



## **Consultation Document**

**Proposals to introduce two increased BSS Requirements and relax a further 20 BSS Requirements by lowering stipulations or expanding compliance options within the Interim Review of the BSS Examination Checking Procedures**

**March 2022**

## Contents Page

Section	Page
<b>Title Page</b>	1
<b>Contents Page</b>	2
<b>Section 1 - Foreword and introduction</b>	4
<b>Section 2 - Background to the consultation</b> 2.1 The BSS Examination Checking Procedures (ECP) and the recent Interim Review 2.2 The outcome of the Interim Review of the BSS ECP 2.3 Risk arguments in favour of introducing an increased BSS Requirement for evidence of recent servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator 2.4 Risk arguments in favour of clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework	5
<b>Section 3 - Summary impact assessment concerning introducing an increased BSS Requirement for evidence of recent servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator</b> 3.1 Intended objectives and benefits of introducing the increased BSS Requirements 3.2 Arguments against introducing the proposal 3.3 What alternatives to introducing increased BSS Requirements were considered? 3.4 The cost impact of introducing increased BSS Requirements	9
<b>Section 4 - Summary impact assessment concerning clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework</b> 4.1 Intended objectives and benefits of introducing the increased BSS Requirements 4.2 Arguments against introducing the proposal 4.3 What alternatives to introducing increased BSS Requirements were considered? 4.4 The cost impact of introducing increased BSS Requirements	11
<b>Section 5 – Revisions introducing the relaxation of 20 BSS Requirements by lowering stipulations or expanding compliance options</b> 5.1 Identifying changes where there has been a lessening of the requirements 5.2 Identifying changes where there are additional compliance options	13

<p><b>Section 6 – Your chance to comment on the proposals</b></p> <p>6.1 Do you agree that the increased BSS Requirement requiring evidence of servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator is supportable?</p> <p>6.2 Do you agree that clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework is supportable?</p> <p>6.3 Do you have any comments to make concerning the relaxation of 20 BSS Requirements by lowering stipulations or expanding compliance options?</p>	17
<p><b>Section 7– About this consultation</b></p> <p>7.1 How is the consultation to be run?</p> <p>7.2 Have we been clear?</p> <p>Do you agree that there are no unintended consequences concerning introducing the proposals?</p> <p>Have we given you the proper opportunity and adequate means to contribute your views?</p> <p>7.3 About you and your responses.</p> <p>7.4 Alternative means of submitting responses</p> <p>7.5 Further information</p>	19
<p><b>Section 8 – Question &amp; Response Form</b></p>	21-23

## **Section 1 – Foreword and introduction**

The Boat Safety Scheme (BSS) is running a public consultation on proposals relevant to a recently revised version of the BSS Examination Checking Procedures that has the full support of its stakeholder and management committees.

Following the Interim Review of the 2015 version of the BSS Examination Checking Procedures that have seen in excess of 500 grammatical, sentence construction, terminological and process changes, it is additionally proposed to introduce two mandatory increased BSS Requirements by way of changes to two existing BSS Checks.

The two increased BSS Requirements are:

- a) on boats with petrol propulsion engines, requiring evidence of recent servicing for any Wilderness Boats conversion of an Electrolux RM 212 refrigerator (BSS Check 8.2.2R)
- b) clarification that ferrous/cast iron fittings, joints and components used in LPG pipework are not compliant with BSS Check 7.8.3R.

As an outcome of the Interim Review of the BSS Examination Checking Procedures, it is also proposed to introduce 20 relaxations by lessening some requirements or expanding potential compliance options

The BSS changes are presented as both necessary and proportionate risk controls and your comments upon them are welcomed.

The consultation is open until 16:30 on Tuesday 31 May 2022.

## Section 2 – Background to the consultation

### 2.1 The BSS Examination Checking Procedures and the recent Interim Review

The BSS Examination Checking Procedures (ECP) set out how the BSS Requirements are to be applied by BSS Examiners during BSS Examinations on privately owned and privately managed vessels (as well as the relevant checks common to the Hire Boat Requirements 2017).

The BSS ECP were last revised in 2015 and an Interim Review task has just been completed. The aims of the review were limited to:

- ensuring that the published ECP support the onward consistent application of the Checks by BSS Examiners; and,
- ensuring that BSS Examiner training can be effective to deliver an individual's understanding of BSS Checking actions, Requirements and Applicabilities, whether the training is for existing Examiners or new-entrant BSS Examiners.

Further information about how the Interim Review of the ECP was carried out is available [here](#) .

### 2.2 The outcome of the Interim Review of the BSS ECP

**Increased technical requirements** – Apart from the two proposed changes the subject of this public consultation and affecting a very small number of boats, it is important to understand that no increased technical requirements have been introduced as a result of the Interim Review of the ECP.

**Relaxations and increased compliance options** – In a small number of checks, there are 20 adjustments resulting in slight relaxations of specific requirements and/or additional compliance options. A table of those relaxations and further compliance options is available to view in section 5 and consultees are encouraged to view this table to assess if any are relevant to planned work on their own boats (owners), or marine industry members planning to carry out work on boats to meet BSS compliance.

**Editorial improvements and increased clarity** – Around three-quarters of the 540 adjustments are editorial improvements or checking procedure amendments that will help everyone's understanding and application of the BSS Checks, whether they are BSS Examiners, boat owners or members of the marine industry.

For those that are interested to learn the detail of all of the changes please view the detail in a 140-page document called – 'Every Change Explained' [here](#) .

Improved consistency in the application of the published BSS Checks is one very important aim of the Interim Review. However, we recognize that, leading from the proposed improvements in clarity and recent extensive training of Examiners, there is the potential for situations whereby an item may be newly discovered as non-compliant and so could require some adjustments or work to meet compliance and improve safety.

Likewise, the greater clarity in the Checking Procedures and the improved Examiner training may also address the relatively uncommon situation of any previous over-application the published BSS Requirements.

A revised interim edition of the ECP was published on 28 September 2021 [here](#) .

It is intended that the final post-consultation version of the new Core Examination Checking Procedures (for Private boats and Hire Boats) will be published in late Spring 2022.

## **Why the increased requirements?**

### **2.3 Risk arguments in favour of the proposal affecting petrol boats to require evidence of recent servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator**

On petrol powered boats there is an inherent likelihood of petrol vapour escape including during routine refuelling.

On petrol powered boats there exists a significant risk of petrol vapour ignition created by the combination of:

- a) the low-level constant burner on an LPG fridge that is non-compliant with Checks 8.2.1R and 8.2.2R.; and,
- b) the fact that petrol vapours are highly flammable, 'heavier' than air and they are invariably created when a petrol tank is refuelled; and,
- c) within the confines of the boat structure escaped petrol vapour will fall to low lying parts and will predictably be ignited by the flame of the fridge burner that is non-compliant with Checks 8.2.1R and 8.2.2R.

Compliance with Checks 8.2.1R and 8.2.2R ensures that the ignition risk is controlled.

- by requiring that any LPG refrigerator installed on a boat with a petrol propulsion engine is either of a proprietary room-sealed type, or a Wilderness Boats conversion of an Electrolux RM 212 model, effectively removes the low-level constant source of ignition and so minimises the risk of petrol vapour being ignited by the fridge burner (Check 8.2.1R).
- by requiring that any Wilderness fridge burner enclosure and the flame arrestor at the 'lazy tee' are in place and have been recently serviced ensures that the risk of petrol vapour being ignited by the fridge burner is minimised (Check 8.2.2R).

Concerning Check 8.2.1R, since the 1990s there have been no proprietary room-sealed fridge appliances suitable for boats on the market and no conversion company has developed an appliance with a protected burner flame like the Wilderness product.

Therefore, for the purpose of this public consultation, the BSS risk management measures need only look back to the latter part of the last century.

Hence, the amended Check 8.2.2R now focuses on Wilderness Boat fridges because no other commercially converted LPG caravan fridges protecting the burner flame are known. Because of the specific application of the Check the Requirement can be more specific in terms of the flame arresting components and the servicing requirement.

This general approach reflects the seriousness of the risk. Fridges non-compliant with the current accepted standards, caused numerous boat explosions in the 1970s, 80s and 90s when stray petrol vapours found the fridge flame.

Such incidents are thankfully now rare but occasionally still happen, two significant boat explosions linked to a non-compliance at Check 8.2.2R have occurred in the past 12 months.

The potential for harm from a petrol vapour explosion is considered so significant that BSS Examiners marking a failure at Check 8.2.1R or 8.2.2R will also invoke the BSS Warning Notice and Hazardous Boat Notification actions.

The Check at 8.2.2R now reads:

**On petrol-engined vessels with a Wilderness Boats conversion of an Electrolux RM 212 refrigerator on board, are the burner enclosure and the flame arrestor at the 'lazy tee' in place, and is there suitable documentary evidence of recent servicing?**

The increased technical aspect of the existing BSS Requirement being consulted upon is the requirement for evidence of recent servicing.

In order to comply with Check 8.2.2R there must be documentary evidence that the refrigerator has been serviced by Wilderness Boats or a Gas Safe registered engineer within the previous 12 months of the date of the BSS Examination.

The risk reason driving the change is that Wilderness Boats converted fridges are now 20-30 years old or even older. Most of the converted fridges were installed in small outboard powered boats built by Wilderness Boat, and some owners are reportedly removing the fridges as they are finding it difficult to have the appliance maintained correctly.

Given the high level of risk associated with a failure of the flame arresting enclosures around the burners and flue, requiring these fridges to be serviced (including enclosures) by a competent person within the preceding 12 months before BSS Examination is seen by the stakeholders, including many Wilderness Boat owners, to be a modest and reasonable risk control measure.

Until the outcome of the consultation is known and the ECP finalised, Examiners are requested to contact the BSS Office for guidance should they encounter a Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator on a petrol-powered boat.

#### **2.4 Risk arguments in favour of the clarification to disallow ferrous/cast iron fittings, joints and components used in LPG pipework**

The exclusion of ferrous iron gas fittings is warranted for the following reasons:

- a) general corrosion of the ferrous metal inside the fitting that may not be visible at the time of exterior examination; and,
- b) electrolytic (dissimilar metal) corrosion within the fittings connections that may not be visible at the time of exterior examination; and,
- c) differential metal expansion and contraction potentially leading to pulled and leaking joints.

Ferrous/cast iron pipe and joints have been non-compliant with BSS Requirements since the inception of the BSS Standards in 1997.

Check 7.8.3R now contains a strictly limited list of acceptable materials for LPG pipe joints and fittings, and these do not include ferrous iron. This exclusion was not specific in the BSS Checks for Private Boats between 2005 to September 2021. However, it was in the older BSS standards, for example in the 2002 BSS Standards that still apply to certain non-private classes of boats.

Previously the disallowance of ferrous/cast iron fittings, joints and components was implicit in the Private Boat (Core) checks, when linked to Check 7.8.1, which has always been specific in limiting the acceptable materials to 'pipework'. Now in Check 7.8.1R reference to 'pipework' has been editorially changed to 'pipes' and so this implicit link has been lost.

Reasonable arguments could be made as to whether the clarification to disallow ferrous/cast iron fittings, joints and components is, or is not an increased BSS Requirement. It is considered better simply to be transparent and consult on the basis that the change can be considered an increased BSS Requirement

The prevalence of ferrous/cast iron fittings, joints and components used in LPG pipework is very rare. Perhaps in part this is due to the BSS Requirement specifying LPG pipework material and perhaps mainly associated with clauses within the international and national LPG installation in boats standards of the mid-nineties onward influencing the use of appropriate corrosion-resistant LPG system fittings in boats.

It is estimated there could be around 100-200 boats with these fitting on inland waterways across the UK. Because of the small number of boats affected it is considered that the likelihood of a LPG leak occurring leading to a hazardous gas fire/explosion event is very low, but potentially the consequences of such an event are severe.



The use of such fittings is believed to be very limited to a few narrowboat and Dutch barge builders, mainly in the 1970s and 1980s. The fittings are generally positioned at the point that gas pipes exit steel LPG cylinder lockers (image below).

BSS Examiners do occasionally find such fittings showing signs of corrosion and BSS faults are recorded. The concern now and looking forward is about hidden corrosion and on fittings that are 40-50 years old.

It is reasonably certain that recent and current competent LPG installation practice does not include the use of ferrous/cast iron fittings, joints, and components on LPG installations on boats. As with the management of the risk associated with very old, converted LPG fridges above, the focus of the clarification is to ensure that the BSS continues to have relevant and proportionate risk control measures that pre-empt hazardous events from occurring.

It is considered that affected boat owners replacing ferrous/cast iron fittings, joints and components using a competent professional is considered a reasonable risk control measure, balanced against the risk of an uncontrolled gas leak.

Until the outcome of the consultation is known and the ECP finalised, Examiners are requested to contact the BSS Office for guidance should they encounter on a boat a ferrous/cast iron fittings, joints and components used in LPG pipework.



## **Section 3 – Summary impact assessment concerning introducing an increased BSS Requirement for evidence of recent servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator**

### **3.1 Intended objectives and benefits**

The objective of the increased BSS Requirement is to ensure that risk control measures remain appropriate to the level of risk, recognising that converted appliances will be coming towards the end of their operating lives.

Servicing at least once every four years will help ensure that only those converted appliances that remain serviceable and that continue have effective enclosures protecting the burner flame will remain on boats.

Converted appliances are invariably found on Wilderness Boats, small petrol outboard powered cabin cruisers. A key benefit is that it is envisaged that the vast majority of the appliances that remain on boats will be serviced by Wilderness Boats and this fact will ensure a good level of control of the risk and will help ensure that any unserviceable appliances are removed from boats.

Electric powered refrigeration is now common even on small boats and are the accepted method of keeping food and drink cool. Conversion to electric refrigeration is seen as a risk benefit.

### **3.2 Potential unintended consequences of introducing the proposed change**

No unintended consequences are envisaged.

The constituency of boats affected is very small and in considering this change, we have liaised with the designer and original producer of Wilderness Boats who continues to be involved with the Wilderness Boat Owners Club.

It is estimated that around half of the owners of the boats affected are members of the Wilderness Boat Owners Club and are fully aware of the change.

### **3.3 What alternatives to introducing the increased BSS Requirement were considered?**

**Introduce BSS ‘Advice Checks’** – considered inappropriate because the circumstances fall within the criteria for mandatory compliance linked to risks to people and property beyond the boat, i.e. mitigating the significant potential risk of petrol vapour explosion.

**Do nothing** – considered but rejected as the evidence in favour of tighter BSS risk controls on the ageing appliances is compelling.

**Rely only upon safety awareness campaigns** - Reliance upon co-ordinated campaigns aimed at raising awareness is not considered a fully effective method to mitigate the risk.

It is considered necessary to promote electric refrigeration for petrol powered to ensure owners make the right appliance selection choices in between BSS Examinations.

To introduce the mandatory increased BSS Requirement – is the proportionate risk control and is the sole recommendation presented.

### **3.4 The cost impact of introducing the increased BSS Requirement**

The following assumption is presented:

- a) It is likely to apply to no more than 60-70 mainly Wilderness Boats small cabin cruisers, possibly far fewer.

The following costs are estimated:

- a) Additional costs to boat owners/operators - £10,500 (70 boats x £150 each boat). This cost to be repeated every four years equates to ongoing yearly costs of £37.50. However, the industry and BSS promoted recommendation is that all domestic gas appliances should be serviced annually.
- b) Additional BSS Examiner charges for their boat owners/operator customers? – it is possible, but unlikely, that Examiners will charge more for the added time taken to carry out the verification of provided service documentation. Examiners operate in a free market regarding their charges.
- c) Additional costs to the BSS – no additional costs, only normal operating costs in support of consultation, implementation, promotion and review.
- d) Additional costs to BSS Examiners – existing Examiners are undergoing online training concerning all BSS Checks. The element of validating appliance servicing documentation is included in the training. As such there is regarded to be no additional cost to BSS Examiners.
- e) Additional cost to navigation authorities – no direct cost to the Navigation Authorities is other than any information to reflect the change in BSS Requirements.

## **Section 4 – Summary impact assessment concerning introducing an increased BSS Requirement clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework**

### **4.1 Intended objectives and benefits**

The objective of the clarification at BSS Check 7.8.3 is to ensure that LPG pipe joints, fittings and components are suitable for use with LPG and are installed so as to minimise the potential for leaks.

More specifically, LPG is very searching concerning any pipework imperfections and can be corrosive to some materials. In the boat environment LPG pipework can be subject to vibration, extremes of temperature, exposure to fuels and solvents and to the potential for mechanical damage. By requiring LPG pipe joints, fittings, and components to be made of non-corrosive material, minimises the risk of LPG vapour escape.

Every LPG joint is a potential leak point. By requiring all LPG pipe joints of the correct type minimises the potential for leaks.

Such joints and fittings are generally limited to boats that are 40-50 years old. The older the joint/fitting the more likely that hidden corrosion leading to a hazardous event will occur.

Supporting the clarification will help minimise the potential for unseen corrosion in ferrous/cast iron fittings, joints and components used in LPG pipework leading to a hazardous LPG leak or gas fire explosion event.

### **4.2 Potential unintended consequences of introducing the proposed change**

It is possible that on a boat with ferrous or cast-iron fittings/joints/components being worked on by a Gas Safe registered engineer, the engineer would not require the joint/fitting to be removed, based on their risk assessment and engineering judgement.

Even if the joint/fitting was deemed as not presenting the degree of risk needing immediate replacement of the item, it is likely that the customer would be advised that the materials are not used for new installations, and that replacement with more suitable material should be considered.

It also follows that on this point, a boat being worked on by a gas engineer one day could be judged as non-compliant in a BSS Examination the following day.

### **4.3 What alternatives to introducing the increased BSS Requirement were considered?**

**Place reliance on the BSS Examiners sound engineering judgement** - considered inappropriate as BSS Examiners are not engineers able to assess the condition of metals subject to corrosion.

**Place reliance on the boat passing the LPG tightness test** – considered inappropriate due to the age of the joints/fittings and the potential exposure hidden deterioration

**Introduce BSS 'Advice Checks'** – considered inappropriate because the circumstances fall within the criteria for mandatory compliance, i.e. mitigating the risk of LPG escape leading to a LPG fire/explosion.

**Do nothing** – considered but rejected as the evidence in favour of tighter BSS risk controls on ageing inappropriately used ferrous/cast iron fittings, joints and components is supportable.

**Rely only upon safety awareness campaigns** - Reliance upon co-ordinated campaigns aimed at raising awareness is not considered a fully effective method to mitigate the risk.

#### **4.4 The cost impact of introducing the increased BSS Requirement**

The following assumption is presented:

- b) It is likely to apply to no more than 200 mainly narrowboats and Dutch barges.

The following costs are estimated:

- f) Additional costs to boat owners/operators – a minimum of £40,000 (200 boats x £200 each boat/each joint or fitting). More than one joint/fitting may be fitted, but usually only one joint/fitting is found. This cost would be a one-off.
- g) Additional BSS Examiner charges for their boat owners/operator customers? – it is possible, but unlikely, that Examiners will charge more for the added time taken to carry out the verification of joint/fitting material. Examiners operate in a free market regarding their charges.

Conversely their presence can prompt requests for assistance and so can cause additional time for an examiner to research and resolve the approach to take.

- h) Additional costs to the BSS – no additional costs, only normal operating costs in support of consultation, implementation, promotion, and review.
- i) Additional costs to BSS Examiners – existing Examiners are undergoing online training concerning all BSS Checks. The element of validating appliance servicing documentation is included in the training. As such there is regarded to be no additional cost to BSS Examiners.
- j) Additional cost to navigation authorities – no direct cost to the Navigation Authorities is other than any information to reflect the amendment in BSS Requirements.

## Section 5 – Summary impact assessment concerning the relaxation of 20 BSS Requirements by lowering stipulations or expanding compliance options

### 5.1 Are the arguments for the introduction of relaxing the following BSS requirements supportable?

Please read the amendment explanations in the tables below which describe the nature of the proposed relaxations.

**Table of lesser requirements**

Check	Check Text	Amendment Explanations
2.4.2R Petrol Tanks	Are petrol tank vent outlets fitted with a suitable proprietary flame arrester in good condition?	The requirement on diesel tanks is removed – revision aligns the BSS Requirement with the ISO standard, which does not require flame arrestors on diesel tank vents.
2.4.2R Petrol Tanks	Are petrol tank vent outlets fitted with a suitable proprietary flame arrester in good condition?	The mesh size specification is removed – this is because boats are, as manufactured, very likely to have arresters of ‘suitable proprietary manufacture’ and to continue with specified mesh size may cause a conflict. The Check then becomes a check of condition of the proprietary flame arresters and their flame arresting gauze.
7.1.1R Gas stowage	Are all cylinders and cartridges stored in a position where any escaping LPG vapour will be directed safely overboard?	the minimum separation between cylinders in the open and ignition sources/openings into the interior of the vessel reducing from 1m to 0.5m. This now aligns with ISO 10239 and PD 54823
7.2.3R Gas locker	Is the cylinder locker, up to the level of the top of the cylinder valves or other high-pressure components, free of any path for escaping LPG vapour to enter the interior of the vessel?	Withdrawn: ‘Door seals... .. or pass the smoke pellet test’ [Deleted] - That part of the existing Check relating to smoke pellet testing is removed. Examiners have never been trained to undertake the smoke pellet test, the test procedures are not set out anywhere.
7.5.1R Gas locker	Is the cylinder locker opening outside of any engine or battery space?	Revision: ‘electrical equipment space’ has been deleted because it was very difficult to define and because risk review did not support its continuation.
7.8.6R	Are all LPG pipes running through petrol engine spaces jointless and adequately supported?	The original checking action included ‘Check for any LPG pipes running through petrol engine or electrical equipment spaces’ – has been amended to remove ‘electrical equipment space’, based on a risk assessment. Consequently, the BSS Requirements at Check 7.8.6 now only apply to petrol engine spaces.

7.8.6R Gas pipework	Are all LPG pipes running through petrol engine spaces jointless and adequately supported?	<p>A revision for a gas line to be routed within a conduit or trunking, or supported by fixing clips which are no more than 300mm apart.</p> <p>The part of the Requirement mandating the presence of a gas-proof conduit is removed and replaced with a Requirement for the gas pipe to be in a conduit or trunking or otherwise supported.</p> <p>The new approach aligns the BSS Requirements with the specifications with ISO 10239.</p> <p>Although the change does reduce slightly the specifications any added risk is considered to be insufficient not to align the BSS Requirements with the ISO.</p>
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### Table of increased compliance options

Check	Check Text	Amendment Explanations
2.1.4R Fuel filler	Does the internal diameter of the fuel filling point meet the specified requirements?	Revision aligns with the ISO and have the required i/d for filler pipes at 28.5mm and retain the BSS minimum i/d requirement for hoses at 31.5mm
3.2.2R Battery cables	Are battery cables of a sufficient current-carrying capacity?	New applicability – cables between batteries and battery isolators are permitted to have a cross-sectional area of less than 25mm <sup>2</sup> where it can be confirmed that the circuit only supplies low current domestic and/or navigation equipment (e.g. lighting, fridges, pumps, radios, etc)
5.3.4R Petrol stowage	Are all spare petrol containers and any spare portable petrol tank, stored to ensure that any leaking fuel or escaping vapour will not enter the interior of the vessel?	An applicability can take account of petrol stowage arrangements on CE Marked boats when assessed against BS EN ISO 11105 relevant to the boat build date
7.2.2R Gas locker	Are the sealing arrangements on LPG pipework exiting the cylinder locker of the correct type to ensure LPG-tightness and in good condition?	To better align with ISO 10239 - The revision adding 'sealant' as an acceptable form of sealing to the main bullet-pointed list of acceptable sealing arrangements.
7.2.7R Gas locker	Are the sealing arrangements on LPG pipework exiting the cylinder housing of the correct type to ensure LPG-tightness to the interior of the vessel?	To better align with ISO 10239 - The revision adding 'sealant' as an acceptable form of sealing to the main bullet-pointed list of acceptable sealing arrangements.

7.5.1R Gas locker	Is the cylinder locker opening outside of any engine or battery space?	<p>Revision of a new applicability Examiner action - where a cylinder locker is found to open into an engine space the Examiner should contact the BSS Office to determine whether there is a known acceptable compliance option available for the model of boat.</p> <p>This is because it is likely that some of the boats that fail this Check will be of a class of boat where there is a known compliance route already in place (such as with the Seamaster 23).</p> <p>The new Examiner action therefore helps to ensure that boats are not failed unnecessary at this Check where relatively simple compliance options are available.</p>
7.8.2R Gas pipe	Is the LPG pipe protected where it passes through metal bulkheads or decks?	The revision allows for equivalence - LPG pipes passing through metallic bulkheads or decks must be protected by the use of sleeves, grommets, cable glands, bulkhead fittings, or equivalent.
7.8.3R Gas pipe joints	Are all LPG pipe joints accessible for inspection and of the correct type?	New provision for 'threaded' brass joints on copper pipe included as acceptable. It is included in the relevant BS and ISO standards.
7.8.3R Gas pipe joints	Are all LPG pipe joints accessible for inspection and of the correct type?	New provision for welded joints on stainless steel pipe included as acceptable. It is included in the relevant BS and ISO standards.
7.9.1R Gas hose	Are all low pressure LPG hoses accessible for inspection, of the correct material and in good condition?	Revision in one Applicability to introduce EN 14800 which supersedes BS 669. For the foreseeable future both standards are referenced.
7.9.2R Gas hose	Is all low pressure LPG hose protected against damage where it passes through bulkheads, decks or partitions?	This revision permits a further compliance option without promoting it as normal practice: - Applicability; it is acceptable for hose to be protected by sealant provided the sealant is in good condition and that it completely seals the area between the hose and the surrounding material, and provided the sealant does not noticeably move or dislodge when the hose is subject to light manual force.
7.9.2R Braided gas hose	Is all low pressure LPG hose protected against damage where it passes through bulkheads, decks or partitions?	This revision represents a clarification in regard to gas hose which itself is covered by a proprietary metal braiding does not require additional protection.
7.11.1R Gas appliance valves	Can all appliance supply hoses be isolated through individual appliance isolation valves?	New applicability - individual appliance isolation valves in the same LPG pipework spur as the appliance connected by hose, can be considered as meeting this Requirement.

The costs impacts are assessed as 'none':

- a) Additional costs to boat owners/operators – none or reduction where an option now considered compliant is already present.
- b) Additional BSS Examiner charges for their boat owners/operator customers? – it is unlikely, that Examiners will charge more as no additional time is expected. It may reduce time in some circumstances. Examiners operate in a free market regarding their charges.
- c) Additional costs to the BSS – no additional costs, only normal operating costs in support of consultation, implementation, promotion and review.
- d) Additional costs to BSS Examiners – existing Examiners are undergoing online training concerning all BSS Checks. The element of validating appliance servicing documentation is included in the training. As such there is regarded to be no additional cost to BSS Examiners.
- e) Additional cost to navigation authorities – no direct cost to the Navigation Authorities is other than any information to reflect the amendment in BSS Requirements.



## Section 6 – Your opportunity to comment on the proposed new BSS Checks

### 6.1 Is the argument for the introduction of increased BSS requirements supportable?

We would like you to express your view.

#### 6.1 - Do you agree that the increased BSS Requirement requiring evidence of servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator is supportable? (Q1)

The proposed new BSS Requirement is identified below in the **bold text** within the revised text for BSS Check requirement, scope 8.2.2R.

<p>[Check Item Text, the Compliance Goal]</p> <p>On petrol-engined vessels with a Wilderness Boats conversion of an Electrolux RM 212 refrigerator on board, are the burner enclosure and the flame arrestor at the 'lazy tee' in place, <b>and is there suitable documentary evidence of recent servicing?</b></p>	
<p>[Checking action to be performed]</p> <p>On petrol-engined vessels with a Wilderness Boats conversion of an Electrolux RM 212 on board, check for the presence of:</p> <p>a not less than 11 wires per linear cm mesh fitted to the 'lazy tee' on the flue pipe; and,</p> <p>a not less than 11 wires per linear cm mesh enclosure around the burner; and,</p> <p><b>documentation confirming that the refrigerator has been serviced by Wilderness Boats or a Gas Safe registered engineer within the previous 12 months.</b></p>	<p>[Requirements that must be met for a pass]</p> <p>On petrol-engined vessels with a Wilderness Boats conversion of an Electrolux RM 212 on board:</p> <p>a not less than 11 wires per linear cm mesh must be fitted to the 'lazy tee' on the flue pipe; and,</p> <p>a not less than 11 wires per linear cm mesh enclosure must be fitted around the burner; and,</p> <p><b>there must be documentary evidence that the refrigerator has been serviced by Wilderness Boats or a Gas Safe registered engineer within the previous 12 months of the date of the Examination.</b></p>
<p>[Supplementary information]</p> <p>Examiner action – Examiners must refer to section 1 of Appendix 8 for essential information on recognising the flame arresting components of Wilderness Boats converted fridges.</p> <p><b>Applicability – Examiners should take a photograph/retain a copy of the presented documentation to be kept on file with the Examination checklist.</b></p> <p>Applicability – if the flame arresting mesh on the 'lazy tee' and/or the burner enclosure cannot be seen, Examiners should mark their checklist 'not verified'. In such cases, the fridge must be considered as non-compliant until such time as its suitability has been verified.</p> <p>Applicability – if any part of the flue appears damaged, record a fault at Check 8.10.2 and take the actions described in Appendix A and B.</p> <p>Applicability – in the event a fault is determined at this Check take the actions described in Appendix A and B.</p>	

**6.2 - Do you agree that clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework is supportable? (Q2)**

The text introducing the clarification is drawn from BSS Check 7.8.3R below where the pipe material determined the specific joint material and joint type, ferrous/cast iron material is not included.

<p>[Check Item Text, the Compliance Goal]</p> <p>Are all LPG pipe joints accessible for inspection and of the correct type?</p>	
<p>[Checking action to be performed]</p> <p>Check the accessibility and type of all pipe joints.</p>	<p>[Requirements that must be met for a pass]</p> <p>All LPG pipe joints must be accessible for inspection.</p> <p><b>All LPG pipe joints used on copper or copper nickel alloy pipe must be:</b></p> <p><b>brass compression joints; or,</b></p> <p><b>brass threaded joints.</b></p> <p><b>All LPG pipe joints used on stainless steel pipe must be:</b></p> <p><b>stainless steel compression joints; or,</b></p> <p><b>stainless steel threaded joints; or,</b></p> <p><b>stainless steel welded joints.</b></p>
<p>[Supplementary information]</p> <p>Applicability – joints not accessible for inspection must be recorded as ‘not verified’ on your checklist, and it must be considered that the Check has not been completed until such time as their type has been verified.</p> <p>Applicability – brazed joints are also permitted, but Examiners must take particular care when endeavouring to determine whether such connections are brazed or soft-soldered (which are not permitted). If in doubt Examiners should contact the BSS Office for guidance.</p> <p>Applicability – the material of type of some appliance connection joints may not be identifiable. Provided such joints appear to be original to the appliance, Examiners should consider the joint material compliant.</p>	

**6.3 - Do you have any comments to make concerning the relaxation of 20 BSS Requirements by lowering stipulations or expanding compliance options? (Q3)**

We refer you to the tables in Section 5

## Section 7 – About this consultation

### 7.1 How is the consultation to be run?

We hope this consultation is of interest and well-presented so that you can understand and give due consideration to the various issues, the risks and the benefits.

The consultation is open until 16:30 on Tuesday 31 May 2022. With the launch of the consultation on Monday 7 March 2022, this provides a 12-week period.

As the proposals affect a tiny number of boats and represent an extension or clarification of existing BSS Requirements there is no supporting further information.

If you have trouble with the consultation form or a related query, please email us at [bss.enquiries@boatsafetyscheme.org](mailto:bss.enquiries@boatsafetyscheme.org)

We will produce a summary of the views expressed and our response by early June 2022. This will be published on our website [www.boatsafetyscheme.org](http://www.boatsafetyscheme.org)

A communications campaign will promote the final agreed Revision 4 of the BSS Examiner Checking Procedures in late Spring 2022. The revised BSS Examiner Checking Procedures are intended to formally come into effect from early June.

All BSS Examiners have completed familiarisation training exercises specific to this version of the BSS ECPs and we do not foresee any issues with the adoption of these ECPs.

Your opinions are valuable to us. Thank you for taking the time to read this document and respond.

### 7.2 Your opportunity to comment on this consultation.

Your views are invited on any unintended consequences concerning introducing a specific proposal or on the generality of these proposals.

**Can you see any further unintended consequences concerning introducing the increased technical requirements, beyond those already mentioned in this consultation? See Question Q5**

Your views are invited on the consultation process

**Have we been clear? Have we given you the proper opportunity and adequate means to contribute your views? See Question Q6**

### 7.3 About you and your responses.

When we publish the results of this consultation, we would like to be able to refer to those organisations responding and possibly quote from the comments made. Providing answers to Questions 7, 8 & 9 will provide detail that will help us analyse and handle your responses.

**Please tell us your name and indicate your sector of interest (for example boat owner, hire boat operator, navigation authority, marine trader, BSS Examiner, if other please state). Please let us know if you are responding as an individual or on behalf of a company, representative group or trade organisation. See Question Q7**

This will help people appreciate your response in context.

### **Are you happy for your name and organisation to be made public? See Question Q8**

This will help people appreciate your response in context.

### **Are you happy for your responses to be made public? See Question Q9**

This will help people appreciate your response in context.

### **Would you like a copy of the formal consultation response to be emailed to you at the end of the consultation. See Question Q10**

Complete the request details on the form

#### **7.4 Alternative means of submitting responses**

The preferred method for responding is to use the website facility:

[www.boatsafetyscheme.org/ECPconsultation](http://www.boatsafetyscheme.org/ECPconsultation)

Alternatively, you can email comments

[BSS.enquiries@boatsafetyscheme.org](mailto:BSS.enquiries@boatsafetyscheme.org) If you prefer to put your

comments on paper, you can send them to:

BSS ECP Consultation

Boat Safety Scheme,

c/o Canal & River Trust Registered office:

National Waterways Museum Ellesmere Port,

South Pier Road,

Ellesmere Port,

Cheshire CH65 4FW

If you have alternative access requirements for any element of the consultation process, please call or contact us by phone, email or through social media.

#### **7.5 Further information**

Should you have any questions about this consultation and how to respond, please contact the BSS Administrator at [BSS.enquiries@boatsafetyscheme.org](mailto:BSS.enquiries@boatsafetyscheme.org) or call 0333 202 1000.

If you have any complaints or comments about the consultation process, please direct them to: [BSS.enquiries@boatsafetyscheme.org](mailto:BSS.enquiries@boatsafetyscheme.org) or write to the address above.

## Section 8 – Question & Response Form

**Q1 – Do you agree that the increased BSS Requirement requiring evidence of servicing for any Wilderness Boats conversion of an Electrolux RM 212 LPG refrigerator is supportable?**

Agree	
Agree, but suggest amending	
No	

**Q2 – Do you agree that clarifying the disallowance of ferrous/cast iron fittings, joints and components used in LPG pipework is supportable?**

Agree	
Agree, but suggest amending	
No	

**Q3 – Do you have any comments to make concerning the relaxation of 20 BSS Requirements by lowering stipulations or expanding compliance options?**

Please use this box to make your comments.

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**Q4 – Can you see any further unintended consequences concerning introducing the proposals beyond those already mentioned in this consultation?**

No further unintended consequences	
Yes, I can see further unintended consequences	
Don't know	
Comment	

**Q5 – All efforts have been made to make the BSS Examination Checking Procedures document as error free as we can, however, should you spot any typographical or grammatical mistakes we welcome any observations leading to potential corrections to the final version.**

Please use this box to make your comments.

**Q6 – Do you have any comments to make about this consultation? Have we been clear? Have we given you the proper opportunity and adequate means to contribute your views?**

Please use this box to make your comments.

**Q7 – Please tell us your name and indicate your sector of interest.**

Please let us know if you are responding as an individual or on behalf of a company, representative group or trade organisation.

Your name	
Sector of interest	boat user (canals) boat user (rivers) marine trade (engineer) marine trade (surveyor) marine trade (moorings operator) Gas Safe registered engineer BSS Examiner navigation authority Other (please specify) .....
Company name (if applicable)	

**Q8 – Are you happy for your name and organisation to be made public?**

Agree	
No	
Comment	

**Q9 – Are you happy for your responses to be made public?**

Agree	
No	

**Q10 – Would you like a copy of the formal consultation response to be emailed to you at the end of the consultation.**

Tick box if yes:

Your name	
Your email	