Survival Craft should provide out-of-the-water protection for all persons.

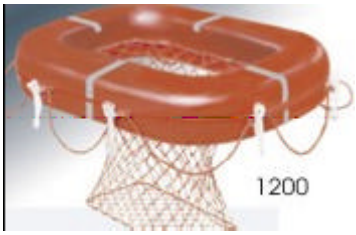
It has been over 100 years since the sinking of the TITANIC, yet there are still vessels transporting passengers that do not have sufficient life saving devices to keep all of their passengers out of the water and safe until United States Coast Guard personnel get on-scene to help save them. This is a particularly life-threatening situation for those with disabilities - including individuals that do not have the use of their arms or legs.

When enacting the Americans with Disabilities Act (ADA), Congress found that individuals with disabilities had been precluded from participating in all aspects of society, encounter the discriminatory effects of transportation barriers, and that the continuing existence of unfair and unnecessary discrimination and prejudice denies people with disabilities the opportunity to pursue those opportunities for which our free society is justifiably famous.

The ADA provides the legal mechanisms for individuals to have access to vessels carrying the public - such as whale watching boats and charter fishing boats. Now it is time to ensure that these individuals have the same chance to survive if a disaster occurs as individuals that do not have disabilities. This can only happen if the current survival craft that do not keep individuals out of the water are replaced with Coast Guard approved survival craft that will keep individuals out of the water until the Coast Guard can get on scene to execute a rescue up to 2 hours after the disaster occurs.

Section 608 of the "Coast Guard Authorization Act of 2010" (P.L. 111-281) prohibits the Coast Guard from approving "survival craft" for use on U.S. passenger and other commercial vessels UNLESS the "survival craft" will support individuals out-of-the-water.

We suspect that most Americans logically thought that a "survival craft" would keep them out of the water in the event that they, their infant child, or elderly or disabled aunt or uncle were forced to abandon the dinner cruise vessel on which they were enjoying a leisurely cruise. Such is not the case. Current Coast Guard regulations permit many passenger vessels to carry what are known as "buoyant apparatus" or "life-floats", devices like the ones below.



Rigid buoyant apparatus (left) *vs* life float (right)

The rational for the proposal that was adopted as part of the 2010 Coast Guard Authorization was very straightforward: An approved "survival craft" should able to support **out-of-the-water** the individuals it is certified to carry. A 6 person device must be able to support 6 persons out-of-the-water; a 25 person device must be able to support 25 persons out-of-the-water.

This proposal did not address what vessels must carry survival craft, the areas of operation of those vessels, or the temperature of the water. It simply said that the Secretary may not approve a device, as a survival craft, unless it provides out-of-the-water protection for all persons it is certified to carry.

Nor did the proposal require that all survival craft be inflatable. It was / is expected that ingenious entrepreneurs will come up with designs for rigid survival craft that are capable of supporting individuals out of the water. In fact we are aware of one such design dating from the 1940s.

The importance of providing survival craft that will support individuals out-of the-water cannot be overstated – think of the infant, the elderly, and the disabled. How are they to hang one of the currently approved devices – a "buoyant apparatus or "life float" – that amounts to not much more than a large life ring?

Unfortunately, the most recent Congress passed an unnecessary requirement that the Coast Guard conduct yet another study of this issue. More on this later. But, first some history.

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The need to provide out-of-the-water protection for survivors of maritime casualties has been understood for many years. The National Transportation Safety Board (NTSB), and others, have pressed the Coast Guard on this issue for decades.

In 1973 both the Coast Guard and the National Transportation Safety Board (NTSB) investigated the loss of the M/V *Comet* off Point Judith, Rhode Island resulting in the loss of 16 lives. The NTSB examined carefully the issue of 'lack of Protection in Cold Water' and concurred with the Coast Guard's Marine Board recommendation that **primary lifesaving devices should keep people out of the water when water temperature is expected to be 60°F or less.** The Commandant rejected this recommendation.

This was not the first time that the NTSB investigated the impact of cold water on survival, nor would it be the last. They did so two years earlier in the case of the M/V *Maryland* that foundered in Albemarle Sound, North Carolina in December of 1971, and they continue to make similar – and stronger – recommendations right up to the present day. In their 1989 study entitled "Passenger Vessels Operating from U.S. Ports" the Board recommended that the U.S. Coast Guard:

> Require that **all** passenger vessels except ferries on river routes operating on short runs of 30 minutes or less have primary lifesaving equipment that prevents immersion in the water for **all** passengers and crew.

In December 1989, shortly after the NTSB issued its Study, the "small passenger vessel" *Bronx Queen*, a "head-boat", sank near the entrance to New York harbor with 19 persons on board. Two passengers died and four were injured, despite immediate response of rescue resources. The Coast Guard conducted a thorough investigation of the casualty. The vessel was carrying 'life-floats' for 68 persons. The investigating officer concluded – among other things –

> … that buoyant apparatus which do not provide out-of-the-water capabilities do not provide adequate protection for people in cold water operations." He recommended, "… that the Coast Guard promulgate regulations requiring that primary life saving equipment for small passenger vessels operating in cold water be of a **type which provides out-of-the-water protection**."

"In a letter dated November 15, 1989, to the Coast Guard, the Safety Board stated:

> Life floats (and non-inflatable buoyant apparatus) are antiquated pieces of survival gear that should no longer be allowed on board inspected vessels. They should be phased out of service, just as the cork life preservers and calcium carbide water light were phased out of service. The Safety Board opposes the continued use of life floats and non-inflatable buoyant apparatus as primary lifesaving devices."

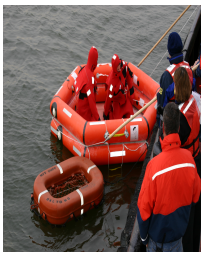
That same year the Safety Board specifically recommend that Coast Guard, "require that **all** passenger vessels [whether inspected or uninspected] except ferries on river routes operating on short runs of 30 minutes or less have primary lifesaving equipment that prevents immersion

in the water for **all** passengers and crew." [NTSB 1989]

It has been understood – since at least World War II – that out-of-the-water survival craft provide much needed protection for survivors in the water, cold or warm. In 1944 the Navy Department's Emergency Rescue Equipment Section (the predecessor the Air-Sea Rescue Agency), in a By-Weekly Report (dated 12 February), makes the following observations about "Balsa 'Doughnut' life floats" sometimes known as 'Carley floats' for Horace Carley who designed them in 1901!

> … this type of rectangular canvas covered balsa-wood 'doughnut' with net-suspended platform or grating has been in general use by the Navy and Merchant Marine.
>
> **This type of float has a serious drawback in that the survivors are partially immersed. As a consequence, the time allowance for rescue is cut to a minimum because it is virtually impossible to survive for any length of time in cold waters, particularly those found above and below the equatorial belt.**

Buoyant Apparatus and Life Floats, "which have been in use on commercial vessels for at least 70 years, are similar in that they are both like very large life rings. The primary difference is that a life float includes a platform suspended from the buoyant portion of the device by netting or similar means. **Neither device supports a person out of the water**; with the exception of a few persons who might be able to stand on the platform in the center of a life float and only be immersed waist-deep, **they generally only provide something for persons in the water to hold on to, with most of the rated capacity hanging on the outside edge.**" [From Coast Guard "Report on Small Passenger Vessel Safety", March 2005.] Emphasis added.



Life float (bottom left) *vs* inflatable buoyant apparatus (top right)

When Chapter III of Safety Of Life At Sea (SOLAS) was completely revised at International Maritime Organization (IMO), a functional approach was

followed to assess vessel abandonment and to determine the make up of a vessel's lifesaving system. The basic functional requirement agreed was that there must be survival craft sufficient to accommodate all on board. This was augmented by a functional requirement that the survival craft must provide "out of water" protection for all those on board the craft to ensure that all persons the survival craft is certified to accommodate are fully protected from immersion in the water.

These are the two basic fundamental requirements of a vessel's lifesaving system. The United States was the leader in developing the revised SOLAS and the major proponent of the functional approach to development of the revised requirements. The requirements are fully embedded in SOLAS and have stood the test of time. Survival craft meeting these requirements are readily available and USCG approved. Application of these same functional requirements to domestic vessels is entirely appropriate. US mariners and passengers on domestic voyages are entitled to the same level of protection as are US mariners and passengers on international voyages, and that the FAA requires for passengers on aircraft operating over-water.

Recently IMO published a revision of it "Guide for Cold Water Survival" (MSC. 1/Circ.1185/Rev.1). While it does not set forth a clear definition of 'cold water' it establishes some principles for survival in all temperatures of water that should be seriously considered when examining the suitability of survival craft that do not provide out-of-the-water support.

First, the circular stresses the those abandoning a vessels should "avoid entering the water at all if possible", and that "You should try to enter the survival craft 'dry'." In summing up its recommendation the circular stresses two important points. First, "When abandoning ship, **try to board the survival craft dry** without entering the water." Second if not in a survival craft "**Try to get as much of your body as you can out of the water.**"

Given that "Buoyant Apparatus" nor "Life-Floats" provide no way for a survivor stay dry or even to get much of their body out of the water, it is difficult to see how either of these devices can be considered "survival craft."

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As indicated earlier the most recent Congress adopted the "Coast Guard and Maritime Transportation Act of 2012" (P.L. 112-213) that includes a section (303) requiring the Coast Guard to study the issue of out-of-the-water survival craft yet again, and provide a report to Congress within 180 days, and extends the grandfathering of existing survival craft that do not provide out-of-the-water

protection until 30 months after the submission of the report.

The study requires the Coast Guard to examine:

- The number of casualties, by vessel type and area of operation, as the result of immersion in water reported to the Coast Guard for each of fiscal years 1991 through 2011.
- The effect the carriage of such survival craft has on—
    - vessel safety, including stability and safe navigation; and
    - survivability of individuals, including persons with disabilities, children, and the elderly.
- The efficacy of alternative safety systems, devices, or measures.
- The cost and cost effectiveness of requiring the carriage of such survival craft on vessels.
- The number of small businesses and nonprofit entities that would be affected by requiring the carriage of such survival craft on vessels.

The inclusion of a requirement to examine the "survivability of individuals, including persons with disabilities, children, and the elderly" is heartening and the result of many comments to Senators and Representatives in the final days leading up to the passage of the final bill in the Senate.

Now the Coast Guard has to carry out the required study.

Here are some suggested elements that we believe would make the study meaningful:

1) The Coast Guard must look at the potential for future casualties, not just review past casualties. There is a growing fleet of small passenger vessels that ply crowded waterways and offshore reaches that carry hundreds of passengers. The potential for a catastrophic casualty – collision, fire / explosion – that forces total abandonment of a vessel is not out of the realm of possibility. (Remember the Titanic and more recently the Costa Concordia.)

2) The Coast Guard's working Search and Rescue (SAR) performance standard states the response time is "No greater than a two-hour total response time for any one response unit within a Sector or unit's AOR to arrive at any location within the AOR." But, it recognizes that due to weather, environmental conditions this standard may not be met in all cases. Therefore for the purpose of the study the Coast Guard should assume that passenger who abandon ship, including "persons with disabilities, children, and the elderly" will have to cling to a "buoyant apparatus' or "life-float" for two-hours or more.

3) The Coast Guard should preform actual in-the-water trials with "buoyant apparatus" and "life-floats" using live subjects. Recognizing that ethical considerations will prohibit using children, persons with disabilities and the elderly we suggest that methods to at least mimic disabling conditions be used during these trials. The Coast Guard has a facility at Air Station Elizabeth City, North Caroline where such trials could be performed. The pool there is 12-feet deep across the length, waves can be generated up to three feet and winds up to 70 mph with the addition lighting strobe lights, complete darkness, fog machines, and sound effects to make the conditions more realistic.

4) The Coast Guard should seek outside expertise in hypothermia and cold-water survival issues.

We believe that if the Coast Guard looks at the potential for casualties, uses its own SAR standards, and conducts realistic in-the-water trials that they will report that the use of "survival craft" that provide "out-of-the-water" protection for passengers and crew should be provided for the safety of the many thousands of passengers to travel on domestic passenger vessels each year.

We hope you agree and will support this effort to improved marine safety in the 21st Century.