

MAIB SAFETY BULLETIN 1/2011

Overweight rescue boat identified during the investigation
into the failure of a fall wire with the loss of one life
on the car carrier *Tombarra*

The logo for the Marine Accident Investigation Branch (MAIB), consisting of the letters 'MAIB' in a large, teal, serif font.

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This document, containing safety lessons, has been produced for marine safety purposes only, on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 2005 provide for the Chief Inspector of Marine Accidents to make recommendations at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so.



Steve Clinch
Chief Inspector of Marine Accidents

NOTE

This bulletin is not written with litigation in mind and, pursuant to Regulation 13(9) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005, shall not be admissible in any judicial proceedings whose purpose, or one of whose purposes, is to apportion liability or blame.

This bulletin is also available on our website: www.maib.gov.uk
Press Enquiries: 020 7944 6433/3387; Out of hours: 020 7944 4292
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BACKGROUND

At approximately 1550 (UTC) on 7 February 2011, the fall wire attached to the rescue boat of the UK registered car carrier *Tombarra* parted during a routine drill which was being conducted in the sheltered waters of the Royal Portbury Docks, Bristol, UK. The accident occurred at the point when the rescue boat had been hoisted to its stowed position. The rescue boat and its four crew fell nearly 29m into the water below. One of the boat's crew died and two were hospitalised.

The rescue boat, a Watercraft WHFRB 6.50 had a certified weight of 980kg, but was 1450kg when weighed after the accident (**Figure 1**). Subsequently, several rescue boats of the same model carried on board *Tombarra*'s sister vessels were also inspected and weighed, and they too were found to be significantly heavier than when supplied.

In all cases, in an unladen state, the boats' weights were close to or exceeded the safe working load (SWL) of their davits. With crew, fuel and equipment on board, the SWLs of the davits were exceeded.

However, the weight of *Tombarra*'s rescue boat by itself should not have resulted in the failure of its fall wire due to the safety margins in place. Investigation into the failure of the wire remains ongoing and it is anticipated that a further safety bulletin will be published shortly.

Figure 1



Weighing of the rescue boat

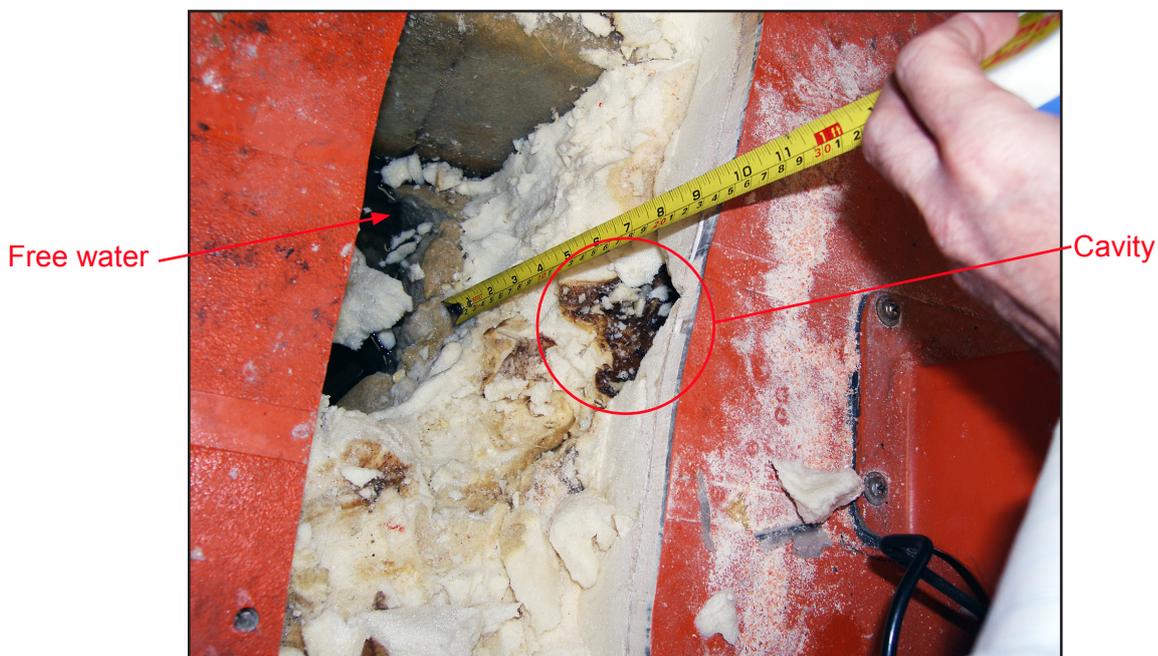
INITIAL FINDINGS

The rescue boat was manufactured by Watercraft Hellas SA and delivered to *Tombarra* in 2006. The Watercraft WHFRB 6.50 was certified to meet the requirements of SOLAS, the Life Saving Appliance (LSA) Code and the Marine Equipment Directive (MED).

The WHFRB 6.50 was constructed with an inner and outer hull. The void below deck was divided into 16 compartments, 15 of which were filled with rigid polyurethane foam to provide a watertight, buoyant volume.

Investigation has identified that 14 of the 15 foam-filled compartments in *Tombarra's* rescue boat had been penetrated by water. In addition, the foam in the lower sections of the hull contained cavities and there were voids between the foam and the hull. In these areas the foam appeared to be of varying consistency and colour (**Figures 2 & 3**).

Figure 2



Below deck inspection

Figure 3



Foam sample from cavity

Although the boat was fitted with a drain plug on the transom, the internal compartments were not interconnected. The removal of the plug therefore allowed the water to drain only from the aftermost compartment. The water in the remaining compartments was trapped and had to be drained by separately drilling into each compartment through the hull (**Figure 4**).

Figure 4



Water draining from foam-filled compartments

Investigation into how water entered the buoyancy compartments of the boats inspected has identified a number of different types of penetrations in their hulls and decks. Investigation into the properties of the foam used is ongoing.

SAFETY ISSUES

Water ingress and retention within the foam-filled internal compartments of the Watercraft WHFRB 6.50 is a serious cause for concern. It is apparent that, without warning, it can result in a boat's weight increasing considerably over time, with the following consequences:

- the SWL of the davit and fall could be exceeded
- the rescue boat's performance and manoeuvrability could be adversely affected in relation to:
 - the ability to self-right (or be righted) after capsize
 - the ability to tow survival craft, and
- safety of the 5-yearly dynamic test where the boat is included in the test weight could be compromised.

In view of the widespread use of foam-filled compartments in the construction of many rescue boats and fast rescue craft, it is possible that the problems of water ingress and retention might not be limited to just this particular model of boat.

ACTION TAKEN

Norsafe Watercraft Hellas SA has issued a product awareness notice to its customers while it continues to investigate the cause of the water ingress, water retention and the condition of the foam. The notice advises owners of Watercraft WHFRB 6.50 to arrange for their boats to be weighed, seeking assistance from the manufacturer if required. The notice also provides practical advice on how to conduct inspections of this type of boat.

The Maritime and Coastguard Agency (MCA) has given temporary dispensation to Wilhelmsen Lines Car Carriers to suspend launching drills for the Watercraft WHFRB 6.50 rescue boats provided on board its vessels. However, should a Watercraft WHFRB 6.50 have to be used, dispensation has also been given for the crew to embark and disembark when the rescue boat is in the water, rather than from its embarkation point on deck.

RECOMMENDATIONS

S116/2011 Owners of ships using rescue boats or fast rescue craft built with integral polyurethane foam-filled compartments should:

- In the case of Watercraft WHFRB 6.50, follow the advice issued by the manufacturer, or urgently contact the manufacturer if a product awareness notice has not been received.
- Be alert to the possibility of boats being heavier than designed and arrange for the boats to be weighed, or boat manufacturers contacted for advice, where doubt exists.
- Inspect boats' hulls and exposed decks for possible holes, cracks, or fittings through which water could penetrate.
- Ensure that drain plugs fitted to the hull are regularly opened.
- Monitor boat performance for unusual characteristics that could be attributed to an increase in weight, eg that it does not feel 'heavy' or 'sluggish' when manoeuvring.

Owners, operators or manufacturers identifying ships' boats heavier than certificated are requested to inform the MAIB by email (maib@dft.gsi.gov.uk) using the title "Boat Weight", and include the name of the vessel, the boat manufacturer and model, and the date of supply. This information is for internal use only and will be treated in the strictest confidence.

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