connections that are effective and free of damage and deterioration. It is intended to remove the current standard requiring LPG cylinder drain pipe and hose material and connections to be suitable for use with LPG.	The amended means of compliance is considered proportionate to the risk and accords with the relevant international standard supporting the Recreational Craft Directive.	Guide paragraph ref. & BSS Std 7.5
7j	It is proposed to accept as compliant the current exemption allowing minimum cylinder locker drain internal diameter of 12mm (½") with increased internal diameter required pro-rata up to a minimum of 19mm according to total capacity of cylinders.	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 7.5 **Ex. 11.22**
7k	It is proposed to remove the current standard requiring cylinder locker/housing openings to enable specified functions.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.6 **(adv)**
7l	It is proposed to accept as compliant the current exemption allowing a cylinder locker opening to be situated inside an accommodation space.	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 7.6 **Ex. 11.22**

7m	It is proposed to accept as compliant the exemption allowing a main shut off valve to be situated inside an accommodation space.	The exemption level has been found to be adequate.	Guide paragraph ref. & BSS Std 7.9 **Ex. 11.23**
7n	It is proposed to accept the use of cylinder valves as the main shut-off valves. It is proposed to remove the current standards requiring: • the main shut-off valve to be located as close to the cylinders as possible, • the LPG cylinder or regulator valve not to be used as main shut-off valve if there is an automatic changeover device, and if fitted, • the main shut-off valve to be located as close to the automatic changeover device as practicable	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.9
7o	It is proposed to remove the current standard requiring the marking of additional system main shut-off valves.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.9
7p	It is proposed to accept as compliant LPG pipework in good and sound condition and free of damage. It is proposed to remove the current standard requiring inlet gas connections to be securely fixed and, if below decks or in cockpits, to be situated in a cylinder locker or housing.	The amended means of compliance is considered proportionate to the risk and will help ensure clarity.	Guide paragraph ref. & BSS Std 7.11
7q	It is proposed to remove the current standard requiring flexible hose connectors to be used only on gimballed cooking appliance or on appliances requiring movement for hygienic purposes and to accept as compliant hose in good condition and free of damage and deterioration.	The amended means of compliance accords with the relevant international standard supporting the Recreational Craft Directive and is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.12 **(adv)**
7r	It is proposed to accept as compliant 'all-hose' arrangements installed fully in accordance with BS EN ISO 10239, that is, having the following features: • flexible hose must connect appliances in a single length directly to the regulator or to a low-pressure manifold;	The amended means of compliance accords with the relevant international standard supporting the Recreational Craft Directive.	Guide paragraph ref. & BSS Stds 7.12/13

7r cont/	• hose must not run through engine spaces; • connections must be made with threaded ends; • hose must be supported at least at 1m intervals; • all flexible hose must be made available for inspection over its full length during the BSS Examination.		
7s	It is proposed to remove the current standard for flexible hose to be 'readily accessible' and accept as compliant hose accessible for inspection in good condition and free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk. [Note - verification of no damage, etc. will be required at the time of the BSS examination].	Guide paragraph ref. & BSS Std 7.13
7t	It is proposed to remove the current standard requiring LPG flexible hose not to be installed under stress or with tight radius turns or to be used where the temperature could exceed 50°C, and accept as compliant hose in good condition and free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk. [Note - verification of no damage, etc. will be required at the time of the BSS examination].	Guide paragraph ref. & BSS Std 7.13
7u	It is proposed to remove the current standards requiring installation pipework to be accessible, as short as practicable and as high as practicable.	The existing standards are no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.16 **(adv)**
7v	It is proposed to remove the current standard requiring installation pipework to be situated above bilge water level and not to be in contact with material that could cause corrosion, and accept as compliant pipework in good condition and free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.17
7w	It is proposed to remove the current standard requiring installation pipework not to pass through ventilation, air conditioning, electricity or telecommunications ducts, or to be exposed to leakage from water services, and accept as compliant pipework in good condition and free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.18 **(adv)**
7x	It is proposed to remove the current standard requiring installation pipework to be separated by at least 30mm from electric cables or in a conduit.	It is considered that Part 3 is the appropriate place to cover separation of cables from LPG pipework.	Guide paragraph ref. & BSS Std 7.18

7y	It is proposed to remove the current standard requiring LPG joints to be 'readily accessible' and accept as compliant an assessment of joints made accessible for inspection.	The amended means of compliance is considered proportionate to the risk. [Note - verification of joints will be required at the time of the BSS examination].	Guide paragraph ref. & BSS Std 7.19
7z	It is proposed to remove the current standard requiring LPG joints to be made where stress is minimised, and accept as compliant joints in good condition and free of damage and deterioration.	The amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 7.19
7aa	It is proposed to incorporate the current exemption and only require appliances connected by a flexible hose to be provided with an appliance isolation valve.	The exemption level has been found to be adequate and is considered proportionate to the risk	Guide paragraph ref. & BSS Std 7.20 **Ex. 11.24**
7bb	It is proposed to remove the current standards requiring: • appliance isolation valves to be immediately adjacent to appliance and that the appliance served is indicated, • that valves that operate by rotation are closed by clockwise rotation, • that valve open and closed positions are clearly marked on or adjacent to the valve.	The existing standards are no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 7.21 **(adv)**

Part 8 – Appliances and Flues

8a	It is proposed to remove the current standard requiring the selection of a room-sealed LPG appliance upon adding or replacing an LPG appliance, (other than a cooker).	Removal of the standard incorporates the exemption level providing for an assessment of the appliances presented. It is considered that selection of appliances should be addressed by way of guidance to boat owners.	Guide paragraph ref. & BSS Std 8.2 **Ex. 11.25**
8b	It is proposed to remove the current standard requiring modifications or additions to comply with appliance manufacturer's recommendations, and accept as compliant appliances, or adjacent surfaces, showing no signs of scorching, blistering or discolouration, soot/smoke deposits and fuel leaks.	The existing standard was not capable of being checked or consistently applied and the amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 8.2

8c	It is proposed to remove the current standard requiring flues and draught diverters to be of an approved type and properly fitted and retain a personal safety check for obvious signs of flue spillage within the boat to replace.	The personal safety check will assist boat owners manage the risk for which they have a self-responsibility.	Guide paragraph ref. & BSS Std 8.2 **(adv)** **PSC**
8d	It is proposed to remove the current standard requiring flues to be of suitable materials & flues to be effectively insulated, and accept as compliant flues showing no signs of scorching, blistering or discolouration, soot/smoke deposits.	The existing standard was not capable of being checked or consistently applied and the amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 8.2
8e	It is proposed to remove the current standard requiring flues to ensure the safe transfer of gases to outside of boat, and retain a personal safety check and to offer to undertake a flue spillage test to owners of boats with instantaneous water heaters.	The personal safety check will assist boat owners manage the risk for which they have a self-responsibility.	Guide paragraph ref. & BSS Std 8.2 **(adv)** **PSC**
8f	It is proposed to remove the current standard requiring a flue/draught diverter to be fitted to fuel burning appliance which requires one and retain a personal safety check for obvious indications that the appliance should be fitted with a flue.	The personal safety check will assist boat owners manage the risk for which they have a self-responsibility.	Guide paragraph ref. & BSS Std 8.2 **(adv)** **PSC**
8g	It is proposed to remove the current standard requiring test fittings on appliances.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 8.2 **(adv)** **Ex. 11.26**
8h	It is proposed to remove the current standards requiring appliances and flues to be properly installed, and accept as compliant appliances or flues or adjacent surfaces, showing no signs of scorching, blistering or discolouration, soot/smoke deposits and fuel leaks.	The existing standard was not capable of being checked or consistently applied and the amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 8.3 & 8.8 **Ex. 11.27**
8i	It is proposed to remove the current standard requiring appliance connections to avoid undue stress on pipework & fittings and accept as compliant pipework that is in good condition and free of damage and deterioration.	It is considered that other Parts are more relevant to address condition of supply pipework.	Guide paragraph ref. & BSS Std 8.3
8j	It is proposed to remove the current standard requiring gimballed cooking appliances secure at all angles of heel.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 8.4 **(adv)**

8k	It is proposed to remove the current standard requiring combustible materials in the vicinity of cooking appliances to be protected and a specified distance from cooking appliances and accept as compliant appliances or adjacent surfaces showing no signs of scorching, blistering or discolouration, soot/smoke deposits.	The existing standard was not capable of being checked or consistently applied and the amended means of compliance is considered proportionate to the risk.	Guide paragraph ref. & BSS Std 8.3 **Ex. 11.28**
8l	It is proposed to remove the current standard requiring all appliance burners to be fitted with a flame supervision device and accept as compliant the exemption level requiring only catalytic appliances, appliances with a pilot light and appliances with a continuously burning flame to have flame supervision devices.	The exemption level has been found to be adequate and is considered proportionate to the risk	Guide paragraph ref. & BSS Std 8.5 **Ex. 11.29**
8m	It is proposed to remove the current standard requiring the water inlet to instantaneous water heaters to be piped directly from cold water supply.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 8.6 **(adv)**
8n	It is proposed to remove the current standard requiring a fuel oil appliance shut-off valve/cock to be within same compartment as the appliance.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 8.7 **(adv)**
8o	It is proposed to remove the current standard requiring flue terminal/air inlet positioned at least 500mm from specified locations.	The existing standard is no longer considered warranted in terms of known risk.	Guide paragraph ref. & BSS Std 8.8 **(adv)**
8p	It is proposed to remove the current standard requiring flue terminals to be outside the boat away from area that could be enclosed by canopies and in a position that minimises risk of damage. It is proposed to retain a personal safety check for obvious indications that enclosure or damage.	The personal safety check will assist boat owners by an examiner providing relevant information upon which owners can base a decision as to how to act in respect of this area of their responsibility.	Guide paragraph ref. & BSS Std 8.8 **(adv)** **PSC**
8q	It is proposed to remove the current standard requiring fixed ventilation that is in accordance with BS 5482-3. It is proposed to retain a personal safety check during the examination that fixed ventilation is in accordance with BS 5482-3.	The retained personal safety check will assist boat owners manage the risk for which they have a self-responsibility.	Guide paragraph ref. & BSS Std 8.9 **(adv)** **PSC**

Part 9 – Pollution Prevention

9a	It is proposed to remove the current standard to comply with BS MA 10.	The existing standard was not capable of being checked or consistently applied and is no longer considered to be proportionate to the risk.	Guide paragraph ref. & BSS Std 9.1 **(adv)**
9b	It is proposed that in order to be accepted as compliant any toilet appliance or system capable of discharging directly overboard ('sea-toilets') must be fitted with a valve in the line. It is proposed to remove the current standard requiring sanitation system to be capable of being sealed or rendered inoperable.	The amended means of compliance is considered proportionate to the risk. [Note – checking of the existing requirement was not capable of being consistently applied].	Guide paragraph ref. & BSS Std 9.1 **(adv)** **AMC**
9c	It is proposed to remove the current standard requiring the sides of oil tight trays to be as high as practicable and accept as compliant arrangements showing no signs of oil outside of the tray or oil tight area.	The amended means of compliance is considered proportionate to the risk. [Note – this items is considered to be best placed within Part 9]	Guide paragraph ref. & BSS Std 2.22
9c	It is proposed to accept as compliant fixed bilge pumps fitted within oil tight areas provided: • a bilge water filter capable of a 5ppm discharge level is installed in the outlet, or; • the bilge pump discharges to a holding tank and there is a valve on any overboard discharge line.	The amended means of compliance is considered proportionate to the risk and introduces an additional compliance option.	Guide paragraph ref. & BSS Std 2.22

Scope Issues

S1	It is proposed to clarify the scope to include electric outboard motors with the current allowance at 1.2, repeated here: 'A Boat Safety Certificate is not required in respect of any privately owned open vessel (i.e. a vessel in which all the accommodation is completely open to the elements) not carrying or fitted with domestic cooking, heating, refrigerating or lighting appliances and propelled solely by an outboard engine installation provided that the installation complies with the requirements of Parts 3 and 4 in respect of electrical installations and Part 5 in respect of internal combustion engines.'	Appendix b, Para 1.2

Annex A2 *Proposals on age-related exemptions*

A2.1 What are exemptions?

A2.1.1 Exemptions have been a feature of the BSS standards since 1993. The BSS exemptions are divided into two types:

Age-related exemptions - allow for the introduction of new higher standards without affecting existing craft in cases where retrospective application is considered unwarranted;

Class exemptions – take account of specific classes of vessel, for example historic former commercial vessels, and exclude them from specific requirements where the risk is sufficiently small that the navigation authorities have accepted that owners of such class vessels need not act to address it.

A2.1.2 The current exemptions are listed at Annex A2.There are at present twenty-seven exemptions in place:

- twenty-six of the current exemptions are age-related and one is a class exemption;
- ten of the current age-related exemptions concern additional and detailed technical BSS standards introduced in 2000 concerning LPG systems;
- nine of the current age-related exemptions concern checks that were classified as not-mandatory in 2001;
- one of the current age-related exemptions is relevant exclusively to hire boats under Part 10 of the BSS requirements, and therefore not considered within these proposals.

A2.3 The BSS standards appraisal

A2.3.1 In conducting the BSS standards appraisal the BSS Office and the BSS support committees considered each of the current exemptions overlaying the criteria outlined at Section 4.5. The level of safety was generally found to be acceptable and where supported by the risk review, the approach adopted has been to largely accept the exemption level as meeting the proposed more general BSS requirements.

A2.3.2 However, one of the main user organisations, AWCC, has strongly argued the case that the age-related exemptions should be retained and that the principle should not be abandoned concerning the development of potential future new BSS requirements.

A2.3.4 Whilst the principle of having in place exemptions is accepted, the case for and against incorporating the current list of exemptions is outlined on the table overleaf.

A2.4 What is proposed

i. It is proposed to accept the requirements of the current list of exemptions as meeting the proposed more general BSS requirements on the case by case basis detailed at Annex A1.

ii. It is proposed to commend equipment to the latest marine industry, safety standards within published BSS guidance in respect of new boats, boats undergoing refit, or when equipment is added or renewed.

iii. It is proposed that exemptions specific to a known class of boat will remain in place as ‘class exceptions’ e.g. icebreaker tugs with sight glass fuel gauges, as the risk is accepted being very limited in continuing the exception.

iv. It is proposed that in reviewing the need for new requirements an assessment will be made as to whether or not an age-related or class exemption is appropriate.

A2.5 Table - Arguments raised in reviewing the list of current age–related exemptions

Ref	Argument for incorporating the exemptions	Counter Argument
A2.5.1	The principle of retaining in place the current age-related exemptions is at odds with the adoption of more general 'goal-based' BSS requirements. The issue is that an arrangement permitted within an exemption either satisfies the more general requirement or it does not, if it does then the arrangement should be accepted as one of the compliance options for all craft. The risk model revealed that the exemption level of safety was generally found to be acceptable. (BSS)	BSS mandatory requirements should be used as a tool to drive safety forward. (AWCC)
A2.5.2	Whilst recognising the laudable sentiments, the navigation authorities are not tasked with or responsible for driving safety forward they are responsible to ensure that reasonable measures are in place to protect visitors from harm. However it is recognised that there may be circumstances in which future exemptions will be appropriate. (BSS)	- ditto -
A2.5.3	Except where there is a necessary prescription relating to individual components, the responsibility to ensure the selection, supply and installation of appropriate equipment rests with owners, legislators and equipment suppliers and fitters and not the navigation authorities. The role of the BSS should be to commend equipment to the latest marine industry and safety standards within published guidance (BSS)	A major aim of the BSS should be to reflect best practice in important areas for new craft, in line with accepted International standards and the Recreational Craft Directive. (AWCC)
A2.5.4	This Directive allows boat builder's choice in how they meet compliance with the Directive's essential requirements and the preferred choice is to apply International standards because these offer the builder a presumption of conformity. It is accepted that International standards take precedence over BSS standards which now adopt a subsidiary role whilst continuing to help discharge the duties placed upon the navigation authorities.	- ditto -

A2.5.5	In the light of the re-stated navigation authority objectives the scenario of two identical boats side by side in a marina being treated differently purely on the basis of the age of the boat or appliance is considered inequitable.	The MOT test applies different standards for vehicles of different ages. This approach is well accepted and could be paralleled in the BSS requirements, with a similar level of acceptance. [AWCC]
A2.5.6	In most circumstances a BSS Examiner will be unable to determine the date of the installation of an appliance or system and as such age-related requirements will largely be unenforceable. It could also encourage those owners inclined to evade the requirement to buy a second hand appliance or to keep their existing appliance beyond its serviceable life, thus introducing associated potential hazards.	- ditto -
A2.5.7	Risk model did not show up a case for retention of the current age –related exemptions and government advice on better regulation is that exemptions '…must not be used as a "get-out" option for poorly designed regulations.'	- ditto -
A2.5.8	The case is made in respect of those existing age-related exemptions reviewed as part of the BSS standards appraisal. The case for the introduction of any future requirements would have to stand up against the presumption of no retrospection and pass all of the practicability criteria listed at Section 4.5 It is accepted that there may be circumstances in which it would be appropriate for a future requirement to include an age-related exemption. For example where UK legal provision had been transposed into BSS requirement and the legal requirement itself incorporated an exemption. It is proposed that in reviewing the need for new requirements an assessment will be made as to whether or not an age-related exemption is appropriate. Note that the proposals allow for the use 'class exceptions' into the future.	The removal of exemptions would make any future changes to the standards impossible *without* retrospection. This would mean either that standards would ossify at their present status, or that future changes would apply to older and newer craft alike. This could involve owners of older boats in expensive modifications, or, indeed, retrospective changes may be impractical.

ANNEX A3 *Existing BSS standards*

Part 2 – inboard engines

2.1
Filling pipes shall be taken to deck level or so arranged as to ensure that any fuel overflowing will not be discharged into any part of the vessel including the bilges.

2.2
The filling pipe shall have an internal diameter of at least 38mm (11/2ins), and any flexible hose shall be of non-kinking material suitable for the fuel used, and must be connected with leakproof joints between the top of the tank and a screwcap or plate forming the filling connection. Deck filling connections shall be outside the coaming. All flexible hoses shall be adequately supported and of minimum practicable length, with all joints or connections readily accessible. **[see Exemption 11.1]**

2.3
All deck and fuel filling connections shall be situated so as to minimise the risk of cross-contamination and shall be clearly marked on the deck fittings or immediately beside then indicating the purpose of each connection and, in the case of fuel connections, the exact type of fuel.

2.4
A vent pipe of minimum practicable length with an internal diameter of not less than 12mm (1/2ins) shall be fitted at the highest point of every fuel tank and connected with leakproof joints. The material used shall be non-kinking and suitable for use with the fuel concerned. **[see Exemption 11.2]**

2.5
A vent pipe shall extend to a height equal to or greater than that of the deck filling connection and the open end of a vent pipe shall be fitted in a position where no danger will be incurred from escaping fuel or vapour. Each opening shall be furnished with an effective wire gauze diaphragm flame arrester of non-corrosive material. The flame arrester shall be fitted with gauze of mesh not less than 11 to the linear centimetre (28 to the linear ins.) and the total area of the clear openings of the gauze shall not be less than the cross-sectional area of the air pipe.

2.6
Fuel tanks shall be properly secured and be installed as low as practicable and shall be constructed of a suitable non-corrosive material. Materials used in the construction of fuel tanks shall have a fire resistance of 30 minutes in accordance with BS 476: Part 20. Tanks shall have sustained a pressure test of 0.25kgf/cm2 (3.5lbf/in2) before installation and be marked to indicate this. All joints and seams of tanks shall be efficiently welded, brazed or close riveted to sustain a pressure test of 0.25kgf/cm2 (3.5lbf/in2). **[see Exemption 11.3]**

2.7
No petrol or paraffin tank of more than 2.5 litres (1/2 gallon) shall be installed within 1 metre (391/2ins) of any engine or heating appliance unless it is insulated and protected by an efficient baffle of fire resistant material.

2.8
Glass or plastic fuel sight tube gauges shall not be used. Fuel level indicators, if fitted, shall be of a type which does not allow escape of fuel or vapour in the event of damage to the indicator. Dipsticks when fitted shall be calibrated and only used via gas-tight fittings. Where a dipstick is used it must be made so it cannot strike the bottom of the tank. **[see Exemption 11.4]**

2.9
Fuel tanks shall be accessible and all connections shall be readily accessible for inspection.

2.10
Tanks shall be effectively bonded by low resistance metallic conductors of adequate strength to their deck filling connections, and in the case of a non-conducting deck or hull, tanks shall also be electrically bonded to an earth point in direct electrical contact with the surrounding water, for the discharge of static electricity.

2.11
Tanks may be drained only by a suitable drain valve fitted with a plug on the outlet. **[see Exemption 11.5]**

2.12
The fuel supply shall be drawn through the top of the tank or as near to the top of the tank as is practicable by means of an internal pipe extending to near the bottom of the tank. In the case only of gravity-feed systems a feed from a cock or valve directly screwed in near the bottom of the tank is permitted. Any return fuel line required to be connected to the fuel tank shall be connected through the top of the tank or as near to the top as is practicable. **[see Exemption 11.6]**

2.13
All fixed fuel feeds and pipes permanently charged with fuel shall be made of oftened copper, stainless steel, aluminium alloy, or (for diesel installations only) mild steel of suitable size, fixed clear of exhaust systems and heating apparatus and adequately supported to minimise vibration and strain. Balance pipes are only permitted in diesel fuelled installations. Any balance pipe between fuel tanks must comply with the requirements of this standard and must in addition be fitted with valves directly attached to the tank and so constructed that the valves will not become slack when operated. **[see Exemption 11.7]**

2.14
Flexible tubing may only be used in the engine compartment and shall be suitable for the fuel used. It shall be of minimum practicable length, be reinforced and have an internal diameter of not more than half its external diameter and shall have a fire resisting quality as required by BS EN ISO 7840 or DIN 4798.

2.15
All connections permanently charged with fuel shall be made with efficient screwed, compression, cone, brazed or flanged joints. Soft soldered joints shall not be used.

2.16
All fuel filters shall be suitable for marine use and shall be of fire resistant quality.

2.17
A cock or valve shall be fitted in the fuel feed pipe as near as possible to the fuel tank in a position where it is readily accessible. If it is not visible the position shall be clearly marked. In all petrol engine installations where the steering position is remote from the fuel tank a second cock or means of operating the main cock or valve close to the tank shall be fitted immediately accessible from the steering position.

2.18
Fuel pipes shall be installed above bilge water level.

2.19
Carburettors (other than of the down draught type) shall be fitted so as to allow any overflow there to drain into a spirit-tight metal drip tray the top of which shall be covered with copper or brass gauze of flame arresting mesh soldered to the tray all round. The tray shall be removable or be fitted with a cock for emptying.
A flame trap or air filter must be fitted to the air intake of petrol, petroil and paraffin engines.

2.20
The engine shall be securely installed.

2.21
Every vessel shall have effective means of reversing operable from the steering position. The engine stop control shall be located as near to the steering position as is practicable. **[see Exemption 11.8]**

2.22
An oil-tight tray made of metal or other suitable material, the sides of which must be carried up as high as practicable, shall be fitted beneath every engine and gearbox so as to prevent leakage of oil escaping into any part of the vessel or overboard. A tray is not required if oil-tight structural members are fitted fore and aft of the engine. No fixed bilge pump is to draw from the oil-tight area. **[see Exemption 11.9]**

2.23
The cylinders and exhaust system shall be effectively cooled and shall allow for the dissipation of heat. In the case of air-cooled engines or where water is not passed through the exhaust system the exhaust pipe silencer and flanges shall be effectively lagged or shielded.

2.24
Exhaust noise shall be effectively suppressed and no form of exhaust silencer cut-out shall be used.

2.25
In any steam powered engine installation:

i) pressure systems shall have a current inspection certificate issued by a Recognised Competent Person and shall be covered for third party risks by a current insurance policy.

ii) where the boiler is fuelled by liquefied petroleum gas, the gas installation shall comply with Part 7 of these Standards as applicable.

iii) where the boiler is fuelled by diesel, paraffin or similar fuels, the fuel installation shall comply with the appropriate requirements of Part 2 of these Standards as applicable.

iv) in the case of a duel fuel system no flame failure device is required so long as the boiler when in use is constantly attended.

2.26
All vessels with internal combustion engines fuelled by Liquefied Petroleum Gas (LPG) must comply with the Liquefied Petroleum Gas Association (LPGA) Code of Practice No.18 except that engine installations shall not be constructed to allow the use of a dual fuel system where LPG constitutes one of the fuels employed.

part 3 – electrical installation

The following standards apply to all vessels having electrical equipment.

(Note: There is in existence a Code of Practice which addresses Electrical and Electronic Installations in Boats published by the British Marine Electronics Association which includes reference to AC systems which may be referred to for further guidance).

3.1
All batteries shall be securely installed so as to prevent movement and damage. All battery compartments shall be adequately ventilated and covered with insulating and non-corrosive material. No battery may be fitted beneath or adjacent to any petrol or LPG tank, cylinder, cock, pipe or filter.

3.2
Cables shall be of adequate current carrying capacity and of suitable construction and grade. They shall be insulated and/or sheathed so as to be impervious to attack by fuel or water. They shall be adequately supported or run in adequately supported suitable conduit.

3.3
Main circuits shall be installed above bilge water level and all except starter circuits shall be protected by circuit breakers or fuses of the appropriate rating and of suitable design.

3.4
All cables shall be installed as high as is practicable in the vessel, and they shall be run clear of all sources of heat such as exhaust pipes. They shall not be run adjacent to fuel or gas pipes unless contained in suitable conduit. PVC insulated and/or sheathed cables shall not be run in direct contact with polystyrene thermal insulation. **[see Exemption 11.10]**

3.5
A battery master switch capable of disconnecting the system (including starter circuits) shall be installed in a readily accessible position as close to the battery as possible. The battery master switch must be capable of carrying the maximum current of the system. Electric bilge pumps, security alarms, fire pumps and electronic navigation equipment with memories when fitted may have circuits which bypass the master switch but only if separately protected by fuses or circuit

breakers. If the battery master switch is not visible, its position must be clearly marked.

3.6
Main and starter motor leads subject to high current shall have soldered or pressure crimped connectors. Spark plug leads shall be supported clear of the engine block and cylinder head.

3.7
All electrical devices fitted in any compartment containing petrol or gas shall be ignition protected in accordance with BS EN 28846. **[see Exemption 11.11]**

3.8
All electrical equipment shall be two-wire insulated except in respect of engine circuits where there must be a low resistance return conductor between the battery and the engine. Engine installations with two wire insulated electrical systems do not require fitting of the low resistance return conductor.

3.9
The spark ignition and generating systems of engines and all electrical equipment on the vessel shall be effectively suppressed against causing radio and television interference.

part 4 – electrically propelled vessels

The following standards apply to all vessels having electrical propulsion.

4.1
The installation shall comply with the requirements of Part 3 of these standards insofar as they are applicable, and in all cases with the appropriate British Standards and with the Institution of Electrical Engineers (I.E.E.) Regulations for the Electrical and Electronic Equipment of Ships as appropriate to the size of the installation.

4.2
The arrangement of batteries, including in particular their stowage and the requirements in respect of adequate ventilation shall comply with the I.E.E. Regulations for the Electrical and Electronic Equipment of Ships – Section 14.

4.3
The propulsion motor shall be securely installed.

4.4
Every vessel shall have an effective means of reversing operable from the steering position.

4.5
A manually operated master switch which can be operated from the steering position shall be fitted. It shall be capable of cutting off the electrical supply to the propulsion motor.

4.6
The connection from the battery charger on board the vessel to the charging point ashore shall be by means of a 3 core flexible cable of adequate current carrying

capacity and of suitable construction and grade, with connectors complying with the splash-proof category of BS EN 60309 Part 2.

4.7
The battery charging panel on the vessel shall be adequately ventilated and shall incorporate a positive switch and an indication light to show when charging of the vessel's batteries is taking place.

4.8
The battery charging arrangement shall incorporate control of the battery ompartment exhaust ventilation fan, when fitted, such that the fan is automatically switched on when battery charging commences, and continues to run for one hour following the completion of charging.

4.9
The motor and controller compartments shall be adequately ventilated.

part 5 – outboard & portable engines

The following standards apply to all vessels fitted with or carrying outboard or portable engines whether in use or not.

5.1
All deck and fuel filling connections shall be situated so as to minimise the risk of crosscontamination and shall be clearly marked on the deck fittings or immediately beside them indicating the purpose of each connection and in the case of fuel connections the exact type of fuel.

5.2
Permanently installed fuel systems shall comply with Standards 2.1 to 2.19 inclusive and they and all associated pipework, cocks and fittings shall be suitably protected against external impact.

5.3
Portable fuel tanks, carried inboard and connected by flexible piping to the engine and close coupled fuel tanks forming an integral part of the engine may be used providing they are in sound condition and that the fuel supply can be readily shut off and no unauthorised modifications are made to the equipment as supplied by the manufacturers. Portable fuel tanks shall be clearly marked with the type of fuel to be used and when not in use shall be stowed in accordance with Standards 7.2 through to 7.8.

5.4
Petrol not carried in fuel tanks shall be stowed in containers conforming with the requirements of the Petroleum Spirit (Motor Vehicles etc.) Regulations 1929 (SR & O 1929/952) or the Petroleum Spirit (Plastic Containers) Regulations S.I. 1982 No. 630 and these shall be stowed in accordance with Standards 7.2 through to 7.8.

5.5
All vessels with engines fuelled by Liquefied Petroleum Gas (LPG) shall comply with the Liquefied Petroleum Gas Association (LPGA) Code of Practice No.18 except that engine installations shall not be constructed to allow the use of a dual fuel system where LPG constitutes one of the fuels employed.

5.6
Outboard engines shall be securely fitted.

5.7
Exhaust noise shall be effectively suppressed.

5.8
All portable LPG/petrol internal combustion engines/generators with integral fuel tanks when not in use shall be stowed in accordance with the requirements of Standards 7.2 through to 7.8. Portable diesel internal combustion engines or generators shall be stored securely when not in use.

part 6 – fire prevention & extinguishing equipment

6.1
Powered vessels or vessels carrying or fitted with cooking, heating, refrigerating or lighting appliances shall be equipped with not less than the number of portable extinguishers detailed below, which shall be of a type approved by the BSI and/or the British Approvals of Fire Equipment scheme. Extinguishers shall be kept in readily accessible positions adjacent to fire risk points, and shall be properly maintained in good condition for immediate use. Any portable extinguisher provided for the protection of an engine space shall be capable of being discharged without fully opening the primary access.

MINIMUM LENGTH OF VESSEL	MINIMUM NUMBER OF EXTINGUISHERS	MINIMUM FIRE RATING OF EACH EXTINGUISHER	COMBINED FIRE RATING EXTINGUISHERS
Up to 7m (23ft)	2	5A/34B	10A/68B
7m-11m (23-36ft)	2	5A/34B	13A/89B
Over 11m (36ft)	3	5A/34B	21A/144B

The number of extinguishers may be reduced by one fire extinguisher with a fire rating of no more than 5A/34B where either:

i) no cooking, heating, refrigerating, lighting or fuelburning appliances are carried; or

ii) no engine is installed (Note: Fire extinguishers which have been manufactured to comply with EN3 and are certified and marked as such by a Certifying Authority and are marked with the fire rating will be considered as acceptable as those which carry the BS kitemark). **[see Exemption 11.12]**

6.2
Any fixed system installed for the protection of a fire risk space shall be in addition to the portable extinguishers required by Standard 6.1 and if remotely operated the release device shall be readily accessible from outside that space.

6.3
In vessels fitted with cooking facilities, a fire blanket marked as complying with at least the “light duty” requirements of BS 6575, or BS EN 1869 ready for immediate use, shall be kept nearby **[see Exemption 11.13]**

6.4
In vessels with hulls constructed of glass-fibre reinforced plastic (GRP) those areas of high fire risk, such as an engine room or fuel compartment, shall have any exposed GRP structure coated with a suitable fire retardant material complying with the Class 2 requirements of BS 476: Part 7. **[see Exemption 11.14]**

6.5
Polystyrene thermal insulation shall comply with the Type A requirements of BS 3837: Part 1. **[see Exemption 11.15]**

6.6
All soft furnishings, fabrics, and foam materials used in the lining out and furnishing vessels shall be of suitable fire resistant materials, which on combustion release minimal amounts of toxic products. Upholstery fabrics used shall satisfy the cigarette and butane flame tests of BS EN 1021 Parts 1 and 2. **[see Exemption 11.16]**

6.7
All vessels shall have two means of escape from accommodation areas. All means of escape shall have a minimum clear opening of 0.2m2 (310in2) and a minimum width of 380mm (15ins). **[see Exemption 11.17]**

for guidance only

The fire rating of an extinguisher appears as a series of numbers and letters marked on the side eg 5A/34B. The numbers relate to the ability of the extinguisher to successfully put out a fire under test conditions. The bigger the numbers, the bigger the fire on which the extinguisher has been tested.

CLASS OF FIRE	EXTINGUISHING MEDIUM	COLOUR OF EXTINGUISHER
A	Water	Signal red
A/B	Foam	Pale cream
A/B/C	Powder	French blue
B/C	CO2	Black

where:

CLASS A fire = paper, wood, textiles and fabric

CLASS B fire = flammable liquids

CLASS C fire = flammable gases

NB: In the event of an electrical fire use dry powder or CO2 ONLY

It should be noted that:

i) All stored pressure ABC dry powder extinguishers have a Class A/Class B fire rating.

ii) All stored pressure BC dry powder and CO2 extinguishers only have a Class B fire rating.

iii) Most, but not all, aqueous film forming foam (AFFF) extinguishers have a Class A/Class B fire rating. Some small capacity AFFF extinguishers only have a Class B rating.

iv) CO2 extinguishers are not to be provided for living spaces.

v) Halon extinguishers may be retained until lifeexpired or discharged.

vi) The number of extinguishers and the total and individual fire ratings (which are marked on all approved extinguishers) depend on the vessel size, engines (whether inboard or outboard), and installation of L.P.G. or other fuel burning appliances.

vii) Fire buckets with lanyards, where provided, shall be in addition to the extinguishers required.

part 7 – LPG (liquefied petroleum gas) installations

The following standards shall apply to all vessels with LPG installations.

(Note 1: Guidance on the design considerations when installing, modifying or adding to LPG systems and information regarding the testing of LPG installations is contained within BS 5482-3 and the Boat Safety Scheme Technical Manual).
(Note 2: any work on LPG systems should only be carried out by competent persons).

7.1
The installation shall comply with BS 5482 – Code of practice for domestic butane and propane gas-burning installations, Part 3: Installations in boats, yachts and other vessels. (NOTE: The provision for existing installations contained within Annex A of BS 5482-3 is represented by paragraphs 11.18 and 11.19 and 11.22 to 11.29)

7.2
Every cylinder (full or empty, stored or in use) shall be either:

i) secured on open deck, cabin tops or outside cockpits so that any leakage flows overboard. Cylinders, low pressure regulators and associated equipment shall be at least 1 m away from hatches, other openings and possible sources of ignition. (NOTE: Cylinders, low pressure regulators and associated equipment may be enclosed in a shelter on open deck, cabin tops or outside of cockpits provided the shelter conforms to this sub-paragraph 7.2 i)); or

ii) secured in a cylinder locker LPG-tight to the hull interior at least to the level of the cylinders, low pressure regulators and associated equipment. Cylinder lockers shall only be openable from the top and shall be provided with a lid or cover to protect cylinders, low pressure regulators and associated equipment from mechanical damage. Cylinder lockers shall be ventilated from outside the vessel to a point above the level of the cylinders.
(NOTE 1: see paragraph 11.18).

A means to drain LPG away from the vessel shall be provided from the lowest point of the cylinder locker to a point outside the hull above the deepest loaded waterline.

(NOTE 2: see paragraph 11.19).

(NOTE 3: Cylinders may be secured in a cylinder housing in a self-draining cockpit provided the installation is in accordance with Standard 7.7).

7.3
All cylinders shall be installed in an upright position with the valve uppermost and secured so that no damage can occur to the cylinders, regulators, hoses or pipework. Cylinders, cylinder lockers or cylinder housings shall not form an obstruction for persons moving about the deck or walkway or interfere with the normal operation of the vessel. Cylinders, cylinder lockers or cylinder housings shall not be located near to heat sources. All cylinders shall be accessible and removable in an emergency.

7.4
Cylinder lockers or cylinder housings shall be constructed of metal of thickness at least 0.9 mm, with welded or brazed joints, or of fibre reinforced plastics (FRP) of minimum thickness 5 mm, or of materials having a fire resistance of 30 min in accordance with BS 476-20.

7.5
Cylinder locker or cylinder housing drain pipes, hoses and connections shall be of a material suitable for use with LPG and hoses shall be connected in accordance with Standard 7.13. Drains shall have an internal diameter of at
least 19 mm (3/4ins).
(NOTE: see paragraph 11.22).

7.6
The opening into a cylinder locker or cylinder housing shall enable the operation of valves, replacement of cylinders, and access to connections or regulating devices. The opening into a cylinder locker shall not be situated in an accommodation space, engine space, fuel space or battery space.
(NOTE: see paragraph 11.23 (i)).

7.7
Cylinder housings may open from the side into self-draining cockpits provided that:

i) the drain outlets from the self-draining cockpit are above the deepest loaded waterline; and

ii) the design of the craft ensures the selfdraining cockpit is LPG tight to the interior

of the vessel at least to the height of the LPG cylinders, low pressure regulators and associated equipment.
(NOTE: The height of the bridge deck, or any fixed cill to an accommodation space shall be at least to the height specified); and

iii) any hatches or openings within the self-draining cockpit are watertight; and

iv) cylinder housings conform to the ventilating and draining requirements of Standard 7.2 and Standards 7.3, 7.4, 7.5, 7.6, and 7.8.

7.8
Cylinder lockers or cylinder housings shall not contain any items that could damage the low pressure regulator(s) or associated pipework, or obstruct the drain or ignite leaked LPG.

7.9
A readily accessible main shut-off valve situated outside the accommodation space shall be fitted and installed as close to the LPG cylinder(s) as practicable.
(NOTE see paragraph 11.23 (ii)).

The valve of any LPG cylinder or of a connected low pressure regulator may be used as the main shut-off except where two or more LPG cylinders are connected by an automatic changeover device. Where an automatic changeover device is fitted the main shut-off valve shall be situated as close to the outlet of the device as practicable. If the main shut-off valve is not in a clearly visible position or is in a space that can be closed off by doors or lids, then its position shall be clearly marked. If there is more than one main shut-off valve, this and the locations of the other main shut-off valves shall be clearly marked on or adjacent to each valve.

7.10
All high pressure stage components shall be installed on the open deck or cabin tops or outside cockpits, or in a cylinder locker or cylinder housing if there is one. If two or more cylinders are connected, each high pressure stage connection shall be protected by a nonreturn valve. High pressure stage components not directly attached to the cylinder valve shall be connected by a pre-assembled length of flexible hose conforming to type 2 of BS 3212, fitted with integral threaded metallic ends. The hose shall be of the minimum practicable length to allow for the replacement of cylinders and shall not exceed 1m. High pressure stage components not directly attached to the cylinder valve shall be secured in a position that provides protection from mechanical damage and protects vent holes from the ingress of debris or water. External manual-adjustment type regulators shall not be fitted.

7.11
The inlet gas connection on installation pipework shall be securely fixed and readily accessible. For cylinders stowed below decks or in cockpits, the inlet gas connection shall be situated inside the cylinder locker or cylinder housing. Installation pipework from cylinder lockers shall either be from a bulkhead fitting or above the level of the cylinder, low pressure regulator and associated equipment.

7.12
Installation pipework shall be made of either:

i) seamless copper tube conforming to BS EN 1057 with copper or copper alloy

compression fittings; or

ii) stainless steel tube, of a grade suitable for use with LPG and a marine environment with appropriate compression or screwed fitting, or

iii) copper nickel alloy, of a grade suitable for use with LPG and a marine environment with appropriate compression or screwed fittings.
(NOTE 1: Flexible hose conforming to Standard 7.13 may be used as the appliance connector to a gimballed cooking appliance, or to an appliance that requires movement for hygienic purposes.)
(NOTE 2: If only a cooking appliance is installed, flexible hose may be used to connect it to the low pressure regulator, provided the length does not exceed 1 m.)

7.13
Flexible hose shall conform to type 2 of BS 3212. Flexible hose shall be of the minimum practicable length, not exceeding 1m, and shall be readily accessible. Flexible hose shall be installed without stress or tight radius turns and hose passing through bulkheads, partitions, deck-heads, or decks shall be protected from abrasion. For low pressure applications, flexible hose shall be a pre-assembled length fitted with integral threaded metallic ends, or secured to nozzles by a metal crimped clip or worm drive hose clamp. Hose clamps fixed by spring tension shall not be used. Hose clips and clamps shall be of the correct size for the hose and at least 8mm in width. Flexible hose shall not be used where it could be subjected to temperatures above 50oC.

7.14
Flexible hose conforming to Standard 7.13 shall be used as the appliance connector between portable appliances and their isolation valves. Flexible hose shall be connected to the isolation valves by means of a bayonet, plug-in or screwed connection. Pipework to portable appliances fitted with a screwed connection shall be properly plugged or capped when the appliance is not connected.

7.15
Self-contained portable gas appliances having the burner screwed direct to the cylinder or container shall be stored in a cylinder locker or cylinder housing when not in use. Selfcontained portable gas appliances shall not be used whilst unattended on board any vessel.

7.16
Installation pipework shall be accessible, run as short as practicable particularly between the cylinder(s) and the highest rated appliance(s) and be as high as practicable within the hull, preferably at gunwale level. Pipework shall be rigidly secured with fixing clips spaced no more than 500 mm apart. Pipework shall be routed, or otherwise protected, to minimise the possibility of damage and where pipework penetrates bulkheads or walls it shall be protected from damage by sleeves, grommets or bulkhead fittings.

7.17
Installation pipework shall not run below bilge water level or in contact with any material that could cause corrosion. Pipework shall not pass through petrol engine

spaces or spaces dedicated to electrical equipment (including batteries), unless jointless and enclosed in a gas-proof conduit.

7.18
Installation pipework shall not pass through ventilation or air conditioning ducts and shall not be exposed to leakage from water services. Installation pipework shall be remote and/or insulated from, and shall not pass through the same duct as, electricity or telecommunication services and shall be separated from electrical cables not in a conduit by at least 30 mm. Installation pipework shall not be situated less than 75 mm from exhaust pipes.

7.19
Joints shall be made with compression fittings.
(NOTE: For stainless steel and copper alloy pipework screwed fittings are acceptable). Soldered joints shall not be used. Joints shall be readily accessible. Joints shall be rigidly secured and fixing clips shall be attached no more than 150 mm from each joint connection. Joints shall be made at a point where stress is minimised. The number of pipe fittings and joints shall be kept to a minimum.

7.20
Appliance isolation valves shall be installed in the supply line to each appliance, including portable appliances, and shall be readily accessible.
(NOTE 1: see paragraph 11.24.)
(NOTE 2: if there is only one appliance the main shut-off valve is sufficient unless the appliance is a portable appliance)

7.21
Appliance isolation valves not situated immediately adjacent to appliances shall clearly indicate which appliance they serve. If valves operate by rotation, closing shall be clockwise. “Open” and “closed” positions shall be clearly marked on or adjacent to all valves. Tapered plug valves shall be spring loaded. Needle valves shall not be used. Valves at floor level shall be located to prevent inadvertent operation, or shall be of the drop fan or loose key type. Pipework to appliances permanently removed or removed for servicing shall be properly plugged or capped. Isolation valves alone shall not be used for this purpose.

7.22
A means to determine the gas system is sound shall be fitted by either having:
i) a readily accessible test point on appliances where a test gauge may be attached without dismantling any part of the appliance with the use of tools; or
ii) a readily accessible approved test point fitted in the pipework; or
iii) a bubble tester installed in the cylinder locker.
(NOTE 1: Information regarding the tests employed to check the soundness of a gas system is contained within BS 5482-3 and the Boat Safety Scheme Technical Manual).
(NOTE 2: Operators of hire/charter vessels and houseboats are reminded that they are subject to the Gas Safety (Installation and Use) Regulations which deal with safe installation, maintenance and use of gas systems).

part 8 – appliances, flueing & ventilation

The following standards apply to all vessels fitted with cooking, heating, refrigerating and lighting appliances.
(NOTE 1: Appliances should be recommended by the manufacturers as suitable for use in a marine environment).
(NOTE 2: Appliances should be installed and maintained in accordance with manufacturer's instructions).
(NOTE 3: All fires, cookers and other appliances with naked lights must be turned off and automatic ignition systems disabled before taking in fuel).

8.1
The fuel installation to each appliance shall be in accordance with the appropriate parts of these Standards.

8.2
LPG Appliances shall be room sealed with the exception of cooking appliances. (NOTE: see paragraph 11.25). LPG appliances shall include a test fitting. (NOTE: see paragraph 11.26).
A satisfactory flame picture shall be present at each appliance burner when all appliance burners in the system are operating at maximum rate.

8.3
Appliances shall be properly installed and in accordance with the manufacturer's recommendations for installation in vessels. Appliances shall be secured against accidental movement and connected so that there is no undue stress on pipework and fittings. Pipework shall not be used to retain the appliance. LPG and fuel oil appliances shall not be installed in petrol engine spaces. Appliances shall be situated in sufficient space, as instructed by the manufacturer, to prevent overheating of nearby surfaces. (NOTE: see paragraph 11.27).

8.4
Cooking appliances (and gimbals, if fitted) shall be securely installed. Gimballed cooking appliances shall be secure at all angles of heel. Materials in the vicinity of cooking appliances shall be non-combustible or protected with a finish of class 1 surface spread of flame rating as specified in BS 476-7. Combustible materials and materials without a class 1 surface spread of flame rating shall not be placed within the following distances of cooking appliances: (NOTE: see paragraph 11.28)
i) 400 mm above the cooking appliance, for horizontal surfaces when the vessel is upright;
ii) 200 mm above the cooking appliance, for horizontal surfaces when the vessel is heeled to 30°;
iii) 125 mm horizontally from the cooking appliance, for vertical surfaces. Curtains and other suspended textile materials shall not be fitted within 600 mm of a cooking appliance. (NOTE: see paragraph 11.28)

8.5
Appliance burners, ignition burners and pilot lights shall be fitted with flame supervision devices that completely close the LPG or fuel oil supply. (NOTE: see paragraph 11.29)

8.6
The water inlet to any instantaneous water heater shall be piped only from the vessel's cold water system.

8.7
Fuel oil appliances shall have a valve or cock to shut off the fuel supply in a readily accessible position within the same compartment as, but at a safe distance from, the appliance(s).

8.8
Flue components on room sealed appliances, including ductwork and terminals, shall be installed in accordance with the appliance manufacturer's recommendations for installations in vessels. Flue terminals and air inlets shall not be positioned within 500 mm of a ventilator, opening port, hatch, window, refuelling fitting, or fuel tank vent outlet. Flues and flue terminals shall ensure safe transfer of gases to outside the vessel, away from areas that could be enclosed by canopies and in a position that minimises the risk of accidental damage. (NOTE 1: Information regarding the test employed to check the effectiveness of any flue is contained within BS 5482-3 and the Boat Safety Scheme Technical Manual).
(NOTE 2: The flueing arrangements on existing appliances are covered in paragraph 1.25(v)).

8.9
Adequate fixed ventilation shall be provided in accordance with the requirements of BS 5482-3 in vessels in which LPG or other fuel appliances are used. (NOTE: Ventilators should be weathertight to cater for the worst conditions likely to be encountered. Vessels which regularly proceed to sea and would likely experience severe weather conditions may have ventilators which can be closed to prevent the ingress of water in such conditions).
On sea going vessels equipped with closeable ventilators a warning notice shall be attached on or near to all non-room sealed appliances. The wording of the notice should state:
"WARNING – Open ventilator(s) before use" part 9 – pollution

part 9 – pollution

9.1
No sanitation system capable of discharging sewage overboard shall be fitted in any vessel unless it is capable of being sealed or rendered inoperable. Sanitation systems shall comply with the requirements of BS MA 101. [see paragraph 11.20]

part 10 – hire boats and safety features

In addition to the standards specified in Parts 1 – 9 inclusive where applicable, all boats which are let out for hire or reward and new boats not covered by the EC directive shall comply with the following additional requirements.

10.1
At least one lifebuoy shall be carried on each vessel in a readily accessible position.

10.2
Where there are walkways, handrails of adequate strength shall be fitted where practicable for the full length of all cabin tops, or guard-rails shall be fitted around the perimeter of the deck.

10.3

Every opening in the hull of a vessel above the normal laden water-line (including those used as intakes or outlets for air for engine cooling purposes) shall be so positioned that its lowest point is not less than 250mm (10 ins) above the normal laden water-line of the vessel, unless such openings are permanently and securely connected to ducts or pipes which are
watertight up to that level.
i) Self draining cockpits are not required to comply with the 250mm height requirement
of this Standard so long as effective arrangements are made to minimise the ingress of water into other parts of the hull by incorporation of non return valves in the
drains and/or by provision of bulkhead(s) or cill(s) to a height of 150mm.
ii) A weed hatch if fitted shall have a cover at least 150mm (6 ins) above the normal laden
water-line and shall be watertight when secured.

10.4
Every opening in the hull of a vessel below the normal laden water-line provided for use as an intake for water shall be fitted with an adequate valve or cock directly adjacent to it and be readily accessible for immediate use.

10.5
Instructions prohibiting the blocking of ventilators shall be inscribed on permanent labels prominently displayed on board the vessel.

10.6
All port lights, side scuttles, windows, and interior glass partitions shall be safety glass to
BS 952 Part 1 or of suitable acrylic or polycarbonate material. [see paragraph 11.21]

10.7
Un-powered hotel boats not carrying fuel nor fitted with cooking, heating, refrigerating or
lighting appliances shall comply with the requirements of Standard 6.1 as if they were a
powered vessel.

10.8
All manually propelled vessels or sailing vessels not carrying fuel nor fitted with cooking,
heating, refrigerating, or lighting appliances are not required to comply with the standards as
defined.

part 11 – exemptions

In all cases of boat refitting whether this be in whole or in part the opportunity should be taken to bring exempted installations or equipment up to the requirements specified under Parts 1 to 10 inclusive.

11.1
Vessels manufactured prior to 16 June 1998 and having a fuel filling pipe of an internal diameter of at least 32mm (1¼ins) are not required to comply with that part

of Standard 2.2, which requires that a fuel filling pipe shall have an internal diameter of at least 38mm (1½ins).

11.2
Vessels manufactured prior to 16 June 1998 and having a vent pipe of an internal diameter of at least 9.5mm (3/8ins) are not required to comply with that part of Standard 2.4, which requires that a vent pipe shall have an internal diameter of at least 12mm (½ins). In the case of vessels manufactured prior to 16 June 1998 having no vent pipe, a vent in the screwcap or filling pipe above deck level may be fitted provided that there is a flame arrester complying with the requirements of Standard 2.5. The flame arrester shall have a minimum diameter of 12mm.

11.3
Vessels manufactured prior to 16 June 1998 are not required to comply with that part of
Standard 2.6 which requires that fuel tanks must have sustained a pressure test of 0.25kgf/cm2 (3.5lbf/in2) before installation and be marked to indicate this.

11.4
Any diesel fuelled vessel formerly used for the commercial carriage of freight or passengers or as a tug or as an icebreaker and which is to be licenced for use as a pleasure boat, commercial carrying vessel or registered for use as a houseboat unless used for the purposes of hire or reward shall not be required to comply with Standard 2.8.

11.5
Vessels manufactured prior to 16 June 1998 and having a fuel tank drain without a valve, are not required to comply with that part of Standard 2.11 which requires that fuel tanks shall have a suitable drain valve fitted with a plug on the outlet.

11.6
Diesel fuelled vessels manufactured prior to 16 June 1998 are not required to comply with that part of Standard 2.12 which requires that the fuel supply and return pipes shall be taken through the top of the tank or as near to the top of the tank as is practicable.

11.7
Diesel fuelled vessels manufactured prior to 16 June 1998 and fitted with a balance pipe between close coupled tanks are not required to comply with that part of Standard 2.13 which requires valves to be fitted where it is not practicable to do so.

11.8
Vessels manufactured prior to 16 June 1998 are not required to comply with that part of Standard 2.21 which requires effective means of reversing.

11.9
Vessels manufactured prior to 16 June 1998 are not required to comply with that part of
Standard 2.22 which requires an oil-tight tray made of metal or other suitable material, the sides of which must be carried as high as practicable where it is not practicable to comply without the removal of the engine. This exemption will be rescinded on 16 June 2000 or the first Boat Safety Certificate examination after this date.

11.10 Vessels manufactured prior to 16 June 1998 and having PVC insulated or sheathed cables in direct contact with polystyrene thermal insulation are not required to comply with that part of Standard 3.4 which requires that PVC cables shall not run in direct contact with polystyrene thermal insulation until such time that an insulation resistance test discloses an electrical fault in cables in direct contact with polystyrene thermal insulation.

11.11
Vessels manufactured prior to 16 June 1998 are not required to comply with Standard 3.7, which requires that all electrical devices fitted in any compartment containing petrol or gas shall be ignition protected in accordance with BS EN 28846 where it is not practicable to comply. The exemption will be rescinded at some future date by amendment.

11.12
Vessels manufactured prior to 16 June 1998 and complying with the navigation authority's
previous requirements for fire extinguishers are not required to comply with that part of Standard 6.1 which prescribes a minimum fire rating for each extinguisher and a minimum combined fire rating until such time as the existing extinguishers are life expired or discharged.

11.13
Vessels manufactured prior to 16 June 1998 and carrying a fire blanket in good condition are
not required to comply with that part of Standard 6.3 which prescribes that fire blankets
shall comply with at least the 'light duty' requirements of BS 6575. This exemption will be rescinded on 16 June 2000 or the first Boat Safety Certificate examination after this date.

11.14
Vessels manufactured prior to 16 June 1998 are not required to comply with that part of
Standard 6.4 which requires exposed GRP structure to be coated with suitable fire retardant material complying with the Class 2 requirements of BS 476: Part 7 until such time as visual inspection of the exposed GRP structure shows deterioration.

11.15
Vessels manufactured prior to 16 June 1998 are not required to comply with the requirements Standard 6.5.

11.16
Vessels manufactured prior to 16 June 1998 are not required to comply with the requirements Standard 6.6.

11.17
Vessels manufactured prior to 16 June 1998 are not required to comply with the requirements Standard 6.7 where it is not practicable to modify the structure to provide two means of escape.

11.18
Apart from hire cruisers licensed with the Broads Authority, vessels manufactured prior to

3 January 2000 are not required to comply with that part of Standard 7.2(ii) which requires
cylinder lockers to be ventilated from outside the vessel to a point above the level of the cylinders.

11.19
Vessels manufactured prior to 3 January 2000 and having a cylinder locker drain as near as
practicable to the bottom of the cylinder locker are not required to comply with that part of
Standard 7.2(ii) which requires the drain to be provided from the lowest point of the cylinder
locker.

11.20
Vessels manufactured prior to 16 June 1998 are not required to comply with that part of
Standard 9.1 which requires that sanitation systems shall comply with the requirements of
BS MA 101.

11.21
Vessels manufactured prior to 16 June 1998 are not required to comply with the requirements of Standard 10.6 which requires safety glass to BS 952 Part 1 or suitable acrylic or polycarbonate material to be fitted providing that all existing vessels with non-safety glass are protected by the use of suitable stick on film by 16 June 2000 or the first Boat Safety Certificate examination after this date.

11.22
Vessels manufactured prior to 3 January 2000 and having an LPG drain with a minimum internal diameter of 12mm for a cylinder of up to 15kg capacity and which is enlarged proportionally for additional LPG storage, are not required to comply with that part of Standard 7.5 which requires the drain to have an internal diameter of at least 19mm (3/4ins).

11.23
Vessels manufactured prior to 3 January 2000 that were designed and constructed with a cylinder locker within the hull of the vessel, but outside engine, fuel or battery spaces, are not required to comply with:
i) that part of Standard 7.6 which requires that the opening into a cylinder locker shall not be sited in an accommodation space provided the cylinder locker is located in a low risk position; and
ii) that part of Standard 7.9 which requires the main shut-off valve to be fitted outside the accommodation space.

11.24
Vessels manufactured prior to 3 January 2000 are not required to comply with the requirements of Standard 7.20 unless the appliance is connected with flexible hose.

11.25
Vessels manufactured prior to 3 January 2000 and having non-room sealed appliances are not required to comply with that part of Standard 8.2 which requires LPG appliances, with the exception of cooking appliances, to be room sealed provided the following requirements are complied with:

i) Replacements for existing non-room sealed appliances, with the exception of cooking appliances, shall be room sealed and installed in accordance with BS 5482-3 and Parts 7 and 8 of these Standards as appropriate.
ii) Modifications or additions to an existing installation shall be performed in accordance with the appliance manufacturer's recommendations.
iii) Pilot lights and burners on LPG or paraffin refrigerators installed in vessels with a petrol engine shall be completely enclosed. Combustion air and combustion products shall be drawn and exhausted through a suitable flame trap, or combustion air piped to the appliance from outside the vessel or from a point inside the vessel above the level of the windows, other openings, or other means of ventilation in the accommodation space.
iv) Catalytic type appliances shall conform to BS 5258-11 or BS EN 449.
v) The flues and draught diverters of existing appliances shall be of a type approved by the manufacturer, and properly fitted and maintained. Flues shall be of suitable material, effectively insulated, and of appropriate internal diameter to ensure safe transfer of gases to outside the vessel, away from areas that could be enclosed by canopies. Appliances designed for use exclusively with a flue, or draught diverter and flue, shall have one fitted. Only the flue supplied or recommended by the manufacturer shall be used with refrigerators flued to the outside (Note 1: Information regarding the test employed to check the effectiveness of any flue is contained within BS 5482-3 and the Boat Safety Scheme Manual).

11.26
Vessels manufactured prior to 3 January 2000 are not required to comply with that part of
Standard 8.2 which requires LPG appliances to include a test fitting.

11.27
Vessels manufactured prior to 3 January 2000 and having woodwork and all other combustible materials including curtains adjacent to all appliances suitably insulated and protected against excessive heat or inherently flame retardant, or treated with a durable flame retardant are not required to comply with that part of Standard 8.3 which requires appliances to be situated in sufficient space, as instructed by the manufacturer, to prevent overheating of nearby surfaces.

11.28
Vessels manufactured prior to 3 January 2000 and having woodwork and all other combustible materials including curtains adjacent to all appliances suitably insulated and protected against excessive heat or inherently flame retardant, or treated with a durable flame retardant are not required to comply with the distance measurements applied to combustible materials and materials without a class 1 surface spread of flame rating, or the distance measurements applied to curtains and other suspended textile materials, in Standard 8.4.

11.29
Vessels manufactured prior to 3 January 2000 are not required to comply with Standard 8.5 which requires a flame supervision device to be fitted to all appliance burners provided that such devices are fitted to all:
- catalytic type appliances
- appliances with a pilot light
- appliances with a continuously burning flame

Annex B1 *List of BSS Support Committee Members*

B1.1 BSS Management Committee

Secretariat: BSS, Willow Grange, Church Road, Watford WD17 4QA

Executive Chair	Stewart Sim British Waterways,
British Waterways and Association of Inland Navigation Authorities (AINA)	Ian White British Waterways, Chairman, AINA
Environment Agency	David Lawrence Environment Agency
BSS General Manager	Graham Watts Manager, Boat Safety Scheme
Broads Authority	Vacancy
Association of Inland Navigation Authorities (AINA)	Mike Webb, Manchester Ship Canal
User Representative (temp by invitation of the Chair)	John Baggs
Marine Trade Representative	Howard Pridding, British Marine Federation
Chair of the BSS Advisory Committee	John Redmond, Environment
Chair of BSS Technical Committee	John Akhurst, Boat Safety Scheme
Co-opted Members:	BSS Communications Manager

B1.2 BSS Advisory Committee

Secretariat: Dianne Elliott, BSS, Willow Grange, Church Road, Watford WD17 4QA

Elected Chair	John Redmond EA, Navigation & Recreation,
British Waterways Member	Dean Davies Operations Manager Central Shires,
Environment Agency Member	Francis Power, Navigation Policy and Process Manager
British Marine Federation (1)	NiK Parker Director of Technical Services, BMF
British Marine Federation (2)	Philip Mitchell BMF
British Marine Federation (3)	Nick Allen T W Allen & Son (Yachts) Ltd
Maritime and Coastguard Agency (MCA)	Vacancy
Royal Yachting Association	Lance Wright Great Ouse Boating Association
The Boating Association (TBA) (co-opted)	David Dunning Chairman TBA
Association of Waterway Cruising Clubs (AWCC)	John Baggs President, AWCC
National Association of Boat Owners (NABO)	Trevor Rogers NABO
Inland Waterways Association (IWA)	John Baylis IWA
Association of Boat Safety Examiners (ABSE)	Brian Hayes Chairman ABSE
Royal Institution of Naval Architects (RINA)	Roger Bell RINA
Institution of Marine Engineers, Science and Technology (IMarEST)	Peter Hopley IMarEST
Yacht Designers and Surveyors Association (YDSA)	Barrie Morse YDSA
Society of Consulting Marine Engineers and Surveyors (SCMESS)	Jeffrey Casciani-Wood SCHMESS
Broads Authority	Martin Broom Broom Boats Ltd,
Association of Inland Navigation Authorities (AINA)	Vacancy

B1.3 BSS Technical Committee

Secretariat: John Akhurst, BSS, Willow Grange, Church Road, Watford WD17 4QA

Chair of BSS Technical Committee	John Akhurst, Technical Manager, BSS
British Marine Federation (1)	Nigel Saw, Technical Manager BMF
British Marine Federation (2)	Stephen Goldsborough
Association of Boat Safety Examiners (ABSE)	Peter Morgan ABSE
Surveyors Group Representative	Philip Mitchell
Royal Yachting Association (RYA)	Mike Beggs, RYA
Association of Waterway Cruising Clubs (AWCC)	Stuart McGuigan AWCC
National Association of Boat Owners (NABO)	Trevor Rogers NABO
Inland Waterways Association (IWA)	John Baylis IWA
Co-opted member	David Fuller
Observer AINA and Broads Authority	Jonathan Richardson Navigation & Safety Officer Broads Authority

ANNEX B2 *Consultation List*

The following organisations together with the navigation authorities have been consulted:

Anglo Welsh Waterways Holidays	**Historic Narrow Boat Owners Club**
Association of Pleasure craft Operators	**Huddersfield Canal Company**
Ashby Canal Association	**Huddersfield Canal Society**
Ashby Canal Trust	**International Institute of Marine Surveyors**
Ash Tree Boat Club	**Inland Waterways Association**
Association of Thames Sailing Clubs	**Inland Waterways Amenity Advisory Council**
Association of Boat Safety Examiners	**Inst. of Gas Engineers**
Association of Brokers & Yacht Agents	**Inst. of Marine Engineers, Science and Tech**
Association of Canal Enterprises	**Insurance, Financial & Legal Services Assoc.**
Association of Waterways Cruising Clubs	**Local Auth. Co-ordinators of Regulatory Services**
Aylesbury Canal Society	**Lee Sanitation**
Bedford Rivers Users Group	**Lichfield Cruising Club**
Birmingham Canal Navigations Society	**Lowland Canal Steering Committee**
Black Prince Holidays Ltd	**LP Gas Association**
Blakes Holiday Boating	**Macclesfield Canal Society**
Boat Museum Society / Historic Narrowboat Owners Club	**Marine Engineering Training Centre**
Bridge 19-40 Canal Society	**Mar. Engine and Eqpmt Manufacturers' Assoc.**
Bridgwater and Taunton Canal Wardens	**Marine Trades Association**
British Boating Federation	**Narrow Boat Trust**
British Hire Cruiser Federation	**National Association of Boat Owners**
British Marine Electronics Association	**National Caravan Council Ltd**
British Marine Federation Scotland	**National Community Boats Association**
British Ports Association	**Neath & Tennant Canal Society**
Broads Hire Boat Federation	**Norfolk and Suffolk Boating Association**
Buckingham Canal Society	**Norfolk Heritage Fleet Trust**
Calder Navigation Society	**Paisley Canal & Waterways Society**
Caldon Canal Society	**Parliamentary Waterways Group**
Caledonian Canal Operators Association	**Pirate Club**
Canalboat Builders Association	**Pocklington Canal Amenity Society**
Canaltime	**Ratho Union Canal Society**
CEN Consultant	**Residential Boat Owners' Association**
CEproof Ltd	**Retford & Worksop Boat Club**
Chelmer Canal Trust	**Ripon Motor Boat Club**
Chesterfield Canal Trust	**River Stour Trust**
Clyde Cruising Club	**River Weaver Navigation Society**
Clyde Yacht Clubs Association	**RNLI**
CO-Gas Safety	**ROSPA**
Council of Gas Detection & Monitoring Eqpmnt Manufctrs	**Royal Yachting Association**
Commercial Boat Section	**Royal Institution of Naval Architects**
Council of Registered Gas Installers	**Sally Boats**
Country Hotel Narrowboats	**Salt Water Group**
Coventry Canal Society	**Scottish Executive Development Department**
Cruising Association	**Severn Navigation Restoration Trust**
Department for Environment, Food and Rural Affairs	**SF DETECTION**
Delta Marine	**Shire Cruisers**
Department of Trade and Industry	**Soc. of Consulting Marine Engineers & Surveyors**
Derby & Sandiacre Canal Society	**Somerset Coal Canal Company**
Derby & Sandiacre Canal Trust	**South Wales Boating Industries Association**
Derby Motor Boat Club	**Steam Boat Association**
Dometic	**The Boating Association**
Dudley Canal Trust	**Thames & Medway Canal Association**
Dudley Canal Trust (Trips) Ltd	**Thames Boating Trades Association**
East Anglian Waterways Association	**Thames Hire Cruisers Assocaition**
Edinburgh Canal Society	**Thames Traditional Boat Society**
Electric Boat Association	**The Barge Association**
Evesham College	**The Royal Northern and Clyde Yacht Club**
Fenland Lighter Project	**The Yacht Harbour Association**
Fire Protection Association	**Upper Thames Passenger Boats Assoc.**
Firemaster Extinguisher Ltd	**Uxbridge Cruising Club**
Grantham Navigation Association	**Viking Afloat**
Great Glen Canal Users Association	**Warwickshire Trading Standards**
Great Ouse Boating Association	**Watch House Cruising Club**
Hampshire Trading Standards	**Welton Hythe Marina**
Health and Safety Executive	**West Stockwith Yacht Club**
Herefordshire & Gloucestershire Canal Trust	**Willow Wren Cruising Holidays**
Heritage Afloat	**Wooden Canal Boat Society**
	Yacht Designers and Surveyors Association

ANNEX C *Consultation Criteria*

C.1 The criteria in the *"Code of Practice on Written Consultation, 2004"* published by the Cabinet Office apply to all UK national public consultations on the basis of a document in electronic or printed form. They will often be relevant to other sorts of consultation. The code can be found at http://www.cabinet-office.gov.uk/regulation/consultation/code.asp.

C.2 Though they have no legal force, and cannot prevail over statutory or other mandatory or external requirements (e.g. under European Community law) they should otherwise generally be regarded as binding on the organisation unless it concludes that exceptional circumstances require a departure.

C.3 The criteria should be reproduced in consultation documents with an explanation of any departure, and confirmation that they have otherwise been followed.

i. Timing of consultation should be built into the planning process for a policy (including legislation) or service from the start, so that it has the best prospect of improving the proposals concerned, and so that sufficient time is left for it at each stage.

ii. It should be clear who is being consulted, about what questions, in what time-scale and for what purpose.

iii. A consultation document should be as simple and concise as possible. It should include a short summary of the main proposals it seeks views on. It should make it as easy as possible for readers to respond, make contact or complain.

iv. Documents should be made widely available, with the fullest use of electronic means (though not to the exclusion of others), and effectively drawn to the attention of all interested groups and individuals.

v. Sufficient time should be allowed for considered responses from all groups with an interest. Twelve weeks should be the standard minimum period for a consultation.

vi. Responses should be carefully and open-mindedly analysed, and reasons for decisions finally taken.

vii. A consultation co-ordinator should be designated who will ensure the lessons are disseminated.

ANNEX D1 Partial Regulatory Impact Assessment

1. The purpose and intended effect

1.1 The purpose

1.1.1 The proposed modernisation of the BSS requirements for privately owned boats will provide a firm foundation for a sustainable and effective Boat Safety Scheme.

1.1.2 A modernised Scheme will both help the inland waterway navigation authorities address this important area of risk and provide good advice to boat owners on best practice.

1.2 The intended effect

1.2.1 The effect of the proposals is intended to provide a more effective approach in addressing the risks associated with the use of boats to help the navigation authorities' with their duties and responsibilities to all persons affected by their operations.

1.2.2 The objectives are to:

- minimise the risk of incidents and accidents on boats related to fire, spread of fire or explosion;
- assist boat owners identify and address the risks for which they have their own responsibilities;
- minimise the risk to the environment from pollution from boats.

1.3 The proposals:

1.3.1 It is proposed to achieve the objectives by:

- adopting principles and processes that underpin better regulation;
- re-stating the current prescriptive BSS standards as more general BSS requirements which set goals to be achieved;
- introducing changes to the current means of achieving compliance with the requirements;
- introducing seven new points of compliance found necessary to support the proposed general requirements;
- accepting, when appropriate, the previous exemption levels as meeting the proposed general requirements;
- having in place effective measures aimed at influencing boat owner behaviour;
- proposals to further enhance environmental protection.

1.4 Issues of equity and fairness

1.4.1 The proposed measures are intended to benefit the general public by contributing to a safer inland waterway boating environment. The proposed measures will impact equally on all types of privately owned or privately managed boats used on inland waterways which are already subject to the existing requirements of the Scheme.

1.4.2 Modernisation will help navigation authorities achieve an appropriate balance between regulation and education allowing owners to use their boats without undue restriction.

1.5 Who will be affected and how

1.5.1 The impact will fall on owners of private boats used on the inland waterways controlled by navigation authorities that have adopted the Boat Safety Scheme.

1.5.2 It does not affect the owners or operators of other classes of vessel such as those used for hire or reward. It is intended to consult separately concerning a proposal to apply the additional seven compliance items and four personal safety checks identified at 5.2 to such vessels.

1.5.3 Dependent upon how the Scheme is implemented by an individual navigation authority's legislation, the requirements represent the law, or conditions under which a licence/registration or other permission to use a vessel is issued or withdrawn.

1.5.4 No overall additional cost is anticipated for BSS examinations as the time taken to assess boats will not increase.

1.5.5 In appraising the existing BSS Standards seven additional compliance items were identified as essential to support of the proposed general BSS requirements. The cost burden associated with the seven items will be minimal due to the small cost of compliance and the small number of vessels involved.

1.5.6 Other groups affected include:

- the navigation authorities who have adopted the Boat Safety Scheme concerning their enforcement role [see 8 below];
- all other member navigation authorities of AINA regarding the stated policy of AINA for its members to adopt the Scheme as soon as is practicable;
- BSS examiners for training in the proposed changes and the increased emphasis on providing risk avoidance information and a reduced administrative burden;
- marine service and insurance industries concerned with inland waterway vessels.

1.6 The background

1.6.1 The need for modernisation is driven by the desire to ensure the effective management of risk using accepted risk management practices and adopting the principles of better regulation.

1.6.2 The current focus on detailed construction and equipment standards within the Boat Safety Scheme standards makes this aim difficult to achieve.

1.6.3 Without modernisation the effectiveness of the Scheme would be compromised so preventing the necessary support for the navigation authorities in addressing their duties and responsibilities.

1.7 Risk assessment

Modernisation will address three main broad risk areas:

1.7.1 Removing the potential for unnecessary burdens on boat owners

1.7.1.1 Continuing to focus on detailed construction standards, as at present, might potentially lead to the imposition of an unnecessary requirement.

1.7.1.2 Standards makers will have assessed the relevant risks at the time a standard is developed but published standards may not keep pace with technological advances. Navigation authorities may be able to accept suitable alternative methods of compliance as equivalent as they are best placed to assess the actual risks in the inland waterways environment.

1.7.2 Reducing the number and severity of incidents

1.7.2.1 Modernisation will lead to improved acceptance of the regulatory processes. More effective partnerships with marine trade and user organisations will follow as a direct result. Better acceptance of regulation and best practice can reasonably be expected to result in a reduction in the number and severity of incidents.

1.7.3 Avoiding a duplication of regulation

1.7.3.1 Over the past ten years national and EU regulation has been introduced by UK legislators affecting, directly or indirectly, privately owned boats on inland waterways. These regulations concern issues of liquid petroleum gas safety and vessels subject to the Recreational Craft Regulations.

1.7.3.2 Modernisation will help in further ensuring that BSS requirements are harmonised in a transparent and complementary way with other regulations.

1.7.3.3 Modernisation will demonstrate to the Government and other regulators such as the Maritime and Coastguard Agency and the Health and Safety

Executive that risks on inland waterways are being adequately addressed and controlled by the navigation authorities. This will help ensure more onerous or duplicated regulation is avoided.

2 Options

Three options have been identified for the navigation authorities as to how to proceed:

Option 1 – Do nothing;

Option 2 – Partial modernisation: adopt the seven additional compliance items without full modernisation;

Option 3 – Full modernisation.

3 Risk assessment by option

3.1 Option 1 - Do nothing

3.1.1 At the very least under the 'do nothing' option the existing requirements will still have been reviewed to find if they remain necessary and effective.

3.1.2 In light of the outcome of the independent Review of the BSS, the objective to produce sustainable and effective Scheme would be compromised.

3.1.3 Increased costs may arise from a Scheme less able to adapt to novel solutions and technology advances.

3.1.4 The seven additional compliance items would not be introduced. These items have been assessed as necessary requirements and non-introduction would be contrary to the accepted criteria and processes for risk management. It could result in owners choosing not to comply placing themselves and others, or the environment at risk. Stakeholder representatives sitting on the BSS Committees, who universally accepted the case for introduction of items, would feel alienated.

3.2 Option 2 – Partial Modernisation - Adopt the seven additional compliance items without full modernisation

3.2.1 This option would not feature any of the aspects of modernisation but would provide the seven additional compliance items.

3.2.2 All of the potential benefits associated with modernising the Scheme will be negated and none of the three broad risk areas would be properly addressed.

3.3 Option 3 - Full modernisation

3.3.1 If full modernisation were to be achieved it would result in a reasonable, clear and coherent regulatory framework addressing the three broad risk areas identified above and meeting the tests for better regulation. The potential risks are identified below.

3.4 Potential risks associated with Option 3 – Cost burden

3.4.1 There would be a small cost burden for a small number of boat owners, see 5.2.3/4.

3.5 Potential risks associated with Option 3 – BSS standards and boat conformity to the Recreational Craft Regulations (RCD)

3.5.1 The proposals introduce a shift away from BSS standards based upon published construction standards unless the case provides adequate justification. This shift has two consequences and both may be perceived to introduce a risk.

3.5.2 If BSS requirements do not represent the performance requirements of latest industry standards and codes may impact upon builders of vessels used on inland waterways. Some boat builders in support of their declaration that their vessels meet relevant essential safety requirements of the Recreational Craft Regulations state that they have built to BSS Standards.

3.5.3 This practice, although quite in order, may no longer be appropriate if BSS requirements are set in more general terms.

3.5.4 As a consequence for builders is that they may have to apply the accepted international standards or adopt acceptable equivalent standards in support of their declaration of conformity to the Regulations.

3.5.5 This shift should not present a burden to builders and resultant on-costs for the boat buyer since:

- current BSS standards are based on accepted British and International standards it should be a simple matter of changing the reference in their declarations to the base standards. This should not involve a builder in extra cost or a change of building practice, and;

- there are advantages for builders in declaring to the accepted international standards because and so claiming a presumption of conformity to the essential requirements of the Regulations, a principle which it is believed will encourage builders to declare to the accepted international standards.

3.6 Potential risks associated with Option 3 - Consequences of Moving Away From Exemptions –

3.6.1 There is a potential risk from incorporating the current date related exemptions. The case for and against incorporating date-related exemptions is explored at Annex A2

3.6.2 One of the main user organisations, the Association of Waterway Cruising Clubs [AWCC], has strongly argued the case that BSS mandatory requirements should be used as a tool to drive safety forward. AWCC believe that a major objective of the Scheme should be to reflect best practice for construction of new vessels in line with accepted International standards and the Recreational Craft Regulations.

3.6.3 It is considered that the overall impact of incorporating the current date related exemptions is considered to be minimal as their level of safety has been found to acceptable. Over time it is anticipated that safety improvements will continue to improve in line with developments in industry practice.

4 Benefits

4.1 Option 1, Do nothing

No perceived benefits have been identified.

4.2 Option 2, Partial modernisation - Adopt the seven additional compliance items without full modernisation

4.2.1 Adopting the seven additional compliance items alone would help further address known hazards and a reduction in the number and severity of incidents is to be expected.

4.3 Option 3 Full modernisation

4.3.1 Risk cannot be eliminated altogether but full modernisation will create a level of safety equivalent to that of other comparable activities.

4.3.2 Reductions in the numbers of preventable and severity of incidents and increasing levels of safety awareness will be used as a target measures. In themselves these can reasonably be expected to have a positive impact on public safety generally.

4.3.3 From the principles of better regulation the benefits are listed below:

- ensuring that mandatory requirements are risk based and relate to known risks;
- ensuring a minimum impact on those regulated;
- a modernisation and review process which will give greater confidence in the Scheme;

- ensuring flexibility in allowing for innovative solutions and more compliance options accepted as addressing the risk;
- assisting the owners of vessels to address the risks for which they have responsibilities;
- ensuring alignment with the changes to national and EU regulation brought in by UK legislators avoiding duplication and unnecessary regulation;
- simple and clear requirements for waterway users bringing greater levels of understanding and acceptance from those regulated;
- greater clarity in the impact and the reasons for each check leads to greater levels of compliance;
- a clear division between mandatory checks and targeted risk avoidance information together with clear reasons for and impact of each check will bring greater levels of acceptance and continuing compliance from those regulated;
- more compliance routes and a new fair compliance appeals process taking account of novel solutions and technological advances helps to provide an improved level of acceptance from those regulated;
- effective and enhanced safety campaigning leads to less incidents and a more attractive leisure environment;
- pollution prevention advice further enhancing owner co-operation leads to better understanding and to a better protected environment.

5 Costs

5.1 Business sectors affected

5.1.0.1 There are direct and indirect implications for the marine and insurance industries.

5.1.0.2 Implications for the navigation authorities are addressed at under enforcement at 8 below.

5.1.1 Direct implications for the service sector of the marine industry.

5.1.1.1 The sector is already heavily relied upon by many owners of vessels to carry out remedial work and supply appropriate equipment to meet the BSS requirements.

5.1.1.2 There will be a need for the sector to understand the changes to be able to meet the demands from owners for their vessels to meet the requirements.

5.1.1.3 More general BSS requirements will place increased demands on marine suppliers and fitters in advising on selection, supply or installation of appropriate equipment to the latest safety standards.

5.1.1.4 There are risks that additional costs and frustration could be caused to owners if the sector is unable to satisfy the demands placed upon it. It is accepted that improved co-operation between the BSS and the sector will be needed to minimise the risks, for example by the BSS publishing guidance and safety advice about selection and installation of equipment meeting the latest safety standards.

5.1.1.5 There are risks that a perception of additional costs for owners could result as the professional duties on marine engineers and competent gas fitters are exposed to a greater extent as BSS requirements move away from being detailed construction standards.

5.1.2 Implications for boat insurance providers

5.1.2.1 There are implications for the boat insurance providers especially where possession of a BSS Certificate is explicit or implicit in the cover provided.

5.1.2.2 All specialist inland waterway insurers and brokers are being consulted upon the change proposals. It is anticipated that the objective of reduction in the number and severity of incidents will align with their expectations for an appropriate level of regulation.

5.2 Costs by option – additional compliance options

5.2.1 Option 1, Costs of 'do nothing'

No additional costs.

5.2.2 Option 2, Costs of partial modernisation - adopting the seven additional compliance items and not modernising

Additional costs as per 5.2.3 in respect of the seven additional compliance items.

5.2.3 Option 3 Costs of full modernisation. The costs of the additional compliance items

5.2.3.1 The proposed BSS requirements will have an overall neutral cost effect in terms the time taken to complete a BSS examination

5.2.3.2 Factors in the change proposals influencing a reduction in the cost of compliance for owners compared to the existing application of the Scheme are:

- increasing the number of compliance options;
- the use of risk avoidance information where this is regarded as the most effective way of managing the risk, and;

- ensuring that the boat owners' choice of component or appliance is influenced at the point of selection and installation.

5.2.3.3 There will be very small increased costs to owners associated with the additional compliance items. Each of the seven proposed new requirements is analysed below. Costing includes VAT and labour where appropriate.

5.2.3.4 Unused fuel filling points to be marked or disabled

a. It is proposed that that any unused filling points are clearly marked or disabled. There are known risks associated with placing fuel filling nozzles or fuel filling funnels into points that are not connected to a fuel tank.
b. There is a wide range of cost associated with marking deck connections, from £2 for an engraved plastic plaque to £10 for a brass one. The estimated number of vessels on inland waterways network having disused filling points that are not disabled or marked is 200 giving possible minimum and maximum total cost of £400 and £2000. Mass production of sticky backed labels would reduce the cost to pence.

5.2.3.5 General condition check of portable fuel system components

a. It is proposed to extend the existing application beyond the fuel tank. All components of portable fuel systems including tank, fuel hose and priming bulb need to be complete, as well as being free of leaks, damage and deterioration.
b. Portable fuel systems and their components, dependent upon level of use, are usually accepted as having a limited life of no more than ten years.
c. Introduction of this compliance item is made within the context that the majority of owners of all vessels with portable fuel systems already consider replacing such equipment in the event that its condition had deteriorated. The proposed change turns this rational decision into a matter of compulsion.
d. The average cost of a replacement fuel hose priming bulb and connections is £17 (inc. VAT). The estimated number of vessels on the inland waterway network having portable fuel systems is 24000. Presuming the average life of a portable fuel system is ten years it could be argued that in any one year 2400 boats may become subject to this requirement. Total annual cost could be £40800.

5.2.3.6 A maximum capacity for portable fuel tanks

a. The proposal for a maximum portable fuel tank capacity of 27 litres will have a minimal impact. It is generally accepted that the maximum capacity that can be easily lifted and transported is 27 litres. This maximum capacity is in the relevant international construction standards and proprietary makes of tanks are limited in this way. Tanks made in accordance with the international standard have been tested to ensure the tank will not split in the event the tank is dropped.

b. The proposed compliance item will impact on those owners who have acquired replacement portable fuel tanks manufactured outside of the accepted practice outlined above. Such tanks can be characterised by a description of nine-gallon capacity and built to no recognised standard.
c. Replacement outboard fuel tanks range in cost from £23 to £90. The estimated number of vessels on the inland waterway network having portable fuel systems is 24000 of which the number of vessels portable fuel tanks of over 27 litres is estimated at no more than 300. Total cost could therefore be a minimum of £6900 to a maximum of £27,000.

5.2.3.7 Allowing spare petrol to be contained within a 27 litre portable fuel tank

The proposal to permit spare petrol to be contained within a spare 27 litre portable fuel tank will add a compliance option to the benefit of boat owners and will not increase costs.

5.2.3.8 Labelling lockers containing portable fire extinguishers

a. The proposal that a label is needed on any locker in the event a portable fire extinguisher is stored within will have a minimal impact. The vast majority of owners keep portable fire extinguishers readily accessible but a small proportion prefer to locate them in lockers for aesthetic or security reasons.
b. The proposed compliance item will impact on those owners who store fire extinguishers in lockers and will require them to clearly mark lockers to the effect that an extinguisher is stored within.
c. Costs associated with labelling range from 75p for a sticky label to £2 for an engraved plastic plaque to £10 for a brass one. The estimated number of craft on the inland waterway network having fire extinguishers located within cupboards is no more than 2000. Total minimum cost could be £1500 and total maximum of £20000.

5.2.3.9 Classifying portable fire extinguishers outside of any ‘expiry’ date as not in good condition

a. The proposal that portable fire extinguishers passed any manufacturer’s express 'expiry' or 'replace by' date, and not supported by a recent service label, will not be accepted as compliant will have a minimal effect.
b. Portable fire extinguishers are subject to deterioration and most owners of boats understand that occasional replacement is required.
c. The proposed compliance item will impact on those boat owners who have portable fire extinguishers outside of any express expiry/replace by date. Costs of replacing 5A/34B extinguishers range from £15 to £45. The estimated number of vessels on inland waterways with fire extinguishers outside of any manufacturer’s expiry/replace by date is no more than 500. Total minimum and maximum costs would therefore be £7500 and £22,500.

5.2.3.10 Requiring toilet systems capable of discharging overboard to be fitted with a valve

a. The proposal for any toilet system capable of discharging directly overside ('sea-toilets' and sewage holding tanks) to be fitted with a valve in the discharge line will have a minimal impact.
b. It is appropriate to control the discharge of sewage from vessels. The vast majority of vessels fitted with sea toilets or sewage holding tanks already have 'sea-cock' valves fitted. The proposed compliance item will impact on those owners who have vessels without valves fitted in the line from sea toilet or sewage holding tank overside discharges.
c. Costs associated with installing a valve range from £230 for a replacement through hull fitting incorporating a 'sea-cock' valve to £55 for a valve placed in the discharge line. The estimated number of vessels on the inland waterways having sea toilets or sewage holding tanks without a valve in the overside discharge line is no more than 200. Total minimum and maximum cost would therefore be £11,000 and £46,000.

5.2.4 Option 3 Costs of full modernisation – the costs of the proposed four additional personal safety checks

5.2.4.1 Personal safety checks involve BSS Examiners carrying out checks, not linked to the issue of a BSSC, regarded as the most effective way of addressing an identified risk. The checks relate solely to what is found at the time of the examination. If the feature as examined poses a potential hazard, the owner or the owner's representative will receive a written notice of the defect together with supporting specific risk avoidance information.

5.2.4.2 It is anticipated that where such a check determines a potential hazard, most owners will choose to remedy the situation to provide protection for themselves and others that may be aboard their vessel.

5.2.4.6 Part 3 Electrical Installations

a. It is proposed a check will be made that sockets and matching plugs are not inter-changeable between a.c. and d.c systems. The estimated cost of replacing 3 ac or dc sockets is £85. The estimated number of vessels affected on inland waterways is 500 giving a total cost of £42500].
b. It is proposed a check will be made that a.c. circuits are not capable of being energised by more than one source of electrical power at a time and that both live and neutral conductors are broken simultaneously when changing power sources. It is estimated that the minimum cost of isolating a vessel's power sources is £110. It is estimated that a total of 50 vessels on inland waterways do not have isolated power sources, giving a total estimated cost of £5500.
c. It is proposed a check be made to ascertain that any 230V shore supply connection installed on a vessel is of the male pin type. The estimated cost of changing supply connections is £70. It is estimated 1000 vessels on inland

waterways do not have male pin type shore supply connections, giving a total cost £70,000.

d. It is proposed a check be made that a residual current device (RCD) is installed in 230V systems. Costs of installing an RCD range from a minimum of £80 to a maximum of £240. There are an estimated 3000 vessels affected on inland waterways. Total minimum and maximum costs are £240,000 and £720,000.

5.2.5 Option 3 Costs of full modernisation – the costs to BSS Examiners

The cost of modernisation for BSS examiners will come from a need to attend a two-day local seminar on the implementation of the proposed changes and application the proposed increased emphasis in providing risk avoidance information to owners. It is not anticipated that a significant charge will be made for this other than to cover administration costs and room hire.

5.2.6 Option 3 Costs of full modernisation – the cost to navigation authorities

5.2.6.1 Direct cost to the Navigation Authorities will arise from:

a. any shortfall in allocated BSS funding from the reprinting the BSS Guide inserts;

b. distribution of the BSS Guide inserts to owners of vessels during the first quarter of 2005;

c. amendment of registration, licensing or other conditions information to reflect the change in requirements.

5.2.7 Option 3 Costs of full modernisation – the cost to the marine service sector:

a. cost-impact on the marine trade will be minimal with no new capital investment needed. Support to the Sector from the BSS will be offered to minimise the effect on the its staff in acquiring knowledge of the changed requirements;

b. boat builders of Category D (covering inland waterway craft) may need to amend their Declarations of Conformity to the Recreational Craft Directive [see 3.3.2].

6 Consultation with small business

6.1 The British Marine Federation representing the major part of the Marine Industry's small businesses, have been well represented and taken an active part in the substantial BSS Committee discussions on the both principles of modernisation and the proposed changed requirements.

6.2 Whilst the changes in these proposals do not directly affect the Marine Industry Service Sector, largely made up of small businesses, there will be an impact concerning awareness of the changes and delivery of services to the owners of vessels. The BSS will be providing information and guidance specifically targeted at different business sectors, such as boat repair businesses, chandlers and professional marine surveyors.

6.3 It is intended to develop through various means better access for each part of the Sector to improved information on the Scheme's requirements.

7. Competition Assessment

7.1 The proposals will not affect competition in the broader business sector.

7.2 The main business sectors are the sale of new and used boat vessels relevant to UK inland waterways, the service and repair industry for same and the manufacture and supply of relevant components and equipment used in vessels.

7.3 Sale of new vessels for recreational use is subject to the requirements of the Recreational Craft Regulations (RCD). The proposal changes are intended to ensure transparent harmony with the Regulations and assist in removing any confusion and uncertainty over which construction requirements apply on the inland waterways.

7.4 The sale of used recreational vessels may be indirectly affected in as much as currently they may be sold on as being compliant with BSS requirements, similar to used cars being sold on with a new MOT. The change proposals are not considered to alter the current position.

7.5 The proposals do not affect standards of manufacture of components and equipment, excepting that Scheme's general requirements may identify products claiming compliance with standards where such a claim may be not be appropriate.

8. Enforcement and sanctions

8.1 The Boat Safety Scheme does not enforce compliance with the requirements for vessels using inland waterways. It provides a standards-making and verification service to the Navigation Authorities who have the powers, duty and responsibility enforcement.

8.2 Depending upon how the BSS is accommodated by an individual navigation authority, the BSS requirements represent the law, or conditions under which a licence/registration or other permission to use a vessel is issued or withdrawn. In most cases failure to support an application for a licence/registration or other

permission with a BSS Certificate will result in the permission being refused or withdrawn.

8.3 It is recommended that Navigation Authorities review and publish their BSS related regulatory enforcement policies to provide a consistency approach across authority borders.

9. Monitoring and review

9.1 The BSS Office have adopted the overall objective as the establishment of a level of safety equivalent to comparable activities.

9.2 In the future more robust data reporting and recording will be used to measure against the number of incidents per thousands of hours exposure. In the meantime reducing the number of preventable incidents and increasing levels of safety awareness as measured by independent surveys of populations of users

9.3 Measuring the level of compliance is linked to the evasion rate for each participating navigation authority associated with licensing/registration and other permissions. In this partial regulatory impact assessment the bearing of the proposals on the overall level of compliance has not been assessed but it is estimated that the effect will be minimal.

10 Contact point, concerning this Partial Regulatory Impact Assessment:

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ANNEX D2 Short paper on the BSS Risk Review

D2.1 Summary of the BSS Risk Review

D2.1.1 The BSS contracted Advantage Technical Consulting to conduct a risk review and produce a risk model. The results helped with the review of the existing BSS requirements in relation to the impact on incident causes.

D2.1.2 The results supported judgements made in developing the proportionate risk control measures set out within the proposals outlined in this document.

D2.1.3 The risk review approach was to collect and examine the available incident data relevant to boats operating on UK inland waterways. A risk model was also developed with the help of a panel of experts drawn from a broad range of experience and interests and independent of the Boat Safety Scheme. This panel provided valuable experience and information to aid hazard identification and review and verify the development of hazard analysis modelling.

D2.1.4 The overall conclusions of the work identified flooding and fires as the most prevalent events, with the former arising from a large number of insurance claims but with little evidence of harm to people. The data also confirmed the high severity of carbon monoxide poisoning incidents.

D2.2 Benchmark for the future

D2.2.1 Results have helped provide a base risk assessment that can be used as the benchmark from which to monitor the effectiveness of the measures adopted and to gauge safety improvements in the future.

D2.2.2 The review identified the broad age distribution and varying standards of construction and maintenance of the inland waterway vessel population. It was recognised that improving standards could be predicted as the proportion or new boats that have been subject to the Recreational Craft Regulations and the Boat Safety Scheme increases.

D2.3 Accident and incident reporting

D2.3.1 The collection of available data highlighted the lack of, or incomplete reporting of accidents and incidents. Improvements in data collection present a major challenge to the navigation authorities because best possible data will better inform future decision making processes of the Scheme.

D2.3.2 Improvements in data collection are envisaged as a direct result of initiatives from AINA, the RNLI and a number of other small independent data collection organisations.

D2.3.3 The success of these initiatives will entirely depend upon an acceptance amongst boat owners and others of the need to report incidents and near misses. It is intended to develop a partnership approach with user groups and marine trade groups to encourage a culture of reporting incidents and develop a mechanism to disseminate the safety messages that are drawn from such information.

ANNEX E *Questions*

E.1 There are a series of questions to be found in sections 4, 5 and 6 on the principles to the proposals; the changes and the underlying assumptions; on the consultion itself, and, on the impacts of the proposed changes.

E.2 The questions are repeated here for ease of drafting a response. We would be grateful if you would reference each response against either the question number, the paragraph number or both. It would also be helpful to ensure each sheet carries the sender's name and details.

Q1 With regard to 4.4, does the framework for achieving the right balance between the responsibilities of the navigation authorities and the responsibilities of the individual boater succeed in its intention?

Q2 With regard to 4.5, do you believe that the key features for BSS requirements meet the objectives for fair, straightforward, equitable and reasonable regulation?

Q3 With regard to 4.6. do you believe that moving away from detailed and specific standards to 'goal-setting' requirements is a suitable approach?

Q4 With regard to 4.7, do you believe that in having immediate access to BSS office interpretation, independent appeals panels and access to representatives on committee structures, there are sufficient safeguards to ensure compliance is recognised or that non-compliance is accurately verified?

Q5 5.3.1 Do the proposed general requirements adequately represent the minimum necessary to help prevent explosion, fire, the spread of fire or pollution in respect of

- **ii Permanently installed fuel systems and fixed engines**
- **iii Electrical systems**
- **iv Electrical propulsion systems**
- **v Outboard and portable combustion engines and portable fuel systems**
- **vi Fire extinguishing and escape**
- **vii LPG systems**
- **viii Appliances and flues**
- **ix Pollution prevention**

Q6 5.4 We would welcome your views on the reasonableness and practicality with regard to the changes to the existing BSS Standards and the proposed means of compliance detailed in Annex A1?

Q7 **5.5.4 Is the introduction of a new means of compliance reasonable, proportionate and practical in respect of:-**

a) Permanently installed fuel systems and Fixed engines

b-d) Outboard and portable combustion engines and portable fuel systems

c) Fire extinguishing and escape

f) Pollution prevention

Q8 **5.6 Do you believe the proposals at 5.6.2 concerning the current age-related exemptions to be reasonable?**

Q9 **5.7.4 We welcome your views on the proposals to remove the obligation for a flue spillage test and to continue to offer it as an option?**

Q10 **5.8.1- 3 We would welcome your views on the proposed enhancements aimed at further protecting the environment.**

Q11 **5.9.5 Smoke alarms have potential to alert people to small fires as well as contributing to crew safety. The alerted crew may be able to then swiftly prevent the fire spreading. If standards were developed, would it be reasonable, in view of the relative low cost of such devices, for certified alarms to become either -**

a) **a BSS requirement,**
b) **subject of a personal safety check, or,**
c) **incorporated into published advice only?**

Q12 **5.9.11 CO alarms have potential to alert people to potential immediate hazards of CO poisoning. We would welcome your views on whether certified CO alarms becoming**

a) **subject of a personal safety check, or**
b) **incorporated into published advice only**

if and when national or international standards on certification be developed?

Q13 **6.2 Do you have any views on the costs, benefits and risks identified in the partial RIA as detailed in Annex D1?**

Q14 **6.1-7 We welcome your views on the effectiveness of this consultation process and consultation document.**