

# Running a tight ship – Two ISO standards improve bulk carrier safety

*For many years, the international community has been witnessing with dismay the repeated disregard of bulk carrier safety requirements. Too often, bulk carriers wrecked at sea lead to serious pollution of oceans and neighbouring coastlines. The consequences are particularly disastrous and damaging for populations in coastal areas and/or who make a living from the sea (tourism, fishing, aquaculture, small companies linked to those activities, etc.). Marine life and nature as a whole can be durably affected. And it should also be realized that the resulting damage does not only affect the coastal inhabitants.*



*est of all priorities today is, after care for human safety, to prevent shipwrecks that can lead to the release of environmentally damaging products. While this concerns to a great extent tankers, the same preoccupations extend to bulk carriers of all kinds.*

*Fierce competition in the bulk cargo trade leads to cost-cutting, even at the expense of acceptable safety levels. Insurance contracts will cover the damage if something goes wrong. However, this outlook seems to be increasingly challenged by the general public. The high-*

*ISO has a role to play in stemming the tide of such disasters by developing standards that can be applied to prevent shipwrecks occurring and to keep fleets shipshape. Below we look at two important new standards in this field.*

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## **Structural failure is a major cause of the wreckage of bulk carriers**

A careful analysis of past accidents easily reveals the many legal and technical aspects involved. Many players are involved: the shipowner, the cargo owner, the charterer, classification societies, the ship crew, national administrations (country of registration, country of charter, country of destination, port authorities, shipping authorities, coastguards, etc.),

international regulatory bodies, shipyards and repair facilities, insurance companies, among others. The victims of damage cover an even broader range. In the event of a shipping accident, with very few exceptions, everybody stands to lose. Hence the importance, as a matter of priority, of doing everything that can be done to avoid environmentally damaging accidents, which will have to be considered more and more as unacceptable.

One major factor that can lead to the wreckage or loss of bulk carriers is structural failure. Loading and unloading operations, particularly those involving high-

density goods, sometimes induce stress levels very close to acceptable limits. Poor maintenance makes things even worse and is often a source of significant deterioration in a ship's performance. In particular, the ship's hull is an essential safety component in regard to shipwreck. It should be well-designed, regularly inspected and properly maintained, which is the subject of two ISO standards, ISO 15401, *Ships and marine technology – Bulk carriers – Construction quality of hull structure*, and ISO 15402, *Ships and marine technology – Bulk carriers – Repair quality of hull structure*.

These two standards, which contain a large amount of state-of-the-art technical data, were developed by technical committee ISO/TC 8, *Ships and marine technology* at the specific request of the International Maritime Organisation (IMO). ISO 15401 is of direct interest to shipyards building new bulk carriers. It should help foster the imple-

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mentation of higher acceptable quality levels in the world and contribute to the eradication of dangerous shipbuilding practices which fail to take account of real service conditions: navigation in rough sea areas, for instance, or when loading and unloading ships. The quality of the ship’s construction and its adequacy in terms of stress tolerances should be demonstrated for obtaining seaworthiness clearance for all oceans and seas.

#### **A standard for those engaged in the inspection and maintenance of hulls**

ISO 15402 will be broadly used as it applies to all bulk carriers on station around the world (except double hull ships). The standard is intended for all people and departments engaged in the inspection and maintenance of hulls, including primarily the crew and specialized repair teams. Its specifications can serve as a reference for shipping authorities and classification societies in drafting their rules. They will be of major importance in promoting the use of objective technical specifications defined outside the framework of commercial negotiations and taking into account the need for worldwide harmonization, which is seen as a key factor in maintaining fair competition in the

market. Because of the significant economic issues involved, it was considered no longer possible to do without written rules, leaving everything to the discretion of one or other, albeit competent, inspection body. The core of common rules embodied in these two ISO International Standards has become a key instrument. Both standards were developed with reference to applicable International Association of Classification Societies (IACS) rules and requirements.



*ISO 15401 should help to eradicate dangerous shipbuilding practices which fail to take account of real service conditions such as navigation in rough seas.*

The application of these standards will also help to improve training in the field of inspection and maintenance. The requirements of ISO 15402 should enable ship crews to play a more effective part, with a better understanding of what needs to be checked, how it should be checked and how often. It should also help them to be heard. Inspection reports will be able to refer to acknowledged international standards. Similarly, the rules relating to good shipbuilding practice, including repairs, will be better understood by all involved, including ship crews, without having to rely on the views of a single person or body. It will assist the crews in preparing for inspections by classification societies.

#### **A major step towards greater transparency and better understanding of the technical issues**

The standards work was carried out at the request of, and in close liaison with, the International Maritime Organisation (IMO). The standards will be revised and supplemented whenever – and as far as – needed. The current work nevertheless represents a major step towards greater

transparency and better understanding of the technical issues that should not be disregarded if one is truly concerned with ensuring that bulk carriers are safe. Essentially, this means addressing the technical problems that are the cause of shipwreck. ISO has an important role to play in that respect through the publication of international standards, which will make it easier to settle the legal and financial problems that arise following a shipping accident, by reducing their occurrence and, hopefully, eliminating them altogether.

This standardization work is carried out with the participation of all interested parties and in particular with the users, such as the seagoing coastguard and naval personnel of a number of countries. These have a broad knowledge of rescue problems and environmental emergency response in the event of sea pollution and also contribute to the development of international standards for lifesaving, fire fighting and pollution control equipment (oil confinement booms, skimmers, temporary storage facilities).

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Other international standards such as ISO 14726-1 on identification colours for the content of piping systems on board ships and ISO 17631 on shipboard plans for fire protection, lifesaving and means of escape, will also help to improve the effectiveness of maintenance and rescue operations aboard ships in distress.