

# Signals

NEWSLETTER

**NORTH**   
SERVICE, STRENGTH, QUALITY

## Welcome...

to the April 2015 edition of *Signals*, which provides information relating to loss prevention and other topics of interest to ship operators and seafarers and examines their implications and consequences.

## IN THIS ISSUE

In issue 98 of *Signals* we focussed on the use of and training in CO<sub>2</sub> systems and in this issue we look at first response to, and prevention of, accommodation fires which account for around one fifth of all fires on board.

The revised sulphur limits for Marpol Annex VI, Emission Control Areas, were introduced on January 2015, and this has led to the bunkers market providing new types of fuel known as 'hybrid' low sulphur fuels. These new products raise some issues for owners and charterers such as compliance with the ISO 8217 standard, and potential storage issues, all of which are discussed.

## Issue 99: April 2015

LOSS PREVENTION NEWSLETTER  
FOR NORTH'S MEMBERS

The use of asbestos on board new vessels was banned by SOLAS on 1 January 2011 however recent reports indicate that materials containing asbestos have been found on some newbuilds from Chinese shipyards. In this edition we look at the continued use of asbestos on board and measures that may be taken to prevent asbestos being used.

Very large container vessels carry many thousands of twistlocks which have to be stored when not in use. In this article we highlight potential problems related to the storage of twistlocks on flat rack containers.

In the legal section we look at the use of implied terms in a sale and purchase contract and the meaning of 'as is where is' within a contract. In the April 2014 edition of *Signals*, North highlighted the issue of charterers giving their companies similar names to well-known players in the shipping world, in an attempt to induce owners to fix with them. In some instances this resulted in owners finding that they had been misled into entering into fixtures with companies that ultimately proved worthless.

Following on from this, BIMCO has reported several incidents of fraud and attempted fraud having been brought to their attention recently, where fraudsters have created email addresses similar to those of well-known companies in order to deceive owners. The fraud is explained in this edition.

The cargo section includes articles on the importance of ensuring that the requirements of the IMSBC Code are complied with when dealing with flammable and/or self heating solid bulk cargoes. There is also an article which examines the potential difficulties and dangers surrounding the carriage of river sand.

Food poisoning can have serious consequences for operations on board and we examine the importance of food safety.

In an effort to address enclosed space entry incidents, SOLAS has been amended to ensure that suitable training and drills take place and this is highlighted in this edition.

Accompanying this edition of *Signals* is our new *Loss Prevention Guide – Rocks and Hard Places: How to Avoid Them*. The guide is aimed primarily at aiding bridge teams in avoiding groundings and contact with structures other than ships by sharing North's experience of such incidents in a way that we hope will encourage thought by, and discussion between, members of the bridge team. Also included is the latest addition to our *Soft Skills* series of posters entitled *Situational Awareness*.



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# STOWAGE OF TWISTLOCKS ON LARGE VESSELS

In 2014 the latest generation of container vessels went into service. These ships can carry over 19,000 TEU (twenty-foot equivalent units). If every container from the vessel was placed end to end then they would stretch over 70 miles.

Obviously there is a need for a huge number of container twistlocks to be carried on board large container vessels, so that containers can be properly secured. But container vessels are not always full and when the twistlocks are not in use where are they stored?

A common solution on large vessels is to store unused twistlocks in bins on a flat rack container in an unused cargo slot. This is an effective solution to a space problem. However, twistlocks are heavy items, perhaps weighing upwards of 6-7kgs each. It's not long before the flat rack full of thousands of spare twistlocks weighs in at 10, 15 or 20 tonnes.

In effect the twistlock flat rack may be as heavy as a loaded container and as such must be treated in the same way when it comes to cargo planning, stowage and securing. The vessels loading software should be used, along with an estimated weight of the flat rack based on the number of twistlocks it contains, to ensure that the flat rack is stowed in a position that makes it compliant with the vessel's cargo securing manual and stowage requirements.

## FIRE: FIRST RESPONSE

In issue 98 of *Signals* we focussed on the use of, and training in, CO<sub>2</sub> systems. In this issue we look at response to, and prevention of, accommodation fires. The catastrophic consequences of fires on board ships are well known within the shipping industry, but they continue to occur and place the lives of crew in serious danger as well as leading to significant and costly insurance claims.

In recent years there have been a number of accommodation fires at sea. Statistics kindly provided by marine consultants Braemar Salvage Association detailing their fire related survey instructions, show that although engine room fires remain the most common, accommodation and wheelhouse fires accounted for around a fifth of fire incidents.

There are many reasons why a fire may start in the ship's accommodation, with the galley presenting even more opportunities for fire if care is not taken and control measures are not in place. However, there have been a number of incidents in recent years where the fire started in a cabin and typical causes and exacerbating factors include:

- Electrical fires started by overloading or improperly using power sockets.
- Use of retrofitted electrical heaters.
- Smoking, in particular falling asleep when smoking.
- Unauthorised cooking in cabins.
- Storing flammable liquids such as paint thinners or chemicals in cabins.

In any fire situation, the first response is of vital importance. A quick and effective response by a well-trained crew can prevent a small fire becoming a large fire which ultimately puts the ship and crew at risk.

### Detect it Early, Tackle it Early

Functional, unobstructed smoke detectors that transmit an alarm to the bridge are the first step in a quick response. Smoke detectors must be tested regularly and any detector heads found to be defective should be repaired or replaced promptly. If a detector has been inhibited or 'looped out' for maintenance or any other reason, ensure that it is made operational before leaving the affected area.

All crew should be trained and confident in what to do if they discover a fire. Upon joining a vessel, familiarisation in these actions and the ship specific arrangements is essential, but the principles are quite simple:

- **Find.**
- **Inform:** raise the alarm and if possible call the bridge and give as much detail as possible (fire location, size and type).
- **Restrict:** close the doors to prevent spread, remembering any door hold backs that may be engaged and any open portholes.
- **Evacuate** the area and make one attempt to **E**xtinguish the fire. An effective first attack using a safe technique with the correct choice of portable extinguisher can make all the difference.

When carrying out fire drills, remember to involve and engage all crew members. The quick response by a prepared and confident crew member can prevent a small fire from becoming a major life threatening incident.

### Spot the hazards in this picture



Answers: 1. Electrical socket wiring insulation poorly repaired with electrical tape 2. Using cabin to store equipment and parts 3. Storage of combustibles 4. Obstructed movement within cabin 5. A prize for any others you can find email - loss.prevention@nepia.com





# ASBESTOS ON SHIPS

The use of asbestos was widespread in the 20th century in all manner of applications. It was found in many buildings ashore and was also widely used in shipbuilding and ship's equipment.

As the serious hazards to human health of some types of asbestos became recognised, the use of asbestos was significantly controlled. With the introduction of SOLAS Ch. II-1 Regulation 3-5 in 2002, the use on board ships was restricted to a very large extent, with the use of asbestos banned for all new installations with the exception of vanes in rotary vane compressors and vacuum pumps, pipe gaskets subject to certain conditions, or thermal insulation for temperatures greater than 1,000°C.

A further amendment to the SOLAS regulation resulted in the total ban of any asbestos on all new installations as of 1 January 2011.

This would suggest that a newbuilding vessel could be considered to be free from any asbestos, especially if built to Classification Society Rules, which ordinarily prohibit the use of asbestos. However, it has recently been reported that materials containing asbestos have been found on some newbuilds from Chinese shipyards.

It should be considered that the SOLAS requirement applies to the vessel, and therefore places the obligation on the present owner, despite the fact that the owner may have bought the vessel from someone else, or had the vessel built to a specification they believed to be compliant (or possibly was compliant in the country of build).

## Types and Traditional Uses

There are three common types of asbestos, each having different levels of hazard to human health (see table at top of page).

Asbestos Type	Hazard to Health
<b>Blue</b> (Crocidolite) Asbestos	Considered to be the most dangerous to health
<b>Brown</b> (Amosite) Asbestos	Less dangerous than blue asbestos
<b>White</b> (Chrysotile) Asbestos	Considered the least dangerous type

Although white asbestos is the least dangerous type of asbestos caution should still be exercised with white asbestos as it is reportedly often contaminated with the more hazardous types of asbestos.

Common areas where asbestos has been traditionally used on vessels and where it may still be discovered are:

- Flange gaskets.
- Machinery, deck, deckhead and bulkhead insulation.
- Fire door insulation and seals.
- Pipe lagging.
- Brake linings.
- Electric cable penetrations.
- Furnace bricks / refractory.
- Valve and pump gland packing.

## Reported Experiences

Asbestos surveying and testing specialists Centre Testing International (CTI) have recently reported that asbestos is still found on a significant number of new ships. Their opinions on why this is happening include the discrepancies in different countries legislations as to what constitutes "asbestos-free". For example, in Australia this threshold value is 0%, in Europe it is 0.1% and in China there is reportedly no official standard.

Additionally, as asbestos is still being used legally in China in land based construction, it may be finding its way into the maritime industry.

CTI consider another factor may be that suppliers are only obliged to provide an "asbestos-free" declaration and are not required to produce a formal certificate of testing. This is in relation to the IMO Circular "MSC.1/Circ 1426 Unified Interpretation on SOLAS II-1 3-5", which advises that Administrations and Recognised Organisations should review asbestos-free declarations and supporting documentation as provided by the shipbuilder, repairer and equipment manufacturer as applicable.

## Vigilance at Newbuild

In 2013, Lloyds Register issued advice on complying with the SOLAS regulation with their publically available publication "Asbestos on Ships", which can be found at: [http://www.lr.org/en/\\_images/213-35794\\_AsbestosGuide2013\\_tcm155-247011.pdf](http://www.lr.org/en/_images/213-35794_AsbestosGuide2013_tcm155-247011.pdf)

They advise that exercising vigilance at the newbuild stage is important in preventing asbestos-containing materials getting on board. Know where the materials potentially could be used and monitor the installation of equipment.

The same principles should apply when ordering spares and replacement parts such as gaskets and insulation. Consider the traceability of purchased spare parts. Be mindful that yard staff and their subcontractors may leave unused materials on board upon completion of build, such as gasket material, which may be used by the ship's crew at a later date. There is also the possibility that branded materials which would ordinarily give a degree of confidence in being asbestos-free may actually be counterfeit.

Consultants CTI further opine that it may be in a shipowner's interest to consider suitable asbestos clauses in their build contracts with shipyards that explicitly address the definition of "asbestos-free" (say, at 0%) and the requirement of an asbestos absence certificate issued by independent ISO 17020 accredited specialists.

Vigilance is key in preventing asbestos getting on board – it is always cheaper to exercise vigilance at the newbuild stage than to find yourself in the position of having asbestos discovered aboard during operations, having to screen the vessel for asbestos and remove any asbestos found in accordance with Flag State and Classification Society requirements.



Asbestos on Ships.



# NEW LOW SULPHUR FUELS

The introduction in January 2015 of the revised sulphur limits for marine fuels for use in MARPOL Annex VI Emission Control Areas (ECAs) has led to the market providing some new types of fuels.

For those vessels not fitted with abatement technologies, such as an approved exhaust gas cleaning system (SO<sub>x</sub> scrubber), a decision facing those parties responsible for the purchasing of bunkers is whether to use the newly offered hybrid low sulphur products as an alternative to burning traditional low sulphur marine gas oil (LSMGO).

A shipowner purchasing bunkers for his own account may decide to explore the options now available. Particularly as a vessel's ability to operate within ECAs may be compromised if there is limited supply of LSMGO which necessitates overly frequent bunkering.

However, whilst LSMGO's are featured in ISO 8217 as they are quite simply a low sulphur version of an existing grade DMA or DMZ, some of the newly developed hybrid fuels do not fall into the grades specified in ISO 8217 as they are formed by blending products from a number of different refinery streams.

A further complication is that a number of engine manufacturers have yet to issue "No Objection" letters for all of the alternative fuels available which would usually be considered to be the maker's acceptance that the fuel is safe and suitable for that engine.

It should not be automatically assumed that a hybrid fuel falling outside of a listed grade in ISO 8217 or the absence of a manufacturer's letter of no objection means it is unsuitable or unsafe for use. Whilst no doubt ISO 8217 will be revised in due course to include hybrid fuels, until this occurs there will be uncertainty as to the situation with hybrid fuels.

If a hybrid fuel has been supplied for use on board a ship and it does not fall within a listed grade in ISO 8217, the specification as provided by the bunker supplier and the subsequent laboratory test results should be studied carefully. The results can be referenced against ISO 8217 parameters for recognised grades that have similar characteristics; for example checking the concentration of cat fines (combined aluminium and silicon content) ensuring they do not exceed 60mg/kg. Special attention should be given to pour point and viscosity to determine heating requirements.

## Potential Operational Issues

In theory, these hybrid fuels should not introduce any increased operational risks and are quite likely to actually simplify the changeover process as opposed to changing over from heavy to gas oil (and vice versa) where managing the temperature change may be more critical.

However, ships' engineers should remain vigilant to the risk of fuel incompatibility and possible low temperature storage problems.

Hybrid fuels and gas oils tend to be paraffinic and as such are unlikely to be compatible with heavy (residual) fuels. Other than during the changeover process, these fuels should not be mixed together as it could result in severe sludge formation problems.

Some hybrid fuels need to be stored in tanks fitted with heating coils and it is likely that these tanks would have been used previously to store heavy fuel. The flushing and cleaning characteristics of these new fuels can result in the removal of previously accumulated residues from within the tanks and this can lead to an increased risk increased of blockages and clogging of in-line filters. To avoid these potential sludge problems it may be necessary to fully clean these tanks before taking on the new types of fuel.

It may also be necessary to install a new dedicated transfer line and pump to move the fuel from the storage tank to the engine room tanks to avoid contamination with residual fuel.

## What about if a Charterer proposes to supply hybrid fuels as an alternative to gas oil?

Most charterparty forms place an obligation on charterers to supply fuel of the "agreed specifications and grades" and which are "of a stable and homogeneous nature and suitable for burning in the vessel's engines or auxiliaries and, unless otherwise agreed in writing, shall comply with ISO standard 8217:2010 or any subsequent amendments thereof." (See for example The BIMCO suite of bunker clauses which is widely used in time charter parties). [https://www.bimco.org/Chartering/Clauses\\_and\\_Documents/Clauses/Bunker\\_Clauses\\_for\\_Time\\_Charter\\_Parties/Bunker\\_Quality\\_and\\_Liability.aspx](https://www.bimco.org/Chartering/Clauses_and_Documents/Clauses/Bunker_Clauses_for_Time_Charter_Parties/Bunker_Quality_and_Liability.aspx)

Of course when the BIMCO fuel sulphur clauses were created, the fuel situation was simpler than it is today. From the time of establishment of the ECAs up until the 2015 revisions, to achieve compliance the charterer would provide the vessel with an ISO 8217 compliant low sulphur heavy fuel (<1.0%) that was usually the same grade with similar characteristics (other than sulphur content of course) to the higher sulphur fuels the vessel burned outside the ECAs.

From 1 January 2015, if the charterer wishes to propose the use of low sulphur hybrid fuel or low sulphur marine gas oil in order to achieve compliance, then the owner may wish to consider if and how the vessel can use these fuels and the necessary storage requirements. However, he is not obliged to do so if contracting on the BIMCO terms.

*Thank you to Chris Fisher of Brookes Bell for his valuable contribution to this article. Email: [chris.fisher@brookesbell.com](mailto:chris.fisher@brookesbell.com) Website: [www.brookesbell.com](http://www.brookesbell.com)*



Lloyd Kaniger – Chief Steward "Arctic Fjord".

## CHEF OF THE DAY – LLOYD KANIGER

I've been cooking on fishing boats in the Bering Sea for 20 years, and while the food is the same everywhere, every crew is different and so the preparation of that food is necessarily different on every boat. A bit of advice: always TASTE YOUR FOOD before serving it!

### Sample Menu

For one of our recent menus we served turkey and gravy with candied yams, fried pollock, brussel sprouts, beef fajitas with refried beans and albondigas ("meatball soup"). A full salad bar is available, often including fresh fish ceviche and sushi, and we always have on hand fresh baked desserts, fresh fruit and ice cream.



# EAT WELL AND EAT SAFE

Great efforts are made by ships' owners, managers and their crews in ensuring a safe working environment. It should also be borne in mind that a safe living environment is equally as important and that there are few things that can bring a ship to a grinding halt quite as quickly as a mass outbreak of food poisoning.

A recent example involved the contracting of gastroenteritis from contaminated fish which affected the majority of a ship's crew. The situation was so severe that the vessel had to deviate to obtain medical treatment, causing disruption to the voyage and operation of the vessel.

Whereas some years ago food-borne illnesses on ships may have been considered nothing more than an inconvenience, it is now recognised to be associated with morbidity and, more worryingly, mortality. Conditions such as arthritis, meningitis, autoimmune disorders, renal failure and hepatitis can arise from food-borne illness.

When considering food on board a ship, there should be:

- Adequate supplies on board taking into consideration voyage length and the trading area.
- Suitable food safety or food handling policies and procedures.
- Food that is safe to eat and is both nutritious and varied.

In 2009, the United Kingdom MCA stated in their guidance notice MGN 397 that the 10 main reasons for food poisoning were (in no particular order):

1. Preparation of food too far in advance and stored at room temperature.
2. Cooling food too slowly prior to refrigeration.
3. Not reheating food to high enough temperatures to destroy harmful bacteria.
4. Using contaminated cooked food.
5. Undercooking.
6. Not thawing frozen meat for sufficient time.
7. Cross contamination from raw food to cooked food.
8. Storing hot food below 63°C.
9. Infected food handlers.
10. Improper use of leftovers.

With regard to food temperatures, crew must be aware that there is a "danger zone". Hot food must be kept above 63°C and cold food must be maintained below 5°C.



*Clean food preparation area.*

Although not related directly to the maritime industry, research by the United Kingdom Food Standards Agency found that poultry meat was the most common cause of food poisoning. Interestingly however, produce including vegetables, fruit, nuts and seeds, caused the second highest number of cases. Beef and lamb were a close third.

## Galley & Food Preparation Areas

The following simple preparation and storage guidelines should be observed for all types of foods:

- **Clean:** maintain high standards of personal hygiene and wash hands regularly. There should be sufficient dedicated hand washing facilities with hot water, soap and hygienic drying facilities. Keep preparation surfaces clean and ensure that garbage arrangements allow for segregation and hygienic collection.
- **Separate:** avoid cross-contamination. Separate raw meats, poultry and seafood from other foods in the refrigerator and other food storage places. Use different coloured cutting boards, utensils and dishes for raw meat products and fresh produce.
- **Wash:** all fruit and vegetables should be washed to ensure that they are clean and safe to eat. Do not wash raw poultry before cooking; splashing water droplets can spread bacteria in every direction.
- **Cook:** use a thermometer to check that meat has been properly cooked. Cook meat and poultry to recommended temperatures. If the meat has been marinated in the fridge before cooking, throw out any used marinade, or bring to a boil before reusing.

- **Chill:** do not over-stow refrigerators or cold rooms and ensure that they are set at 4°C or below. Thaw frozen food in the refrigerator, or in cold water, changing the water often. Cool any left-overs as quickly as possible and store it in the refrigerator or freezer.

- **Respect 'use by' dates:** Avoid eating food that has passed its 'use by' date. Use any refrigerated leftovers within two days.

## Scullery or Dishwashing Area

It is important that cleaned pots, crockery and utensils are kept separate from those that are dirty to prevent contamination. Dishwashing and pot-washing equipment should be operational with a wash cycle that uses detergent and a rinse cycle that achieves sanitisation by reaching a minimum temperature of 82°C (180°F) or through chemical means.

In the absence of an operational dishwasher which necessitates manual washing, a three stage process of wash, rinse and sanitise should be practiced.

## Cold Storage

The World Health Organisation (WHO) recommended storage temperatures for cold rooms on board a vessel are as follows:

- Freezing at or below -18°C
- Storage at or below +4°C

The manner of stowage in freezers and cold rooms is important. Although crew may have challenges with capacity regarding the storage of provisions, e.g. when embarking on a long voyage or if anticipating future procurement problems, they should avoid storing foodstuffs directly on the deck as it may become damaged by any standing water.

Raw and cooked foods must remain segregated and avoid storing meat above other foods.

*Article continued overleaf...*



# EAT WELL AND EAT SAFE (CONTINUED)

## Potable Water

A ship must have sufficient amounts of clean drinking water that is fit for human consumption; the amount held on board is determined by the trading pattern of the vessel, the length of voyages, the ability to make fresh water on board and availability of safe bunkered water from shore.

When bunkering potable water, the ship should use designated hoses that are not used for any other purposes. They must be capped at both ends when not in use.

Desalination equipment such as fresh water generators (flash evaporators) and reverse osmosis plants should be in good order and properly maintained. Potable water lines should not be cross connected to any other non-potable systems (unless suitable air breaks or vacuum breakers are fitted).

Potable water that is generated on board or bunkered from shore should undergo an appropriate disinfection process. This is particularly important when water is produced from a flash evaporator under vacuum because the water is not subject to temperatures which are high enough to kill bacteria. Typical disinfection systems utilise chlorination, silver and ultraviolet treatments.

As well as water for drinking, the crew must have a supply of hot water for washing purposes and for the galley. Calorifiers should be operational and able to meet demand.

The potable water system should be included in the ship's planned maintenance system and include schedules for flushing and super-chlorinating equipment, lines and shower heads.

## Pest Management

Often referred to as 'vectors', pests can include many types of insect as well as mice and rats. Probably the most common insects to affect living areas are cockroaches, flies and, to a lesser extent, bed bugs and fleas.

Pests are attracted by food waste. The best prevention is cleanliness and good garbage management. The ship should maintain a pest control book detailing the number and type of pest(s) found and their location as well as any treatment applied.

## CARRIAGE OF RIVER SAND AND SEA SAND

The carriage of various types of sand by sea-going vessels is not a new phenomenon. However, with the massive increase in demand for sand for use in land reclamation purposes, especially in Singapore, North has received many enquires specifically relating to the carriage of "river sand" or "sea sand" from various countries including Vietnam, Myanmar and Cambodia.

Typically this type of sand cargo is dredged directly from river beds or estuaries, straight onto barges which then proceed to vessels waiting at anchorage for loading. The cargo is very wet when dredged and may undergo some drainage on the barges.

This cargo is generally declared by the shipper as a Group C cargo, under the International Maritime Solid Bulk Cargoes (IMSBC) code. In many cases a Bulk Cargo Shipping Name (BCSN) of "SAND" is given, but sometimes "RIVER SAND" or "SEA SAND" is used.

There are no entries for either "RIVER SAND" or "SEA SAND" in the IMSBC Code.

The most obvious potential BCSN, and the one most often used in this trade is "SAND". SAND is listed in the IMSBC code as a Group C cargo and is described as being usually fine particles, abrasive and dusty. The schedule describes the dusty nature of the cargo, keeping the cargo as dry as practicable before loading, after loading and during the voyage.



*Transhipment of sand via a barge.*

This would suggest that the Group C SAND schedule in the IMSBC Code should only apply to very dry sand, and not the wet sand usually loaded on vessels carrying river and sea sand.

As a general principle, there are no procedures listed in the IMSBC Code for dealing with a cargo whose hazards are not properly described by the existing schedule. Thus, in circumstances where a cargo is declared by shippers under the BCSN "SAND" but is found to have the properties of a Group A cargo, the Code offers no guidance to the Master or indeed to shippers.

There are some Group A sand cargoes listed in the IMSBC Code (for example SAND, HEAVY MINERAL), but these schedules are for very specific types or blends of sand and are not suitable for river or sea sand cargoes.

In the absence of an appropriate BCSN in the Code, it becomes important that the properties of the cargo are thoroughly understood, and any hazards investigated.



# CARRIAGE OF RIVER SAND AND SEA SAND (CONTINUED)

The most obvious potential hazard associated with wet river sand is liquefaction. In Appendix 3 of the IMSBC Code, it is noted that *“many fine-particled cargoes, if possessing sufficiently high moisture content, are liable to flow. Thus any wet cargo containing a proportion of fine particles should be tested for flow characteristics prior to loading.”* These cargoes of river/sea sand clearly have high moisture content and are made up of fine particles. It would therefore be appropriate for them to be tested to ensure safety, and the prudent approach would be for shippers to test any such cargo using an appropriate test prior to shipping. However, as far as we are aware, it does not appear that any shippers have actually done so.

Unfortunately there are no actual tests for determining whether a cargo should be considered Group A or not. The best that can be achieved at the moment using normal straightforward laboratory tests is to use the test methods listed for cargoes which may liquefy in Appendix 2 of the Code. However, these are intended for determining the Transportable Moisture Limit (TML) for cargoes known to be Group A, rather than as tests to establish whether the material is indeed Group A. In the absence of further guidance from IMO or the relevant Competent Authority, the prudent course of action would be, in the case of materials which show flow behaviour during laboratory TML testing, to treat them as Group A cargoes.

We are aware of a small number of instances in which such tests have been carried out at the instigation of ship owners and charterers. In some cases the testing has led to the conclusion that the particular sand being tested was not liable to liquefy – and would thus be properly described as Group C. In other cases testing has shown signs of liquefaction, and in those cases the laboratories have concluded that the cargoes should be considered to be Group A. There is however a tendency for normal flow testing on these sand cargoes to be inconclusive as the behaviour of the material during the test differs from more commonly found Group A cargoes. Thus there are circumstances where those present have been unable to express an opinion on whether the cargo is Group A or not.

In a number of incidents North has reviewed, we believe it was the shipper’s intention to load the sand direct from the river or sea bed, onto barges and thereafter into the holds of the ships; then rely on the ship’s bilge system and additional pumps (placed on the cargo surface) to remove the excess water prior to sailing.

It is understood that these cargoes of river or sea sand can often drain relatively freely. Cargoes of river/sea sand in barges are often seen to be dry at the top and very wet at the bottom. The same drainage process takes place on board ocean vessels.

In our experience, some shippers (and possibly charterers) are beginning to view the ship as a large ‘sieve’ and expect the bilge system to handle the drainage of water from such cargoes without any regard for the bilges possibly blocking up with cargo particles. This presents a problem, as a normal ship’s cargo bilge pumping system is not designed to operate to this extent and pumping large amounts of sandy water through it can result in damage to the system.

The IMSBC code does not provide for ‘bilge drainage’ as an option for managing the moisture content of cargoes which may liquefy. Indeed, Group A cargoes which drain freely can undergo dangerous liquefaction even when loaded at moisture levels below the TML. The IMSBC Code says *“Some cargoes are susceptible to moisture migration and may develop a dangerous wet base even if the average moisture content is less than the TML. Although the cargo surface may appear dry, undetected liquefaction may take place, resulting in shifting of the cargo.”*

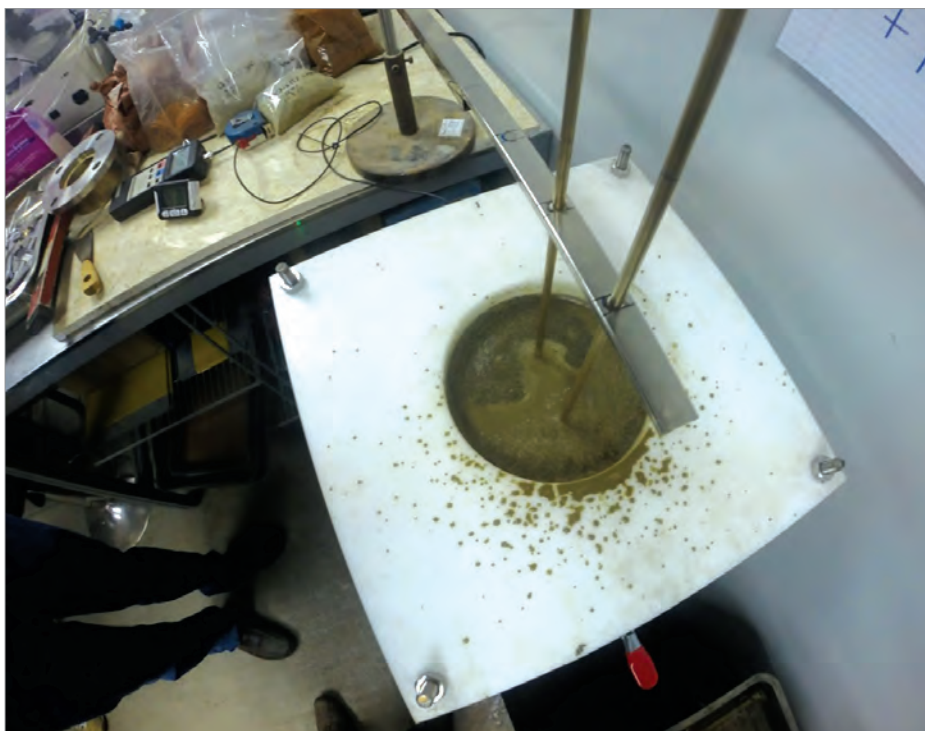
If the Master is concerned, then he should carry out a can test (as per Section 8 of the IMSBC code). If the can tests do indicate fluid behaviour or the collection of free moisture on the surface of the sample in the can, then the cargo is likely to behave like a Group A cargo and loading should be stopped until suitable laboratory analysis has been completed.

The situation as described above is problematic for all parties as it is not clear whether or not the river or sea sand to be carried is a Group A or Group C cargo.

It is also worth noting that if a shipowner calls for the sand to be tested before loading there is a possibility that the cargo will either be found to be Group C or testing will be inconclusive. Either may result in a dispute or delay to loading.

In light of the potential problems associated with the declaration owners carrying river/sea sand should exercise high levels of vigilance. Measures that owners/Masters may take to protect the vessel include closely monitoring the loading, ensuring that can tests are carried out on the cargo as it comes aboard, monitoring the cargo condition and to ensure that bilges are well maintained to ensure water draining through the cargo can be removed from the holds.

*Thanks to Daniel Sheard of Brooks Bell for this article.*  
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Penetration test.





# CARRIAGE OF FLAMMABLE SOLID BULK CARGOES

North has seen a number of incidents recently where it has been suspected that a solid bulk cargo being carried has undergone a process of self-heating and that combustion is being sustained within the cargo space.

This phenomenon is usually associated with hydrocarbon based products such as coal, but can also occur in cargos such as seed cake, metal turnings, DRI or certain other IMSBC (International Maritime Solid Bulk Cargoes) code Group B cargoes.

Irrespective of the cargo being carried, if self-heating is suspected it is important to establish the situation within the cargo space without opening the hatch covers; which would introduce a fresh supply of oxygen and thus potentially aid the combustion of the cargo that is self-heating or on fire.

## Carriage of Coal

When carrying a cargo of coal one of the best means of assessing conditions within a cargo space is by regular gas monitoring of the atmosphere. Gas monitoring, when conducted in accordance with the procedures laid down within the IMSBC code, should provide a reliable early indication of self-heating within a cargo space. This will allow preventative action to be considered without delay.

For a coal cargo, the IMSBC code specifies that the atmosphere of a cargo space shall be regularly monitored for levels of methane, oxygen and carbon monoxide.

Under normal conditions, a daily gas measurement is usually sufficient. However, if carbon monoxide levels rise to over 30ppm then the frequency of sampling shall be increased to at least twice a day. If carbon monoxide levels in any hold reach 50ppm, or records exhibit a steady rise over three consecutive days, a self-heating condition may be developing and the Master shall inform the shipper and the company.

A reduction of oxygen concentration in a well-sealed cargo space is to be expected and is in itself not an indication of any self-heating within that space. In order to fully understand what is happening in a cargo space, it is important to continue to regularly monitor all gas concentrations (oxygen, carbon monoxide and methane), as well as cargo temperature. This ensures any trends are identified and will give the Master time to formulate a comprehensive action plan that complies with the emergency procedures in the relevant schedule of the IMSBC code.

As mentioned previously, if a self-heating condition is suspected and the flammable gas concentration levels allow, the cargo spaces should remain closed and expert advice sought.

During the voyage, if the Master suspects a coal cargo is self-heating; direct application of water onto the cargo should not be used in an attempt to reduce the temperature. Direct application of water has the potential to actually increase the temperature of the cargo, increase the rate of evolution of flammable gases in some cargoes and may also have a dangerous effect on the vessel's stability.

## Other Potential Issues

Other cargoes have differing requirements and carriage instructions. For example, with variants of DRI (direct-reduced iron), the IMSBC code specifies that hydrogen levels must be closely monitored. It is vitally important that the vessel is fully aware of the requirements of the specific IMSBC code schedule for the cargo being carried and has appropriate equipment on board to measure the atmosphere and to deal with any emergency situation that may arise.

## Use the Correct Detector

It should be noted that combustible gas detectors that have a system of operation based on catalytic sensors rely on the presence of sufficient oxygen to obtain an accurate measurement. Such detectors could therefore give false readings when used in spaces containing cargoes which are known to deplete the oxygen content of the space.

A gas detector fitted with a catalytic combustion sensor works by 'burning' a gas sample in the combustion sensor, which in turn causes a change in the electrical resistance across the sensor. That change in resistance is measured by the instrument and is translated into a combustible gas concentration in air.

However, if there is not enough oxygen in the sampled gas then combustion reaction may not take place or be incomplete, and the readings of the detector may be inaccurate. For this reason detectors with catalytic sensors are not intended for use in oxygen depleted atmospheres.

Not having a suitable gas detector on board could lead to a potentially dangerous situation; as well as not being in compliance with the IMSBC code. Gas detectors must be regularly serviced and properly calibrated in accordance with the manufacturer's instructions and checked for suitability for the cargo being carried before the ship sails.

North has produced loss prevention briefings on the carriage of coal and the carriage of DRI which may be accessed at [www.nepia.com/LP-Briefings](http://www.nepia.com/LP-Briefings)

## IF IT IS TOO GOOD TO BE TRUE, IT PROBABLY IS... MORE CHECK BEFORE FIXING

In the April 2014 edition of Signals, North highlighted the issue of charterers giving their companies similar names to well-known players in the shipping world, in an attempt to induce owners to fix with them. In some instances this resulted in owners finding that they had been misled into entering into fixtures with companies that ultimately proved worthless.

Following on from this, BIMCO has reported that several incidents of fraud and attempted fraud having been brought to their attention recently, where fraudsters have created email addresses similar to those of well-known companies in order to deceive owners.

The fraudsters are located in Turkey, and the *modus operandi* is always the same. A "broker" approaches an owner – maybe even via one of the owner's well known brokers – to load and carry a cargo on liner-in terms at what usually seems to be a very profitable freight rate. In most cases the company put forward as the shipper is a well-known company. The broker then provides email contact details of other owners (themselves often said to be well-known companies) who can give "references" for recent fixtures.

The e-mail addresses of these "references", however correct they may seem, are however in fact email addresses of the fraudsters made specifically for this purpose. When requested by email to advise on the performance of the "charterers" the fraudsters themselves confirm their "good performance".

Negotiations are carried out in a reasonably convincing manner and the owner is asked to advance funds in Euros for the loading costs (anything between EUR 60,000 and EUR 130,000) to the agent.



# SHIP SALE AND PURCHASE: EXCLUDING IMPLIED TERMS

In a case called the “Union Power” (2012), the parties entered into a Memorandum of Agreement (MoA) based on the Saleform 93, which is a standard form contract commonly used in the sale and purchase of second hand ships. Following purchase, and on her first ballast voyage, the vessel’s main engine broke down as a result of the failure of the number 2 crankpin. The buyers sought damages for breach of the implied term as to satisfactory quality implied into the MoA by virtue of section 14(2) of the English Sale of Goods Act (“SOGA”) which states that: *“Where the seller sells goods in the course of a business, there is an implied term that goods supplied under the contract are of satisfactory quality.”*

The sellers unsuccessfully tried to argue that the words “as she was at the time of inspection” contained in the Saleform 93 amounted to an “as is-where is” sale (a term which the sellers interpreted as a transaction whereby the seller offers goods in their present, existing location and condition to prospective buyers) and therefore the implied terms in the SOGA as to satisfactory quality were excluded. The Tribunal held that argument was unsustainable because the meanings are different. Accordingly, the term as to satisfactory quality was to be implied into the MoA and the sellers were therefore in breach. On appeal, the Court upheld the Tribunal’s decision, and also went on to consider what the term “as is-where is” would have meant had it in fact been incorporated into the MoA. The Judge held that in the absence of any evidence as to customary meaning, the words “as is-where is” were not sufficiently clear to exclude the SOGA implied terms. He went on to express a provisional view that if a contract required a buyer to take a ship as is-where is, the effect was that the buyer had no right to reject the ship on the grounds of breach of an implied term, but would be entitled to claim damages for breach of that term.

By contrast, in a subsequent case called the “// Sole” (2014), the Court expressed a completely different view as regards the meaning of the words “as is-where is” with the Judge stating:

*“I would regard that phrase as self-explanatory. It clearly signified that the buyer would acquire the yacht in whatever condition the boat was at the time of purchase with no right to complain subsequently if the boat should turn out to have any defect”.*

With regard to the provisional view expressed in the “Union Power” case, to the effect that the words “as is-where is” did not exclude implied terms, but merely excluded a right of rejection in respect of breach of those conditions, the Judge expressed a contrary view saying:

*“In a contract between commercial parties such an interpretation would seem to me to be generous to the buyer. Drawing such a distinction between the right to reject and the right to damages and treating the words “as is” as excluding the former but not the latter seems to me most unlikely to reflect the expectations of ordinary business people or to be an interpretation that would occur to anyone other than an ingenious lawyer.”*

As in the “Union Power”, the Judge’s comments did not form part of the ratio of the decision and as such are not binding. Nonetheless, we now have two Commercial Court Judges adopting different stances on what “as is-where is” means and whether this wording is sufficient to exclude SOGA.

## So What to Do?

There is a large body of English case law to the effect that, if a party wishes to contract out of the SOGA implied terms, the exclusion must be made abundantly clear in the contract. By contracting on Saleform 2012 (an updated version of Saleform 1993), the parties do just that: Clause 18 of Saleform 2012 (the Entire Agreement Clause) expressly states that “Any terms implied... by any

applicable statute or law are expressly excluded to the extent that such exclusion can legally be made.” BIMCO in their explanatory notes accompanying Saleform 2012 say that this provision should remove the uncertainty concerning the sale of ships under English law and a potential obligation on the sellers to ensure that the vessel is of a “satisfactory quality and fit for purpose”.

Saleform may be accessed at: [https://www.bimco.org/Chartering/Clauses\\_and\\_Documents/Documents/Sale\\_and\\_Purchase/SALEFORM\\_2012.aspx](https://www.bimco.org/Chartering/Clauses_and_Documents/Documents/Sale_and_Purchase/SALEFORM_2012.aspx)

### 400 18. Entire Agreement.

- 401 The written terms of this Agreement comprise the entire agreement between the Buyers and.
- 402 the Sellers in relation to the sale and purchase of the Vessel and supersede all previous.
- 403 agreements whether oral or written between the Parties in relation thereto.
- 404 Each of the Parties acknowledges that in entering into this Agreement it has not relied on and
- 405 shall have no right or remedy in respect of any statement, representation, assurance or.
- 406 warranty (whether or not made negligently) other than as is expressly set out in this Agreement.
- 407 Any terms implied into this Agreement by any applicable statute or law are hereby excluded to.
- 408 the extent that such exclusion can legally be made. Nothing in this Clause shall limit or exclude.
- 409 any liability for fraud.

## IF IT IS TOO GOOD TO BE TRUE, IT PROBABLY IS... MORE CHECK BEFORE FIXING (CONTINUED)

What happens next can be imagined... funds are remitted but when the vessel arrives at the port of loading it is discovered that no agent by the given name operates at the port, and of course the cargo does not exist.

Owners of course, will in such circumstances try and stop their remittance, usually however, finding that the funds were withdrawn immediately after they were remitted with the consequence that the transfer cannot be recalled.

When looking at business with new contractual counter-parts, Members are again referred to North’s ‘Check Before Fixing’ Circular dated 9 January 2014.

<http://www.nepia.com/news/circulars/check-before-fixing-january-2014/>



## IMO UPDATE

### Adoption of Amendments to MARPOL

The IMO Marine Environment Protection Committee, during its sixty-sixth session, adopted amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL). MEPC.251 (66) specifies the amendments to Annex VI of the MARPOL Convention relating to the certification of dual-fuel engines under the NOx Technical Code 2008.

The amendments include changes to the implementation schedule for NOx Tier III, the Energy Efficiency Design Index (EEDI) requirements and the form of the International Air Pollution Prevention (IAPP) Certificate. The amendments are due to enter into force on 1 September 2015.



# UK RESIDENTIAL TRAINING COURSE 2015

North's highly successful annual residential training course in P&I insurance, based at the historic Lumley Castle Hotel, which is located only a few miles away from the Club's head office in Newcastle upon Tyne, celebrates its 23rd anniversary this summer. The event on 5-12 June 2015 will again provide delegates with a thorough grounding in the basic principles of P&I insurance.

Over the years, the residential training course has been constantly updated to reflect the changing shipping, claims and legal environments, while remaining true to its key features of quality teaching, delegate participation and networking.

### Further Information

There are a small number of places remaining on this year's course. For more information and to download a brochure, visit:

[www.nepia.com/RTC](http://www.nepia.com/RTC)



## MARITIME THREATS AND INCIDENTS

During the course of 2014, North teamed up with specialist maritime intelligence, investigation and risk management company Gray Page to provide an enhanced online picture of maritime threats and incidents.

The *Maritime Threats and Incidents Picture* (or MTI) is based on an interactive Google map that is freely available intelligence resource and can be accessed on our new website [www.nepia.com/maritime-alerts/](http://www.nepia.com/maritime-alerts/).

The MTI provides information, analysis and assessments relating to the commercial risks and physical threats ('Enduring Maritime Risks') faced by the shipping industry and seafarers, around the world. Current and recent incidents are listed under 'Current Maritime Incidents'. There is also a section which contains Joint War Committee (JWC) Listed Areas.



The MTI covers commercial, as well as physical security threats to shipping, which are monitored on a daily basis and through collaboration with our partners and is maintained up-to-date. The 'enduring risks' covers topics such as the threat of hijacking and stowaways, fines, problems associated with loading or discharging cargo, and sanctions.

As with any such initiative we are dependent on reliable information sources. If you identify a particular threat or risk in a port or country where you operate that is not already present on the map, or if you think a current MTI is out of date, incorrect, or could be improved upon, we would appreciate your feedback.

Please contact North's Loss Prevention team at [loss.prevention@nepia.com](mailto:loss.prevention@nepia.com) if you have any comments in respect of the information contained on the map.



# NORTH'S WEBSITE AND SMARTPHONE APP

North's new website, launched in January 2015, is a comprehensive redevelopment of the previous site, designed to ensure full compatibility with desktop and portable devices and to provide significantly improved access to key data. The website also hosts the Maritime Threats and Incidents Picture.

North has also launched an updated version of its smartphone application or 'app', which provides a simpler, quicker way to access its online databases of staff, correspondents, entered vessels, blue cards and wreck removal cards.

The Maritime Threats and Incidents picture, new website and app are all part of our continuing drive to make North's information and services more accessible to Members and intermediaries worldwide. By collaborating with industry experts and through exploiting new technologies we aim to continue providing the highest possible level of service to our Members.

[www.nepia.com](http://www.nepia.com)

[www.nepia.com/maritime-alerts/](http://www.nepia.com/maritime-alerts/)

[www.nepia.com/news/industry-news/north-contacts-app-update/](http://www.nepia.com/news/industry-news/north-contacts-app-update/)



## ENTRY INTO ENCLOSED SPACES

One of the most important steps in the enclosed space entry process is identifying exactly what is an enclosed or dangerous space. The Code of Safe Working Practice for merchant seamen (COSWP) defines a dangerous space as:

*"Any enclosed or confined space in which it is foreseeable that the atmosphere may at some stage contain toxic or flammable gases or vapours, or be deficient in oxygen, to the extent that it may endanger the life or health of any person entering that space"*

On board a vessel, once a dangerous space has been identified, and entry is required, it is essential that appropriate precautions are put in place to ensure the space is safe for entry and remains safe whilst people are within that space. The procedures and precautions to allow this should be well established within a vessel's Safety Management System.

Sadly though, the explanation behind many of the fatalities that occur within enclosed spaces is very familiar – one person enters an enclosed space and collapses; concerned colleagues then rush in – in an attempt to rescue their colleague – and then they too are overcome and collapse. It's not uncommon that a third or even a fourth person will be caught out – with tragic consequences.

It is vital to stress that an unplanned rescue will most likely end in tragedy as personnel rush into what very well may be a lethal atmosphere, under the misconception that they will be able to save their colleagues.

According to the International Association of Classification Societies (IACS) over 50% of the workers who die in a confined space are attempting to rescue other workers. In simple terms more people die attempting rescue than are actually overcome in the first place – a shocking statistic.

While this statistic points to the bravery exhibited by seafarers who wish to rescue colleagues it also highlights failings in seafarer training.

In an effort to address the apparent failings in seafarer training new amendments to SOLAS Section I regulation 19.3 – Emergency Training and Drills came into force on 1 January 2015. These amendments relate to requirements for mandatory enclosed space entry and rescue drills and SOLAS now states:

**3.3** *Crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space entry and rescue drill to be held on board the ship at least once every two months.*

And:

**3.6** *Enclosed space entry and rescue drills*

**3.6.1** *Enclosed space entry and rescue drills should be planned and conducted in a safe manner, taking into account, as appropriate, the guidance provided in the recommendations developed by the Organization.*

**3.6.2** *Each enclosed space entry and rescue drill shall include:*

- .1** *checking and use of personal protective equipment required for entry;*
- .2** *checking and use of communication equipment and procedures;*
- .3** *checking and use of instruments for measuring the atmosphere in enclosed spaces;*
- .4** *checking and use of rescue equipment and procedures; and.*
- .5** *instructions in first aid and resuscitation techniques.*

Ships' crews have for years been trained in fire, abandon ship and other drills. On a well-run ship a great deal of time and effort goes into making these drills as realistic as possible, to ensure everyone on board gains the maximum benefit from these scenarios; so that when a real emergency situation arises, a well-trained crew can react appropriately.

The new amendments to SOLAS should assist in raising the awareness and preparedness of crew who are entering an enclosed space, or standing by outside that space, and ensure that if something does go wrong everyone on board knows how to react and the equipment required to assist is available and is functioning correctly.

North's updated *Loss Prevention Briefing on Enclosed Spaces* can be found in the Loss Prevention Briefings Section of the Club's website at: [www.nepia.com/LP-Briefings](http://www.nepia.com/LP-Briefings).



# NEW LOSS PREVENTION GUIDE

## Rocks and Hard Places: How to Avoid Them

Accompanying this edition of *Signals* is our new Loss Prevention Guide – Rocks and Hard Places: How to Avoid Them.

The guide is aimed primarily at aiding bridge teams in avoiding groundings and contact with structures other than ships by sharing North's experience of such incidents in a way

that we hope will encourage thought by, and discussion between, members of the bridge team.

Also included in this issue of *Signals* is the latest in our Soft Skills series of posters entitled Situational Awareness.

*Copies of the Loss Prevention Guide and Soft Skills poster are enclosed with this issue of Signals for all appropriate vessels.*



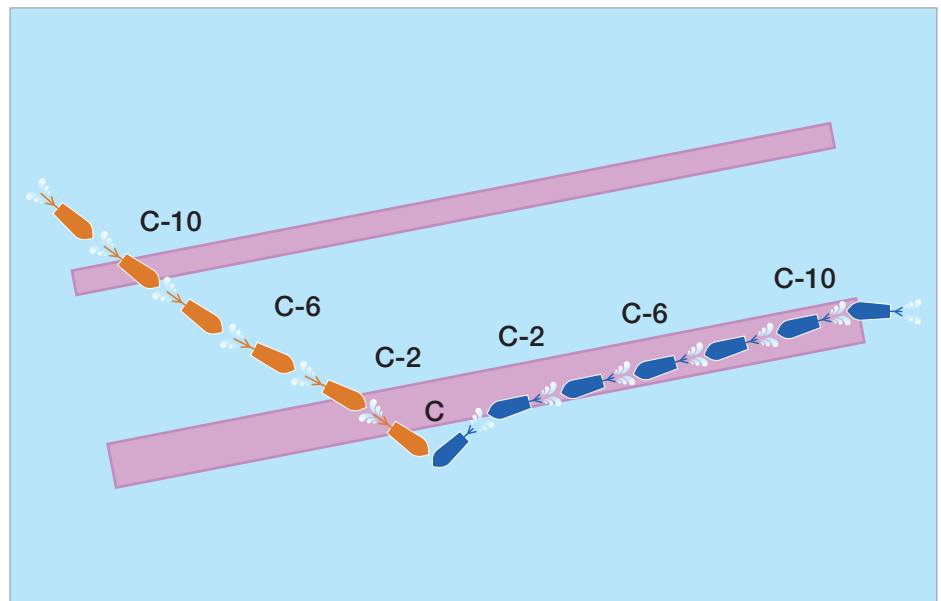
# COLLISION CASE STUDY

## Introduction

North's loss prevention guide *Collisions: How to Avoid Them* includes a series of collision case studies intended to generate discussion about the International Regulations for preventing Collisions at Sea (COLREGs). Further case studies are published in *Signals* from time to time and below is the latest of them. Each case study is set out as simply as possible, with the minimum information necessary to describe a developing situation. The case studies ask a number of questions but answers are not provided. The case studies are intended to promote wide-ranging discussions about collision avoidance.

## Scenario

The 'blue' ship is navigating a Traffic Separation Scheme. In anticipation of turning south after the end of the Scheme, the 'blue' ship has moved slowly across the west-going traffic lane and the separation zone. The 'orange' ship is crossing the Traffic Separation Scheme.



**Your Copy of *Signals***  
Copies of this issue of *Signals* should contain the following enclosures:

- LP Guide – Rocks and Hard Places.
- Soft Skills Poster – Situational Awareness.

## Questions

1. Is this a 'Crossing Situation' as defined by Rule 15?
2. At position C-10, what action should the watch keeping officers of **each** ship have taken?
3. Did the requirements of Rule 10 contribute to the collision?

## Further Information

Members can obtain electronic versions of North's loss prevention guide *Collisions: How to Avoid Them* by emailing [loss.prevention@nepia.com](mailto:loss.prevention@nepia.com)

To obtain hard copies of the Guides, please download the Loss Prevention Order Form from our website [www.nepia.com/lp-publications](http://www.nepia.com/lp-publications)



# Disclaimer

In this publication all references to the masculine gender are for convenience only and are also intended as a reference to the female gender. Unless the contrary is indicated, all articles are written with reference to English Law. However it should be noted that the content of this publication does not constitute legal advice and should not be construed as such. Members with appropriate cover should contact the North's FD&D department for legal advice on particular matters.

The purpose of this publication is to provide information which is additional to that available to the maritime industry from regulatory, advisory, and consultative organisations. Whilst care is taken to ensure the accuracy of any information made available (whether orally or in writing and whether in the nature of guidance, advice, or direction) no warranty of accuracy is given and users of the information contained herein are expected to satisfy themselves that it is relevant and suitable for the purposes to which it is applied or intended to be applied. No responsibility is accepted by North or by any person, firm, corporation or organisation who or which has been in any way concerned with the furnishing of data, the development, compilation or publication thereof, for the accuracy of any information or advice given herein or for any omission herefrom, or for any consequences whatsoever resulting directly or indirectly from, reliance upon or adoption of guidance contained herein.

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