

Standard Bulletin

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The Standard
for service and security

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LPG: trade and risks

The current interest in using natural gases is not a new phenomenon. The first ships to transport gas on a commercial scale sailed as early as the late 1950s. However, the industry has seen several advancements, with much more sophisticated production and drilling techniques being utilised. This, together with increasing global demand, has led to larger and more complex gas ships.

- LPG is used extensively in residential areas for heating, cooking and lighting, often in developing countries
- Expansion of US shale gas activities has increased US exports of LPG and impacted the global energy landscape
- Claims activity is generally lower than in other shipping trades; however, risks are still high

Where are we with gas?

The dominant theme in LPG over the last few years has been the sharp expansion in US LPG exports following the US shale revolution. The USA is now a net exporter of gas, with LPG exports rising by more than two-thirds between 2012 and 2013 alone.

This has contributed to an increase in new build orders and a subsequent overcapacity in the sector.

Meanwhile, the LNG sector continues to grow, with more tonnage available in the market than before. The increase in available gas supplies, and corresponding increase in emissions regulations, has prompted many in the industry to look at available means not only to carry gas but also to use that gas as fuel. These

issues are further explored in the club's previous article of March 2015 – *'LNG as fuel'* by Julian Hines.

Risks

Gas operators are known to have very high safety standards, with fewer incidents than other shipping trades. In any event, the club has a good level of experience in assisting members engaged in the gas trade and working with them to identify key risks and manage their liabilities. Nevertheless, problems do occur. The claims faced by members carrying LPG have included some of the following.

Crew claims

Unfortunately the majority of claim incidents the club has seen in recent years have been due to accidents involving crew in the workplace. Some of the incidents have occurred due to a failure to follow procedures, whilst others have been at least exacerbated by complacency and other human factors often collectively referred to as the 'human element'. The nature of the injuries can range from the relatively minor to more significant injuries affecting the crew member's ability to work in the future, for example, burn injuries and exposure to explosions. The club has a good level of knowledge in relation to crew

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compensation claims from working together with members and managing agents and the relevant crew. In addition, the club's Loss Prevention department actively engages with members to prevent personal injury and has recently initiated the club's own pre-employment medical (PEME) scheme to reduce the frequency of personal illness claims. For more information, see the club's *special publication of August 2015*.

What is meant by gas?

The IMO describes gas as 'liquids having a vapour pressure exceeding 2.8 bar at a temperature of 37.8°C'. Those gases include liquefied natural gas (LNG) and liquefied petroleum gas (LPG).

LPG is predominantly made up of butane and propane. It is usually a by-product of natural gas extraction and is also produced during the oil-refining process. It is a colourless, clear fluid with no odour.

LNG consists of methane. It has similar physical properties to that of LPG in that it is colourless and odourless. It is carried as a liquid at very low temperatures to maximise its carrying capacity.

Contamination of cargo

Where different grades of cargo are carried on different voyages, this can represent a risk for even careful operators as contamination may sometimes be caused by improper changeover of cargoes. The club is able to assist members in managing claims that may arise where contamination has occurred, for example, on board or at shore facilities.

Damage to fixed and floating objects

Bearing in mind the popularity of LPG in many developing markets, it is not surprising that many LPG operators will call at several smaller, possibly less sophisticated ports. These ports may not have dedicated onshore discharge facilities and so discharge of cargo may have to be undertaken by cargo lines connected, for example, via sea buoys. These represent a convenient option for many ports; however, the use of them is not without risk. By working closely with port interests, these risks may be minimised; however, utmost care should be taken to ensure potential perils are avoided. This may include, for example, safely disconnecting cargo discharge lines in bad weather.



Case Study

Background details

Whilst loading a cargo of butane and propane at a terminal in the Caribbean, an LPG ship experienced a black-out followed soon after by an explosion in the main engine room. The blast was so severe that it blew out doors in the lower accommodation area and caused extensive damage to the ship. Unfortunately, three members of the crew were badly injured.

Case management

Following initial notification by the member, the club acted swiftly to mobilise a response team of the most effective internal resources and external service providers. The external appointments included salvors and technical experts, including fire and explosion experts. Local surveyors and local lawyers were appointed to assist with investigations on site, whilst suitable English solicitors with relevant experience in handling complex casualty scenarios were also identified and appointed.

Losses

The club worked with the member and appointed experts to identify the potential losses. Following preliminary investigations, it was clear that there was at least damage to the ship plus significant delays and disruption to the member's operations. Further investigations helped to identify relevant potential P&I exposures and suitable account was made for the following, based on the areas covered within The Standard Club rules.

Personal injury (rule 3.1.1)

Medical costs to treat the three injured crewmembers at the nearest medical facilities and also ongoing medical treatment in their home countries on their return. Allowance was also made for crew substitution and repatriation costs and also for contractual entitlements including sick pay and disability compensation.

FFO damage (rule 3.9)

As a result of the ship's prolonged stay at the berth during investigations following the incident, it was identified that there may have been potential interference with terminal property rights through blocking a commercial berth. The terminal had intimated that it would bring a large claim for loss of use of the berth and local law advice was obtained in order to inform the club's strategy on this possible liability.

Cargo liabilities (rule 3.13.1)

The potential for cargo losses was identified albeit that several defences were available bearing in mind the incorporation of the Hague Visby Rules into the contract of carriage.

Unrecoverable general average contributions (rule 3.14)

General average was declared by the owner member following the incident. The club's rules will respond only where the member cannot recover general average because there is an overriding unseaworthiness argument advanced by cargo interests. Determining this depends on a number of evidential factors but is largely dependent on whether the incident occurred notwithstanding the exercise of due diligence by the owner/carrier. A thorough investigation took place to show that the owner/carrier had adequate systems and procedures in place and that the incident occurred despite these being applied and monitored by the owner's/carrier's management.

Practical support for members

As a result of the club's experience in managing many recent major casualties, we are able to provide prompt assistance to the member in the immediate aftermath of a casualty. The club also assists in helping to shape an ongoing strategy that can be adopted in the months and possibly years following an incident. The club's emergency number is manned 24 hours for incident notifications: +44 7932 113 573.