

Mariner Life – May 2006

Legal Desk –

Ships Don't Sink in Swimming Pools –

A recent recommendation by the Transportation Safety Board highlights how the performance of some approved marine safety equipment remains both misleading and dangerously low in the wake of Transport Canada's failure to amend testing and performance standards to account for realistic at-sea conditions.

In May of 2004, in an article entitled “Survival Suit Myths – the performance of ‘approved’ marine immersion suits may not be what you think”, the *Mariner Life Legal Desk* addressed the issue of the Canadian Government’s standards for the development, testing and performance of marine abandonment suits, otherwise known as “survival” or “immersion” suits.

In particular, I was critical of the testing procedure used to determine whether the design of a survival suit provided adequate control of water ingress. These comments followed on the heels of a then recent Transport Canada report that found as little as 2 cups (500ml) of water permitted to enter an immersion suit reduced the thermal efficiency of the suit by 30%, and that a wave height of 1 metre reduced the efficiency by 15%. The testing procedure was, and remains, limited to having a test subject jump from a height of 10 feet into a pool, and then in order to simulate those wave conditions the suit and wearer might be exposed to at sea “a minimum of three subjects shall [swim on their backs for 1 kilometer] together in order to achieve adequate wave motion in the pool”.

I suggested that the results of testing for water ingress when the subject are swimming on their backs in a 3 inch chop might not actually reflect the conditions that the suits and their wearers would be exposed to at-sea. Call it a hunch. I suggested that by certifying the performance of these suits and requiring them to be carried on some classes of vessels while knowing that the at-sea conditions would be radically different than what the suits were tested for was misleading and, indeed, negligent on the part of Transport Canada. To explain this point by analogy, it is akin to an automobile airbag manufacturer limiting the testing of the performance of their airbags to collision speeds of 10km/h, then selling the product to car buyers without any warning as to restrictions on speed, while being fully aware drivers would have to rely on the airbags in collision speeds of 40 or 80 or 120km/h.

The standard to which I referred, Canadian General Standard *CAN/CGSB-65.16-M89*, was developed in the 1980s in conjunction with marine safety initiatives of the International Maritime Organization (“IMO”). Although the standard was revised and republished in 1999 and again in 2005, the Standard changed little, and despite technological advances in materials, manufacturing and testing procedures no apparent

effort was made to make the testing procedure more reflective of performance demands in realistic at-sea conditions (this reality based testing is referred to as “performance-based testing”). Transport Canada appears to have taken the position that, because the IMO has made no move to improve their standard by adopting performance based testing, no change is necessary in Canada. Perhaps this comes from an understanding of the law that you are not negligent if your conduct does not fall below the standard of conduct of parties in a similar position, that is, Transport Canada cannot be negligent if what it is doing is following the conduct of the IMO. This is a misapprehension of the law however, as Canadian courts have held that conduct that is reckless is not excusable simply because that reckless conduct is practiced by most others. In other words, in my opinion, Transport Canada cannot escape liability for failing to address this issue simply by saying “but we are doing what the IMO is doing”.

Fortunately, recent recommendations by the Transportation Safety Board (“TSB”) regarding performance-based testing of rigid hull liferafts, stemming from an investigation of the performance of Ovaltech rigid hull liferafts, may help improve the safety of immersion suits and other safety equipment. The March 2006 release included the following comments made by the TSB in early 2005:

Liferafts are often used under environmental conditions that are substantially more challenging than calm water pool testing. Canadian standards...which are derived from International Maritime Organization (IMO) standards, for testing liferafts call for critical tests such as swamping, righting, stability, and boarding to be done in isolation one from the other and under calm conditions. The investigation revealed that, although the rigid liferaft passed individual tests related to stability, swamped condition, boarding, and righting, when used under realistic conditions, the liferaft did not function as expected.

The Board was concerned that liferafts are being certified without full consideration of realistic service conditions such as boarding or stability with water inside the liferaft or boarding while in waves, and that Canadian and international standards for testing and certification of rigid and inflatable liferafts are not sufficiently performance-based, thus placing passengers and crews at undue risk. Therefore, the Board recommended that:

The Department of Transport develop and implement performance-based standards to ensure that all liferafts deployed on Canadian vessels are capable of operating in severe marine conditions and, further, encourage the International Maritime Organization to adopt a parallel approach internationally.

Remarkably, Transport Canada made no comment on this recommendation for performance-based testing in responding “*the Minister of Transport notes the recommendation and TC will continue to work with the IMO to improve the testing and performance criteria of all survival equipment. Currently, work at IMO is focused on improving the testing criteria for lifeboats and release mechanisms, as this has been a concern internationally and domestically*”.

The TSB replied to Transport Canada's comments by saying: *“as was noted in the investigation report into this occurrence, survival in emergency situations at sea depends to a large extent on survival equipment performing as intended. Consequently, it is essential that the standards for testing liferafts-rigid or inflatable-measure performance in relation to anticipated use and, ideally, under actual service conditions. Presently, this is not the case.*

Other than those actions concerning liferaft standards already noted in the investigation report, the response by TC indicated that the Department is planning to carry out research regarding thermal requirements. There is no indication in the response of any other domestic initiative under consideration or being taken regarding liferaft-related testing and performance criteria for operating in more severe marine conditions.”

It is encouraging, and commendable, that the TSB is taking the issue of performance-based testing seriously and one hopes the TSB will include in their focus on performance-based testing the standard for testing and approving immersion suits. What steps, if any, Transport Canada may take when the TSB expands their recommendation of performance-based testing to immersion suits is uncertain. Federal lawyers may advise Transport Canada that amending the standard may be construed as a tacit admission that the previous standard was inadequate, and that such a move may bring legal action by the families of mariners who wrongly assumed (on the basis of Transport Canada's certification and requirement that the suits be carried on some classes of vessels) that the approved immersion suits would perform in sea conditions other than those found in a swimming pool.

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