Why We Should Care

The insurance market and changing maritime industry risks

by Mr. Michael Kingston, Esp.
Legal Advisor to the London Insurance Market
Representative, International Union of Marine Insurance

Two of the largest and most high-profile disasters in recent years occurred within a relatively short time: *Deepwater Horizon* exploded and sank in the Gulf of Mexico in April 2010, and the *Costa Concordia* ran aground in the Mediterranean in January 2012.

The *Costa Concordia* disaster cost the insurance industry $2 billion. Both accidents resulted in reviews by Lloyd's of London, which focused on best practice standards and regulatory issues surrounding the incidents. The reviews also focused on technical issues, like the failure to cap the Macondo oil well in the case of *Deepwater Horizon* and the *Costa Concordia*'s increased vessel size.

Meanwhile, ice was melting at a record rate in the Arctic, resulting in increased activity in the oil industry there, as well as an increase in transits of the northern routes. This coincided with the finalization of the International Maritime Organization (IMO)'s International Code for Ships Operating in Polar Waters, or the Polar Code, implemented in January 2017, by way of hugely significant amendments to the three cornerstone conventions of the IMO:

- the International Convention for the Safety of Life at Sea (SOLAS);
- the International Convention for the Prevention of Pollution (MARPOL); and
- the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

The *Deepwater Horizon* and *Costa Concordia* disasters were "game changers" from an insurance industry perspective, and the industry's approach could also be referred to as game-changing in terms of its contribution to the international regulatory process and "best practice" standard practices work. This work is ongoing, and involves significant international collaboration.

The January 13, 2012, *Costa Concordia* shipwreck near the coast of Giglio Island, Italy. Photo by dvoevnore / Shutterstock.com.

Lloyd's Approach to Risk Analysis

In its analysis of risk, the insurance industry employs scientists, mathematicians, and actuaries with various specialties, depending on the type of markets in which the insurers specialize. As an insurance market, Lloyd's of London supports many businesses across the world in all types of specialized sectors, with a heavy emphasis on new and emerging sectors. The market has a long tradition of supporting specialist maritime and energy operations across the world.

The insurance industry focuses on trying to prevent accidents and pollution, but also to create certainty in liability regimes when incidents do occur. To do this, Lloyd's emerging risk team is dedicated to looking at new issues of concern that arise in the insurance world, including investigating new frontiers and conducting reviews of incidents to ascertain

The *Q4000* and the *Discoverer Enterprise* flare off gas at the site of drilling operations at the *Deepwater Horizon* response site at night on July 8, 2010. U.S. Coast Guard photo by Petty Officer Matthew Belson.

why they occurred. The team runs a competition each year called the Lloyd's Science of Risk Awards and frequently prepares reports working with leading industry experts in an attempt to reduce the parameters of risk. The importance insurers place on research cannot be overemphasized.

Lloyd's *Deepwater Horizon* Review

The Macondo oil spill, also known as the *Deepwater Horizon* disaster, occurred on April 20, 2010, killing 11 people and spilling 4.9 million barrels' worth of oil into the Gulf of Mexico. Following the incident, Lloyd's of London commissioned the report "Drilling in extreme environments: Challenges and implications for the energy insurance industry," which was unveiled at a conference in London in September 2011. The conference focused on a hypothetical *Deepwater Horizon* scenario in other jurisdictions across the world.

The conference was attended by over 450 insurance and marine delegates, which was symptomatic of the industry's concern following this spill. Though the Lloyd's market was not directly liable for the oil pollution—BP was self-insured—given the repercussions in the U.S., including the potential record criminal fines and liability, there was cause for serious concern. It begged the question: Had Lloyd's insured a liable party to such an incident, could it have wiped out the Lloyd's insurance market?

It was clear that the industry was not prepared for such an oil spill liability incident in terms of financial capability, nor was it prepared in terms of domestic and regulatory regimes, both to prevent such an incident or deal with the liability following such an incident.

OSPRAG Capping Kit

Of immediate importance following the disaster was the technical review which considered what solutions could be put in place in the event of a repeat of Macondo, where, among other failures, the blow-out preventer failed. Thus, in the United Kingdom, Oil and Gas UK—the organization representing the oil and gas industry—immediately set up the Oil Spill Prevention and Response Advisory Group (OSPRAG) to ensure that any lessons learned from Macondo would lead to changes in operating practices in the North Sea.

OSPRAG, established in 2010, included senior representatives from all sides of the industry including regulators, trade unions, the Maritime & Coastguard Agency, and the Secretary of State's Representative for Maritime Salvage and Intervention. Additionally, a representative from the EU Energy Commission attended as an observer.

Within a short space of time, OSPRAG designed and constructed a well-capping device known as the OSPRAG

Capping Kit. The device was revealed on September 6, 2011. It was a relatively simple solution that might have prevented the disaster in the Gulf of Mexico, and saved the operator from a huge liability. It was considered a fundamental failure of industry that no such device previously existed.

Financial Capability

It is important to point out that, had BP not had such a strong balance sheet, the citizens of the United States would have had to pick up the bill for *Deepwater Horizon.* With this in mind, the review into the Macondo oil spill also focused on financial responsibility levels for oil pollution liability, resulting in a revision to the requirement for demonstration of financial responsibility by companies wishing to obtain a license to drill in the UK North Sea. The old limit of $250 million was no longer sufficient, given what happened in the Gulf of Mexico and the enormous liability incurred.

Companies wishing to carry out activities now need to show financial responsibility to a level determined by the geographical location of the well in question, with varying levels of finance required from $250 million up to $750 million, depending on the drilling area. This may include a parental company guarantee or an insurance product.

International Regulatory Review

Despite the revision increasing financial responsibility levels in the United Kingdom, it was also important for the insurance industry to consider the implications of Mocando-type spills around the world, and the international liability regime. It was immediately clear that the implications of the *Deepwater Horizon* disaster for the oil, gas, and other high-risk industries would be both global and broad in scope. The scale of the international media coverage and political intervention that followed was unprecedented, and it pushed the issue of safety in the oil and gas industry higher up the political agenda.

A shipping container washed ashore October 13, 2011, after the M/V *Rena* wrecked on the Astrolabe Reef off the coast of Tuaranga, New Zealand, eight days earlier. Photo by Brian S/Shutterstock.com.

The reviews clearly demonstrated that there was no universally agreed-upon method for dealing with pollution from fixed structures, and that liability for such incidents was very much down to individual jurisdictions. It is therefore not surprising when international conventions like the 40-year-old draft of The Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources fail to be ratified.

Prevention is Better than Cure

Dealing with liability after an incident has happened is one thing, but the insurance industry could plainly see that it's more important to prevent such an incident in the first place. It was clear from the reviews that human error, safety culture, risk assessment, communication, and control of contractors are always highlighted as problems; the root causes of accidents are usually the same; and regulatory regimes across the globe are fundamentally different—and sometimes deeply flawed. In the absence of a global convention, the regulations in drilling operations are left to the individual jurisdiction.

In the United States, the January 2011 publication of the U.S. report and recommendations by the national commission on the disaster, with internal reports by BP and Transocean, shed considerable light on the facts and circumstances which led to the fire and explosion. In terms of safety management, the conclusion of the national commission was damning, saying "…this disaster was almost the inevitable result of years of industry and government complacency and lack of attention to safety."

It was clear that fundamental changes would be required. This was later confirmed in the U.S. Coast Guard's report, and it resulted in the decoupling of the regulator and the health and safety executive, where, it stated, there was a clear conflict of interest.

Lloyd's Removal of Wreck Report

While the insurance industry was digesting the reviews following *Deepwater Horizon,* another issue was rapidly escalating—the cost of removing wrecks.

No sooner had the conference regarding *Deepwater Horizon* finished than the M/V *Rena* ran aground on the Astrolabe Reef off New Zealand in October 2011. Its cargo included 1,368 containers—of which eight contained hazardous materials—as well as 1,700 tons of heavy fuel oil and 200 tons of marine diesel oil. The nature of the cargo, coupled with the pristine environment, made it particularly difficult to remove the cargo and the vessel, racking up mounting costs.

Lloyd's decided to commission a report into the rising cost of removing wrecks, but little did it know what was around the corner. On January 13, 2012, Captain Francesco Schettino took the *Costa Concordia* too close to Giglio Island off the Italian coast. The catastrophic results brought

concerns regarding the level of liability surrounding the *Rena* into perspective, and allowed the *Costa Concordia* to insert herself into history as the center-page case study in the 2013 Lloyd's report "The Challenges and implications of removing shipwrecks in the 21st Century."

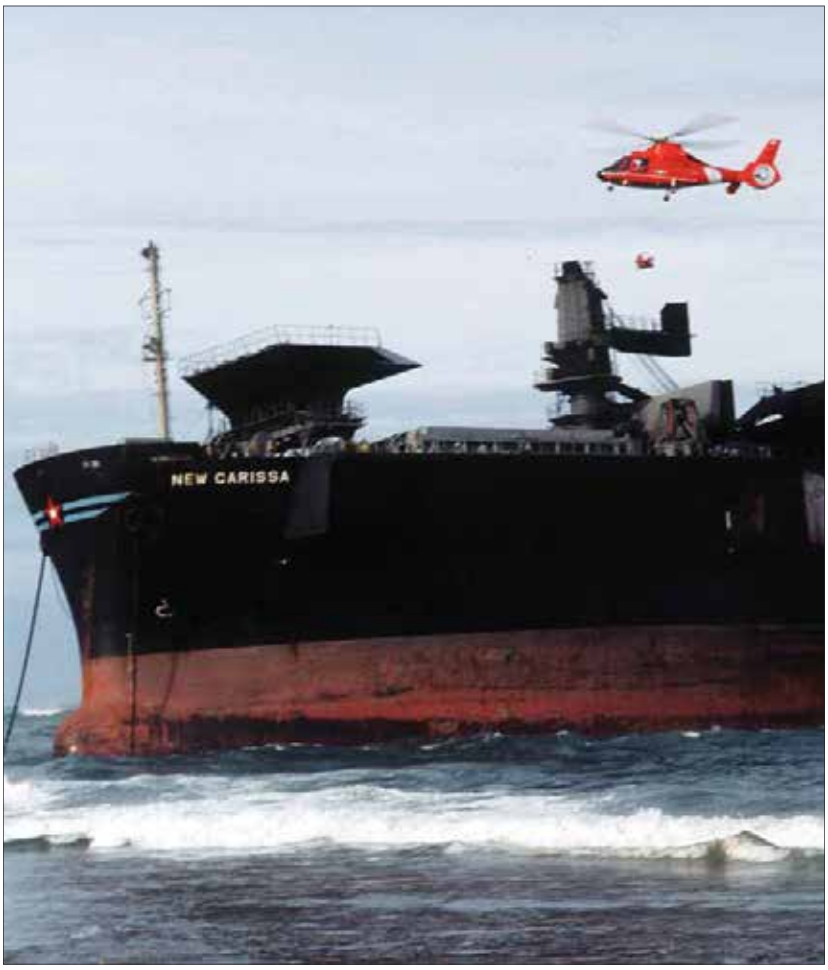
The report found there are about 1,000 casualties each year, but successful intervention and salvage meant only about 100 become actual or constructive total losses rendering the casualty a wreck.

Considering the Environment in Wreckage Removal

Where the ship or cargo presents a hazard to shipping or the environment, it is likely the coastal state concerned will order its removal. The responsibility for removal will fall on the ship owner's liability insurers; first their Protection and Indemnity (P&I) Club, then the International Group (IG), then the IG's self-insured captive, and then the re-insurance market when the IG of P&I Club's threshold of $70 million and then their captive insurance level is crossed.

The cost of removal in several high-profile cases prior to and during the report had been far more than $70 million. Many wreck removals are straightforward for the specialist experts involved, but some are more complex. The International Group's large casualty working group found the rising costs are the result of the coastal state authorities' increased requirements, which focus on mitigating environmental risk. The concern is not just in relation to matters concerning where the wreck lies, but also in regards to pollution and requirements to recycle the removed wreck. It is no longer appropriate to sink the bow, mid, or stern section of a ship 40 miles off the coast. In many instances, she must be brought ashore and recycled, as was the *Costa Concordia.*

(Top) The stabilized wreck of the *Costa Concordia* enters the port pushed by tugboats. (Right) Once in dry dock at the San Giorgio shipyard, the dismantling of the *Costa Concordia* began. Upper decks were removed until only the hull remained. Photos by Riccardo Arata / Shutterstock.com.



(Top) The Coast Guard helps avert environmental catastrophe after the bulk carrier *New Carissa* ran aground February 4, 1999, one mile north of Coos Bay, Oregon, and began leaking oil. (Bottom) The ship's remaining fuel was intentionally ignited to help prevent nearly 400,000 gallons of oil from reaching the shoreline. U.S. Coast Guard photos by Petty Officer Brandon Brewer.

This year marks the 50th anniversary of the sinking of the oil tanker *Torry Canyon* off the south coast of England, when the solution to removing the wreck and cargo was to call in the UK Royal Air Force and bomb the wreck. Similarly, when the M/V *New Carissa* ran aground on a beach near Coos Bay, Oregon, during a storm in February 1999, the solution was to torpedo part of the ship once towed offshore. It is highly unlikely that environmental concerns would allow for such solutions, giving rise to increasing wreck removal costs.

Human Error

The report also looked at the cause of casualties, a key concern for the industry. Lloyd's Agency figures indicate that globally, groundings accounted for 45 percent of cases; mechanical breakdown, 23 percent; fire, 8 percent; and collision, 6 percent.

The report highlighted human error, at sea or in the office, as the cause for up to 80 percent of incidents. This can include a variety of issues, from inattention on the part of the lookout, which can lead to collision or grounding, to lack of professionalism. Other issues include misdeclared cargo onshore and cost-cutting measures in relation to vessel maintenance or supply of equipment.

The *Costa Concordia* really highlighted the fact that, had modern technology been employed to prevent human error, there would have been no casualty in the first place. It was a timely reminder that, while it is important to recognize opportunity, that industry must identify and address the risks involved for such opportunity to be maximized in a sustainable way.

Increased Vessel Size and Lack of Equipment

The report also highlighted that one of the main factors involved in rising costs is the scant availability of suitable heavy lifting gear. Much of what exists is chartered to the offshore sector and concentrated in key locations like Western Europe, the Gulf of Mexico, Singapore, Northeast China, and Japan. This was a key factor in the high costs for removing the *Rena* in a more remote location like New Zealand.

Additionally, wreck removal equipment has not kept pace with increasing vessel size, which is a real concern. Vessel size has increased dramatically, especially box ships, LNG carriers, passenger ships, and bulk carriers. In short, ships are designed to safely carry large amounts of cargo, but not to be easy to remove as wreckage. Most agree that, while contractors are highly capable and innovative, there are concerns about a capability gap opening between equipment and experience of the largest vessels. In this context, regarding the ships themselves,

there is a school of thought that the crew could perhaps be losing the intrinsic knowledge of these vessels.

The Arctic—A New Frontier of Risk

It is all very well compiling reports and making recommendations, but it is another thing to follow through on those recommendations.

At the same time as the reviews into *Deepwater Horizon* and removals of wrecks were taking place, Lloyd's also recognized that the Arctic was an emerging frontier of risk. It was clear to all concerned that for operations to take place safely in the Arctic, in the shadow of the *Deepwater Horizon* and *Costa Concordia* disasters, much more work would need to be done to reduce risk. The insurance industry would have to step up and play its role, along with the maritime and energy industries.

At the same time that the various reports were launched and recommendations made, the IMO's draft Polar Code was being discussed in London at the IMO. However, to address the concerns raised in the various reports, the Polar Code needed to be fit for purpose. One of the key elements in the Polar Code is the requirement to have a Polar Waters Operational Manual, or PWOM. Effectively, the PWOM must demonstrate that an operator has planned for a worst-case scenario "in the conditions that may occur" during the planned voyage, or if the ship has a fundamental problem with its intended functionality.

The insurance industry, and indeed many of those working on the Polar Code, found this difficult to understand, which would have created huge problems for operationalizing the code. There was a good description of what type of ice the ship could withstand and operate in, but for preparations in advance and actual operations, there was no guidance to link the likely conditions that may be encountered in the area the ship would be intending to operate in.

Therefore, how would an operator determine operational limitations for the actual ship in question? How could you complete your Polar Waters Operational Manual without this guidance, or obtain a Polar Ship Certificate confirming the operational limitation method has been applied when there was no method to consider? Canada operated the AIRS system, and Russia, the Ice Passport System, but there was no universal system for the Arctic and Antarctic with benchmarked limitation guidelines, perhaps creating a recipe for confusion and impending disaster.

Insurance Industry Initiative

Having served as a legal advisor on Lloyd's Arctic report following its April 2012 launch in Oslo, Sweden's senior Arctic official contacted me, asking to arrange discussions regarding maritime operations with some prominent Arctic ice captains. Sweden held the chairmanship of the Arctic Council from 2011 to 2013. Introducing the ice experts to the insurance industry in London, we drafted a document of standards that went beyond regulation, the "Arctic Marine Best Practice Declaration," which we put through industry consultation.

Recognizing their opportunity following the recommendations highlighted in the various reports, the declaration was backed by the International Union of Marine Insurance, which includes Lloyd's and, importantly, the Nordic Association of Marine Insurers.

This initiative, given its backing by the world's energy and marine insurers, came to the attention of the IMO. In February 2014, at the suggestion of Transport Canada, and at the invitation of the National Science Foundation of the

Special Arctic Risks

At the same time as the reviews into *Deepwater Horizon* and removals of wrecks were taking place, Lloyd's also recognized that the Arctic was an emerging frontier of risk. Accordingly, Lloyd's commissioned another report, "An Arctic Opening Opportunity and Risk in the High North," which was launched in Oslo in April 2012. In summary, the report recognized that:

- **There are significant knowledge gaps.**
  - **Charting and ice data are obviously issues for mariners.**
- **Environmental consequences of disasters are likely to be worse than in other regions.**
  - **In the absence of knowledge, incidents will occur. The potential environmental consequences, difficulty, and cost of clean-up may be significantly greater with implications for governments, businesses, and the insurance industry. Transborder risks, covering several jurisdictions, add further complications.**
- **Risk Management is fundamental.**
  - **Companies operating in the Arctic require robust risk management frameworks, processes that adopt best practices and contain worst-case scenarios, crisis response plans, and full-scale exercises.**
- **Continued development of governance frameworks, with reinforcements, where possible, is necessary.**
  - **There are major differences between regulatory regimes, standards, and governance capacity across the Arctic states. The IMO's Polar Code is one major step forward in filling this gap, but the code cannot accomplish it entirely on its own.**

United States as well as the European Commission, I presented at International Maritime Organization Headquarters on the operationalizing of the Polar Code and some of the concerns of the insurance industry at the time. This ultimately resulted in the inclusion of the Polar Operational Limitation Assessment Risk Indexing System (POLARIS) in the Polar Code.

Concerns for Vessels Operating above Latitude 70 Degrees N:

- Extreme cold can cause engine problems and make it difficult or impossible for equipment to work.
- There is reduced coverage by navigational aids such as GPS.
- Inaccurate charts and magnetic compasses are unreliable in such high latitudes.
- There is restricted visibility up to 90 percent of the time.
- Inadequate weather reports and violent storms can occur at any time.
- Salvage facilities are almost nonexistent.

"Bridging the Arctic marine risk gap—The need for a cross Arctic Ice Regime—linking ice conditions to ice class requirements," a March 2014 conference in London, was intrinsic to the development of POLARIS. It brought together the insurance market and ice experts from across the Arctic and Antarctic, including the four masters of the Swedish Icebreaker *Oden.* Acknowledging that creation of regulation is one thing and enforcement is another, strong industry recommendations were prepared and sent to the Arctic Council for the creation of a forum for best practice to achieve this.[1]

The idea of a forum on best practices in the Arctic Council that would focus on inputs to determine worst-case scenarios that could occur in the PWOM under the Polar Code—including but not limited to hydrographic data, meteorology, crew training, communication, and ice charting—came to the attention of the Arctic Council's Protection of the Arctic Marine Environment (PAME) working group. Terms of reference were finalized, and the forum was included in PAME's 2017–2019 work plan during its January 2017 meeting in Copenhagen and was declared at the end of the U.S. Chairmanship of the Arctic Council in Fairbanks, Alaska in May 2017. The forum's first meeting, hosted by Lloyd's of London and Lloyd's Register, took place in London in June 2017.

As well as meeting annually in London, participants in this forum will update a web portal hosted by the PAME secretariat with best standards as they evolve so everyone will know where to get the best information on a continual basis. Each participating member will be responsible for gathering the latest developments in their area of expertise on a cross-jurisdictional basis and updating the forum.

We need to know what the best information is at any point in time, and that knowledge is currently lacking in the various decision making stages of the process by operators, flag state representatives, insurers, financiers, and port state control entities. Put simply, people do not know where to get reliable information. However, if we can do this on a practical business level, we believe it is possible to have happy insurers who will insure polar operations that are based on a sustainable approach to Arctic development so that everyone benefits. The first forum was a great success; the eight Arctic States were then requested to present the concept at the IMO in June 2018 to the World Delegations as an example of what can be done elsewhere in the world to help with the implementation of regulation in a collaborative approach. It is envisaged that the Web portal will be launched in February 2018 at the International Conference on Harmonized Implementation of the Polar Code, hosted by Finland in Helsinki.

Most importantly, a proper implementation of the Polar Code, which will only happen if done as a collective, will protect some people and the environment from disasters like the *Costa Concordia* and *Deepwater Horizon*. By helping the IMO and national governments, we perhaps might create the right behavioral atmosphere to deal with the areas outside the Polar Code. In that regard, it would be remiss of me not to congratulate and thank both the USCG and all the other U.S. agencies for their fantastic work both at the IMO and the Arctic Council. The Arctic Shipping Best Practices Information Forum is truly a great achievement by the U.S. in their 2-year Arctic Council Chairmanship. Ultimately, everywhere in the world, it is quite straightforward: Prevention is better than cure, and, as always, together we can make a difference.

About the Author:

Originally from County Cork, Ireland, Mr. Kingston is a London-based lawyer who represented the International Union of Marine Insurance at the IMO on the finalization of the Polar Code. He was the legal contributor to several reports by Lloyd's of London assessing opportunities and risks in the Arctic (2012), challenges and implications of shipwreck removal (2013), and drilling in extreme environments (2011). Mr. Kingston was named the 2014–2015 Lloyd's List Global Maritime Lawyer of the Year for his contribution to safety of life at sea in the polar regions, and he has also received a USCG Challenge Coin for his efforts to promote maritime safety by raising awareness about the IMO Polar Code.

Endnote:

1. http://polar.se/en/conference-report-sustainable-arctic-shipping-marine-operations/