

Investigating Fire and Explosions Aboard Ship – The Challenges

In recent years the marine industry has faced significant challenges with the continuing threat from fire aboard ships. Whilst the frequency of these claims remains relatively low the costs related to hull, and cargo claims resulting from fire and explosion can be significant.

Scale of the Challenge

The threat of fire can affect any vessel, but it is the issue of fire on board container ships that often hits the headlines. The issue of fires on board box ships is not new and history is littered with the names of casualties, such as the HANJIN PENNSYLVANIA; 2002, HYUNDAI FORTUNE; 2006, MSC FLAMINIA; 2012, MSC DANIELA; 2017, and more recently in 2018 the MAERSK HONAM.

Whilst the number of total losses for 2019 remains to be seen, at the time of writing, 2019 has already seen three major cargo ship fires including the GRANDE AMERICANA and the GRANDE EUROPA, reportedly a deliberately set fire with arrests made.

Year on year the incidence of container ship fires have continued to fall, and whilst the issue of safety at sea is always high on the agenda, the fire on board the MAERSK HONAM, reportedly the most expensive General Average claim to date; appears to have redoubled the efforts to further reduce the incidence of fire on container ships.

Underlying Issues

Allianz Global Corporate & Speciality (AGCS) Safety-Shipping-Review reports that cargo carrying capacity has increased 1500% since 1968 and the TT Club has recently calculated



MSC Flaminia courtesy of The Maritime Executive

that there is a container ship fire every 60 days - a trend that has to be interrupted if lives are to be saved and the financial consequences reduced.

Around 2013 we saw the introduction of the new generation of vessel referred to as Ultra Large Containership (ULCV) when Maersk line introduced ships with a cargo carrying capacity of 18,000 TEU's and above. This capacity is set to rise with 24,000 TEU vessels on the drawing board. Whilst the economies of scale may bring efficiencies, wider ships with higher tiers will bring their own challenges in the event of fire and or explosion.

In an industry that relies almost entirely on trust, between the shipper and the carrier, with an expectation that cargo will be declared properly and identified with the correct placard and markings, it is not surprising that carriers often know very little about the cargo they are carrying. In contrast, the introduction in 2016 of the Verified Gross Mass (VGM) rule saw how the problem of overweight containers was to be addressed by holding the shipper to account for accurately declaring container weights; yet the same robustness does not appear to be applied to the declaration and placarding and marking of the cargo within.



Hanjin Pennsylvania courtesy of gCaptain



Hyundai Fortune courtesy of Seatrade Maritime



Maersk Honam courtesy of Felixstowe Dockers

Why Investigate?

There are many potential causes of fire on board a ship, not just those associated with the mis-declaration or non-declaration of hazardous cargo. Regardless of cause, the industry will only learn lessons and identify those liable if full investigations are undertaken. Establishing the origin and cause can take several months with many experts appointed. Protracted litigation may follow, an example of which is the case involving the MSC FLAMINA, which occurred on July 2012 with the courts finally attributing responsibility in 2018.

So why investigate? Apart from establishing liability and reducing the financial losses in terms of damage and lost revenue, a full investigation provides valuable learning and can prevent a re-occurrence with the consequential improvement of company and regulatory standards and safety.

Identifying legal responsibility and contributory factors should be high on the list of any owner or charterer (carrier), the shipper or the cargo owner. The accurate determination of origin (where) and cause (how) a fire/explosion originated is key to any subrogation that may follow such an event.

The Hague Visby Rules as amended are a mandatory framework of rights and obligations that govern the carriage of goods by sea. These rules form the liability regimes that apply to the transfer of goods by sea and it is under these rules that owners or charters may find breaches alleged. Whilst these rules may offer a shipowner a defence to cargo claims: if the

vessel was deemed to be unseaworthy, for example, by a failure to train crew, inadequate or insufficient fire-fighting means or an inadequate and poorly managed safety system, then a case may be found against them.

Where a fire is caused by cargo, a case may be made against the cargo owner, but consideration may have to be given to the proper declaration, placarding and marking of the cargo, as well as the adequacy of information provided through the supply chain from the manufacturer to shipper and carrier and the associated compliance. The judgment set out by the United States District Court, Southern District of New York, in MSC FLAMINA, gives an insight into the issues that may arise.

The improper or misdeclaration of hazardous cargo appears to have reached new heights, risking the lives of crew, rescuers and the safety of the ships. It is recognised that finding those responsible for misdeclaration may be an impossible task but there may still be lessons that can be learned thus ensuring that quality systems are improved, training provision keeps pace with the real and perceived risks and that the marine industry strives towards a safe ship concept whereby fire protection is integral to the design process, especially as ships grow in size and crew numbers diminish.

Assisting the Investigation Process

Whilst the safety of the crew and ship are paramount some early steps can be taken to assist the investigation:

- Early appointment of forensics;
- The early liaison and engagement between forensics and appointed Salvors
- Documenting firefighting activities of crew and others, where possible and safe to do so;
- The recovery and preservation of relevant documentary and electronic evidence;
- As soon as reasonably possible formal and full witness statements documented;
- The collation and preservation of any digital imagery that may be available;
- The early engagement and liaison with forensics appointed by other parties.

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