

The Changing Nature of Risk

In insurance parlance, risk can be defined as the possibility of incurring a claim due to misfortune or loss. How is it changing? I will first talk about Port State Control and the International Safety Management Code to illustrate how they have jointly contributed to improving the standard of shipping, then moving on to other factors that can influence risk.

Port State Control (PSC) is one of the three primary jurisdictions having a collective responsibility to ensure that shipping remains safe.

Flag State is responsible for vessels registered under that administration. The failure of a number of flag states to properly carry out their duties has doubtless influenced the introduction of Port State Control.

Coastal State Control is the power to police the use of their waters by foreign flag vessels. Such control has been exercised recently in connection with the passage of single hull tankers.

It is however, Port State Control who have been primarily responsible for improving international shipping standards.

Port State Control has in the past been described as “strong medicine to cure a sick industry”. Until the early 80’s the majority of ports gave scant inspections to calling vessels. A pilot may have noted whether the vessel was loaded below her marks, but even this was circumvented by the not uncommon but immensely dangerous practice of hogging a ship to bend the load line mark above the water. National port authorities were primarily concerned with the affairs of their national flag vessels and then often not in a professional manner! Many vessels using a flag of convenience were not being inspected properly by their maritime authorities. The condition of vessels was primarily dependent upon the standards practiced by the particular ship owner.

A number of high profile casualties involving oil pollution drew wide attention to the existence of sub standard shipping. The shipping fraternity were already aware of the large number of losses involving non tanker tonnage.

Various international conventions dealing with the safety of ships at sea have collectively provided the framework for Port State Control inspections.

The IMO provisions require inspections to ensure that vessels comply with the appropriate international conventions and allow Port State Control inspectors to visit foreign flag vessels. IMO is thus the prescriber of the medicine. The introduction of the SOLAS requirement for ISM certification together with the Safety Management System (SMS) has imposed specific standards of operation and management upon ship-owners against which Port State inspectors can assess compliance.

Mr William O'Neil the Secretary General of IMO had the following to say concerning their relationship with Port State Control.

Shipping is an international industry which is proud of its tradition of freedom of the seas, but that does not mean that ships of all nations can sail wherever they like regardless of their condition. The maritime world has the right to expect that ships of all nations meet the levels of safety and environmental protections which have been internationally agreed upon. It is up to ship-owners to make sure that their ships are safe, properly manned and do not pollute the seas and is the duty of governments to make sure that ships which fly their flag comply with the standards laid down in the IMO treaties which they have ratified. If they fail to do so, then IMO – which has the stewardship of these standards – has not only the right but the obligation to take further action.

Crucial to the success of Port State Control operations is the sharing of information gained about particular ships of their owners and operators, between jurisdictions in and out of which those ships trade. This for two reasons: first, one would not like unduly to inconvenience ships by inspecting them at each port; and second, to give forewarning to maritime states of the delinquents in their midst. The establishment of

regional initiatives in which states are tied together in their port state control activities by memoranda of understanding (“MoU’s”), are becoming increasingly significant and will not doubt one day encompass most of the world’s oceans and ports. With the ease of disseminations of information through the internet, it is also likely to become the norm that the various regional initiatives, set up for geographic convenience, will increasingly share each other’s database, thereby closing the net even more effectively on the unseaworthy ship and its unscrupulous owner seeking to ply a trade into unsuspecting ports.

The International Safety Management Code (ISM) for the safe operation of ships and pollution control requires development, implementation and maintenance of a Safety Management System. It relates to all of a company’s activities, afloat and ashore. The Code places the responsibility for the safety of ships and the prevention of pollution with the company management structure. Surely, this is where it belongs.

The code came into existence in 1994. Implementation was mandatory for passenger ships, all high-speed craft bulk carriers and tankers (including gas and chemical carriers) from 1 July 1998. Phase 2 involving other cargo ships, survey vessels, tugs and mobile offshore drilling units become mandatory on 1 July 2002. Vessels of less than 500 gross tons do not have to comply.

Once a company has developed and implemented their Safety Management System, it must be audited by an independent third party company authorised by the administration of the vessel’s flag state. If the company is found to comply with the requirements of the ISM Code, it will be issued a Document of Compliance (DOC). Then each vessel operated by the company must be audited. The vessel will be issued a Safety Management Certificate (SMC) if found compliant.

The certificates are valid for 5 years. A ship must have a safety management certificate and a copy of the document of compliance onboard.

A document of compliance is required for each type of vessel operated by a company.

Passenger vessels now proceed to more remote locations as a marketing ploy to increase business. The Arctic and Antarctic regions are now on cruise ship itineraries. Dry-docking and repair facilities are not available and salvage services could take some considerable time to arrive on the scene. Rescue facilities in the Polar Regions are almost non-existent. The evacuation of a large number of passengers many of whom would be elderly, into such hostile environments is a risk that hull and machinery insurers would not be exposed to.

Acts of piracy continue to increase. They take place in many parts of the world. A popular area of operation is the Strait of Malacca located between Indonesia, Malaysia and Singapore. There have been cases of vessels going missing but generally damage to the fabric of the ship is not great, and it is cargo and P & I interests that pick up the tab.

Offshore Wind Farms are becoming a feature of the seascape, much as oil rigs did several decades ago. There is obviously a risk of vessels colliding with these structures. Damage to the vessel would probably be confined to replacing the front end. The third party liability aspect is likely to cost considerably more. I have heard that a collision avoidance system is being developed.

High Speed Craft are increasing in number. The Salvage Association is aware of problems encountered by a certain type of high speed engine installed in such craft. The problem appears to be related to the type of vessel in which the engine is installed. The engine has given satisfactory performance ashore and in deep displacement vessels.

Machinery breakdown claims continue to lead the field. Our statistics show an annual figure exceeding 40%.

The steam powered VLCC will shortly pass into history. Not before time, some might say. Experienced steam engineers are a rare commodity these days. Many of these vessels are operated by certificated officers having only a limited working knowledge of steam turbine machinery and the associated plant. As a casualty surveyor I investigated the cause of damage involving a number of a number of boiler

and turbine failures. A common problem was the apparent failure of senior staff to appreciate the effects of continuing to operate the plant with the boiler contaminated with seawater. Such action could result in a very time consuming and expensive repair. The contaminated boiler water would carry over with the steam and deposit salt in the high pressure turbine casing, the boiler tubes would become scaled, overheat and start to fail and the complete feed water system become contaminated. The work-scope to return the plant to the pre casualty condition would involve extensive opening up of equipment throughout the engine room for cleaning and the replacement of those boiler tubes that had failed.

Ferries and cruise ships now employ medium and high speed diesel engines for propulsion and hotel services instead of steam turbines. Such machinery is more vulnerable to failure than the traditional, larger and more robust slow speed engine. Of course, there will always be exceptions to the rule, such as the Korean built slow speed engines that have suffered bedplate saddle fractures.

Medium and high speed engine types operate at speeds of from 400 to 2000 r.p.m. There is thus limited time available between discovering of a fault, and being able to stop the offending engine before a catastrophic failure occurs. Yes, the engines are protected by a number of alarms, but not every malfunction can be protected, the alarms can be switched off, or not be maintained in working order.

I will conclude my presentation by recounting the circumstances surrounding a very expensive accident involving such a piece of machinery. One of two main engines, each connected to its own propeller, shut down automatically due to the high temperature of a main bearing. The other engine and propeller continued to propel the vessel. The forward motion of the ship continued to turn the shut down engine, destroying the overheated bearing and the crankshaft. The cost of repairs exceeded USD1.0million.

The ISM Code has been subjected to much criticism. It is being progressively enforced by Port State Control. Some believe the code has helped to reduce accidents and pollution, other believe it has made no change. It is generally accepted that there has been an overall improvement in the safety standards of shipping.