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BSS Statement - User Re-Fillable LPG Bottles

New instructions to Boat Safety Scheme examiners have been issued this week concerning a specific product and the actions the examiner must take if one is found during a BSS examination. The product is considered by the BSS to introduce a potentially significant new risk to examiners as well as people using or working on the inland waterways. If one is found, it will mean the immediate cessation of the examination.

The Product

The product is one specific range of user re-fillable LPG bottles. User re-fillable LPG bottles are owned by the purchaser and are marketed to motor home owners to allow re-filling of gas bottles at service stations.

The Potential Risk

The range of re-fillable gas bottles identified in this statement does not have an 80% 'stop-fill' facility. It is vital that re-fillable LPG cylinders cannot be filled beyond 80% of the full capacity mark as the remaining 20% of the bottle's capacity allows for expansion of the liquefied gas as the ambient temperature rises.

The risk with a connected and over-filled bottle is that, if the temperature rises, liquid LPG may pass through the regulator under high-pressure and then enter the low-pressure system. If this happens, a catastrophic release of LPG is highly likely which will result in a large quantity of flammable vapour within the confines of the boat and a very high risk of explosion.

As far as the BSS is currently aware, the only UK supplier of user re-fillable LPG bottles without the 80% 'stop-fill' facility is MTH Gas System Ltd of Gloucestershire. The BSS has consulted with MTH and the company's position is that the upper part of the bottle has a 'safety overfilling control window' with a 'LPG-level visual indicator' whereby the owner can see that the bottle is filled to the proper level. Thus, MTH believes that the 'stop-fill' facility is not necessary; however MTH does not market the product for use in boats and it is willing to help boat-owning customers who may need to replace the bottle.

Examiners at risk

The BSS believes that there is a significant risk to examiners in carrying out an examination on a boat where this type of bottle is overfull. The Scheme does not believe that an examiner's safety should be solely reliant upon the correct filling by owners and so there are insufficient safeguards against a potentially serious hazard.

The Product in Detail

The only affected product of which the BSS is currently aware is the **Lightw8** range of **Super Lightweight Propane Bottles** in 4, 10, 20 and 36 litre capacities. These products are made of HDPE and are supplied by MTH Gas System Ltd, Castlemain Workshops, Yorkely Road, Parkend, GL15 4HH. Further details can be viewed on the MTH Gas System Ltd website on www.mthautogas.co.uk.



The Action Examiners Must Take

If a user re-fillable LPG bottle without the 80% 'stop-fill' facility is connected to the gas system the examination must cease and an explanation of the risks will be offered to the owner or representative. The examination may be resumed and completed if the gas bottle is disconnected and replaced with an appropriate LPG cylinder.

A very small proportion of the **Lightw8** products were fitted with 80% 'stop-fill' valves by the manufacturer. Any boat owner using one of these aboard is advised to seek written confirmation from MTH of this product's specification, including the 'stop-fill' facility. The examiner will seek advice from the BSS office as to whether to continue with the examination.

If an examiner finds a spare user re-fillable LPG bottle without the 80% 'stop-fill' facility which is not connected to the gas system, the risks will be explained to the owner or representative. The examiner will inform the BSS Office the find as soon as possible. The Office may then pass this information onto the appropriate navigation authority(ies).

Similar products

A separate investigation by the BSS Technical Committee is underway into similar products, steel LPG cylinders intended to be re-filled by the user. Supplies of these include MTH and Gaslow, Edge Technology and Gasrefill.com. BSS research indicates the current known steel cylinders products have the 80% 'stop-fill' facility.

The MTH product should not be confused with BP's lightweight HDPE LPG bottle called BP Gas Light, typically available from garden centres and the internet. As these are intended to be exchanged, and therefore re-filled under controlled conditions, they do not present the risks outlined in this statement.

If anyone has concerns about the information in this statement, they are encouraged to call the BSS Office on 01923 201278 or email bss.enquiries@boatsafety.com

– ENDS –

Notes:

The BSS was established in 1997 by the Environment Agency and British Waterways to promote the safe use of boats, their installations and components. It offers safety advice and through its four-yearly boat examination it helps prevent fires, explosions and pollution.

Important Facts about LPG

LPG is kept in liquid form by being stored under pressure. When it moves to normal atmospheric pressures, it changes to a gaseous state, expanding to around 250 times its liquid volume.

LPG when mixed with air at approximately concentrations between 2-10 percent becomes a flammable mix. This is highly explosive.

LPG in its gaseous state is heavier than air and will get trapped within the confines of a boat, sinking to the lowest parts. It will disperse over time if the supply is shut down and all hatches, doors, windows and vents are open. The BSS leaflet, 'Safe Use of LPG', has further advice about this.