
Human error can be controlled

By CAPT John L. Acomb

Over the past few years, it has been recognized by many players in the shipping field, including the Coast Guard and the International Maritime Organization (IMO) that more than 80 percent of all the marine accidents worldwide can be attributed to human error.

It has also been proven by numerous studies that these human errors, for the most part, can be controlled by management. This can be achieved through proper training, uniform work procedures and practices, appropriate staffing levels and improved communications between crews, officers and management.

Human errors

The human element in shipping influences safety in a significant manner. For example, the *Exxon Valdez* was one of the most modern tankers in the world with no apparent technical flaws when it was grounded on Bligh Reef in Prince William Sound, Alaska, in March 1989. The National Transportation Safety Board cited many contributing causes to the accident in their report of the incident. Almost all the causes involved the human element.

History is replete with such incidents. Not the least was the *Titanic* proceeding at full speed through iceberg infested waters off the coast of Newfoundland because of schedule considerations in April 1912.

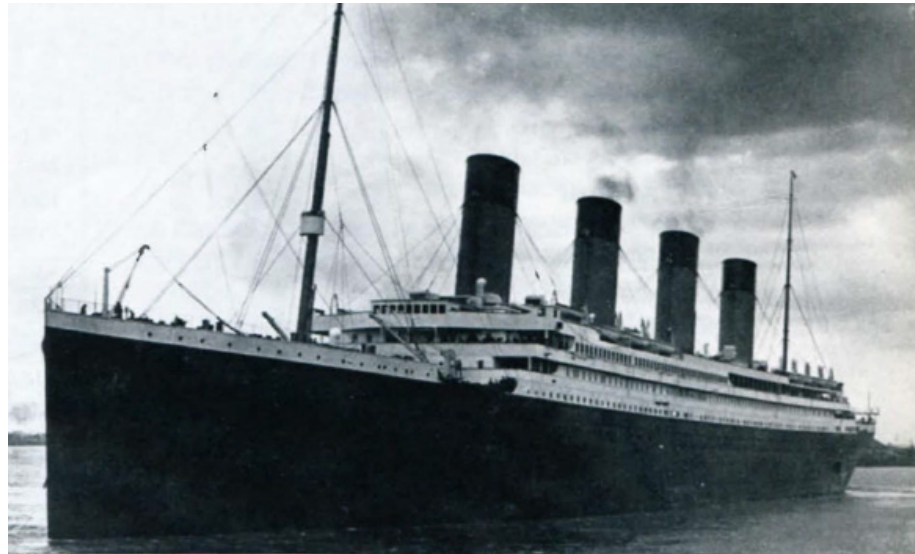
An even more striking example was the capsizing of the *Herald of Free Enterprise* in the English Channel in March 1987. The vessel departed the ferry dock with its bow doors open. Consequently, a large gush of water capsized it. The causes were proven to be a lack of adequate procedures for securing at sea, crew fatigue from reduced manning, and commercial pressure stressing maintenance of schedule rather than safe operation.

ISM code

Recent casualties led the IMO to reexamine its priorities as the premier international maritime regulatory agency. If technical causes contributed to only 20 percent of the accidents, then all the technical codes and requirements which IMO had traditionally stressed could not help prevent 80 percent of the accidents.

The IMO realized that a shift in emphasis was required. This was demonstrated by the IMO Resolution A.647(16), the *IMO Guidelines on Management for the Safe Operation of Ships and for Pollution Prevention* in 1988. Since then, the resolution has been revised several times, becoming the *International Safety Management Code* (ISM code). This code will become chapter IX in SOLAS and be mandatory for most types of large vessels starting in 1998.

Continued on page 10



The Titanic

Continued from page 9

The ISM code consists of a series of goal-oriented procedural requirements to which companies must comply. It does not tell companies how to run their businesses. How they achieve the goals is up to them. The basic requirement is that a company must detail its policies for safety and environmental protection, and describe the organization which will carry out the policies.

The code builds on this foundation by requiring that adequate resources and personnel be allocated to the safety system, and that management periodically oversee the process to ensure viability.

On board the vessels or the fleet:

- **the master's responsibility and authority must be absolute,**
- **all operations must be carried out under controlled conditions,**
- **the critical components of the ship and its equipment must be identified and maintained, and**
- **the crew must be prepared for all contingencies.**

Finally, there must be a documented controlled management system in place, which must be subject to periodic internal and external audits.

Success or failure?

Will this be a worthwhile endeavor by IMO or just a paper chase? The answer will depend on several factors.

The auditor

One factor will be what organization will do the actual auditing and certification work. If the IMO members (nearly 150 flag states) allow themselves to perform this work, it will most likely fail.

The role of flag states and the requirements of minimum quality standards is now under discussion at IMO. The outcome may be that certain minimum standards must be maintained to issue ISM certificates.

As many flag states do not have the technical expertise to comply with the more stringent requirements, then they will, as they have before, delegate this task to qualified organizations. If the members delegate this work to virtually anyone, the majority of the work will go to the lowest bidder, which equates to the least conscientious and qualified in the maritime industry.

However, if IMO advises that this certification can only be performed by agencies with proven expertise and experience, this will go a long way towards assuring a high quality performance. The Det Norske Veritas is one such agency, and has, since the late 1980s, introduced rules for management of safe ship operation and pollution prevention that fully comply with the ISM Code.

Substandard vessels

Another issue which may determine if this certification will succeed or fail is a unified approach to eliminating substandard vessels. One possibility under discussion is a means to pool certain information between flag states, port states and classification societies to prevent unilateral action against an owner or ship, which serves to push the substandard vessel into someone else's backyard.

A unified approach against the few bad performers will cause them to either raise their standards of quality or seek a new line of work.

The ISM code requires that all mandatory rules, regulations and codes are complied with. This by itself will go a long way towards improving safety at sea, because some vessels do not even meet minimum standards.

Once the ISM code itself becomes mandatory in 1998, port states may use the intervention authority prescribed in SOLAS chapter 1, part A, regulation 19, to ensure that foreign flag vessels visiting their waters are operating in accordance with the terms of the code. This will provide a new enforcement tool against substandard ships.

Society at large will no longer abide substandard vessels which cost mariners and passengers lives or pollute the seas. The ISM code appears to be the best tool the IMO has developed thus far to readily identify substandard operators and put them out of business.

If one wants to see where this ISM code is headed concerning the human element, check the cockpit of a commercial airliner and see what training, clear safety policies, strong regulatory oversight and detailed safe work practices can accomplish.

CAPT John L. Acomb is the lead auditor for safety management systems at Det Norske Veritas, 80 Grand Avenue, Suite 201, River Edge, New Jersey 07661

Telephone: (201) 488-0112.