Stop Loss

The London P&I Club

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Dangers of overreliance on AIS

Automatic Identification System (AIS) appeared in the early part of the millennium and found its way rapidly onto the bridges of ships of all sizes worldwide. In the earliest days, AIS took the form of a stand-alone AIS unit sited on the bridge for the reference of the watch keeping officer. At that time, most ships operated paper charts and most existing radar systems did not have a facility to integrate AIS data to their displays.

The main advantage of the system was the ability for vessel traffic monitoring systems to actively identify vessels within monitored zones. A major benefit to the bridge user was the ability to cross-reference a radar target by range and bearing to an AIS signal displayed on a separate unit.

Two decades later and much has changed, with the rapid growth in the number of ships operating integrated bridge systems.

Bridge systems today permit AIS data to be overlaid onto radar screens and in many cases electronic chart displays. Successful operators use their Management of Change Policies to manage the potential for importation of risk with new technologies, but it is becoming apparent that AIS-assisted collisions are on the rise.

The Club refers to a high-value collision case in which a ship proceeding along a Traffic Separation Scheme (TSS) was involved in a collision with another ship which altered course to cross the TSS under the apparent direction of the local Vessel Traffic Services (VTS). At the time visibility was very poor.

Neither the VTS Controller nor the ship crossing the TSS would appear to have detected the presence of the ship proceeding in the TSS. While the ship within the TSS was broadcasting an AIS signal, it may not have been displayed accurately on the navigational devices upon which the bridge team of the ship crossing the TSS were relying. If the crew of the ship crossing the TSS had used the radar set in its intended role, the detection of the other ship involved in the collision was entirely possible despite the unreliable AIS data.

A lesson from this incident is to use good seamanship and "lookout" under Rule 5 of the COLREGS:

"Rule 5 Lookout – Every vessel shall at all times maintain a proper lookout by sight and hearing as well as by all available means appropriate to the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision."

Clay cargo concerns at Lumut

The industry continues to note instances of liquefaction of clay cargoes (sometimes described as Ball Clay) declared as Group C cargoes under the schedule in the IMSBC Code.

Numerous cargoes are loaded from Lumut in Malaysia under the Bulk Cargo Shipping Name (BCSN) "Clay". Under the corresponding schedule in the IMSBC Code, this is a Group C cargo, a cargo which is neither liable to liquefy (Group A) nor to possess chemical hazards (Group B).

In recent months, several examples have come to light where such cargoes have liquefied on voyages. The Club therefore reminds Members to be aware that such clay cargoes should be treated with extreme caution. Also, do treat these cargoes in Lumut as Group A cargoes which may liquefy if shipped at a moisture content in excess of its transportable moisture limit.

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SHIP INSPECTION PROGRAMME

SHIP INSPECTIONS

Top five negative findings

The Club's Ship Inspection Department conducts approximately 250 inspections a year across our mutual and fixed premium products. This gives us the opportunity to share some of the most common findings so that Members are aware and can critically assess their own operations to avoid similar issues.

1 IS THERE OBJECTIVE EVIDENCE THAT MORE THAN ONE POSITION FIXING SYSTEM IS BEING USED?

This is the most common negative finding in the programme and is usually characterised by an entire reliance on GPS position fixing at all stages of the voyage, particularly in regions where position fixing by radar and visual means were entirely practical. It is clear that cross-referencing satellite derived positions with other position fixing methods is a recognised act of good seamanship and can draw attention to inaccurate GPS information or indeed inaccurately plotted GPS positions. Good corrective action advice consists of actions to reaffirm the SMS procedures already in place onboard, as well as longer term verification of habitual change via superintendent visits to ensure the longevity of corrective actions taken is worthwhile.

2 ARE ACCIDENTS, INCIDENTS AND NEAR MISSES INVESTIGATED SYSTEMATICALLY ON BOARD?

Almost exclusively there is an SMS policy in place in which management prescribe this activity and forms upon which it should be completed. However, it is still very common to note that there have been supposedly no incidents during the period of management worthy of the activity. While this is possible, the longer the time period in question the less likely this is to be correct and indeed the more likely the same will be regarded as a matter of concern by an ISM auditor, internal or external. Completing such exercises permits the fleet as a whole to learn from incidents that occur on board ships. Coupled with a robust system of fleet-wide safety circular communications, a well investigated and reported near-miss can avoid a damaging incident in the future, not just on board the ship in question but any in common management.

3 ARE POSITION FIXING INTERVALS CLEARLY DEFINED ON THE PASSAGE PLAN?

This is often recorded on inspections where multiple findings have been noted in connection with passage planning and safe navigation in general. Details recorded by inspectors regularly include an excessive interval of fixing being employed in areas where course alterations occur more frequently than the position fixing interval. In addition, it is often recorded that there is no provision in the passage plan for a position fixing interval at each stage of the voyage.

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SHIP INSPECTION PROGRAMME

4 ARE SAVEALLS IN SATISFACTORY CONDITION?

This negative finding is mainly caused by the savealls, while in good condition, being observed to have the requisite drain plug missing. This can be easily detected during weekly rounds of the deck and preparation for the same. The purpose of the drain plug is commonly well understood, but their loss can be easily overlooked.

5 IS THE [STEERING GEAR] HYDRAULIC SYSTEM FREE FROM LEAKS?

This is a disturbing finding which presents itself quite commonly during ship inspections. An accumulation of hydraulic fluid in the steering gear saveall is to some extent an indication that problems may exist and an investigation into the source of the leak is necessary. Early detection of the problems that may cause such leaks are important to avoid the potential loss of steering and subsequent groundings or collisions.

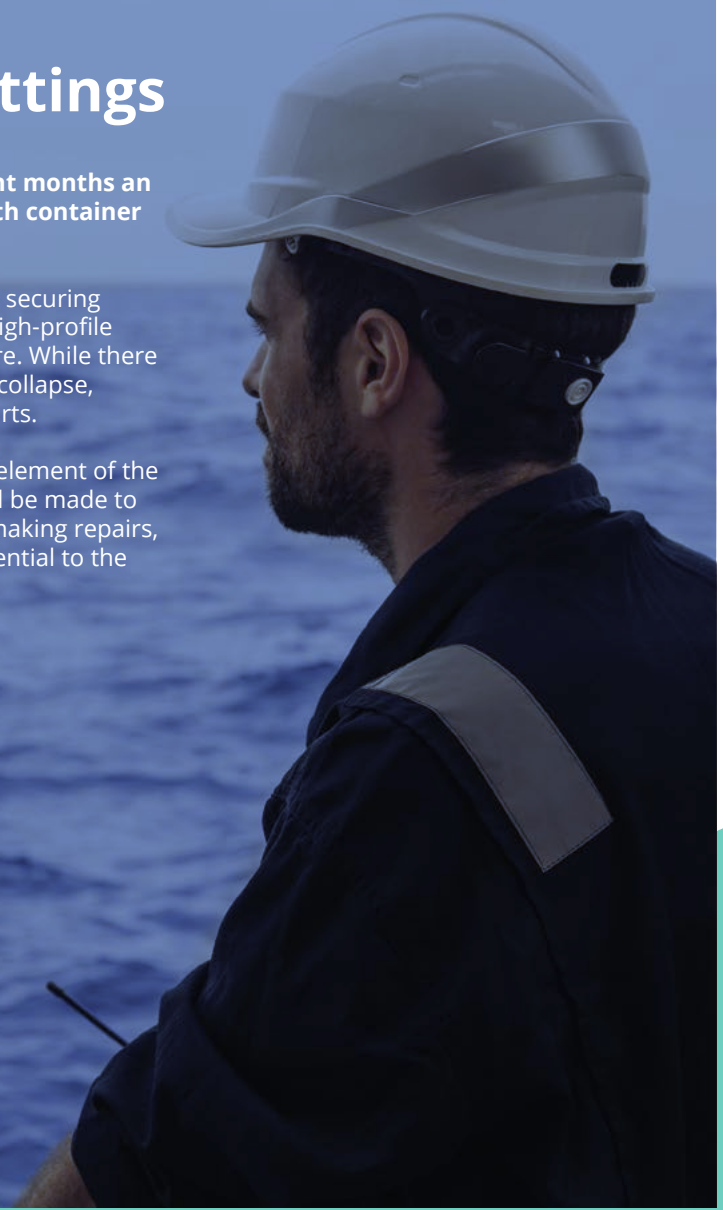
Hydraulic fluid accumulated in steering gear saveall

Container ship deck fittings

The Club's Ship Inspection Program has noted in recent months an increasing number of negative findings associated with container ship deck fittings and their condition.

Excessive corrosion and thinning can result in a key cargo securing system component being weakened. Container loss is a high-profile subject and is likely to remain so for the foreseeable future. While there are a number of contributing factors to a container stack collapse, weakened deck fittings often feature in investigation reports.

The Club maintains the view that such items, being a key element of the cargo securing system, are Class items and repairs should be made to the satisfaction of the ship's classification society. When making repairs, good quality preparation and welding application are essential to the successful installation of replacement castings.



ACCIDENT INVESTIGATION WORLD ROUND-UP

In this regular column, we round up some of the eye-catching accident investigation reports from around the globe:

The London P&I Club

Iron Chieftain ATSB – Australia

On 18 June 2018, during cargo discharge operations while alongside at Port Kembla, New South Wales (NSW), a fire broke out in the internal cargo handling spaces of the self-unloading (SUL) bulk carrier *Iron Chieftain.*

The fire soon established itself and spread to the exterior of the ship, setting the discharge boom on deck alight. The ship's crew were evacuated and shore firefighting services from Fire and Rescue New South Wales (FRNSW) took charge of the response to the fire. The fire was contained and eventually extinguished about five days after it started.

The ship was declared a constructive total loss and subsequently dispatched to be recycled.

The ATSB investigation concluded that the fire originated in *Iron Chieftain's* C-Loop space and was likely the result of a failed bearing in the ship's conveyor system which created the heat necessary to ignite the rubber conveyor belt. The ATSB also determined that the ship did not have an emergency contingency plan for responding to fire in the ship's SUL spaces and that there were technical failures of the ship's alarm systems during the emergency response to the fire.

The ATSB found that the risk of fire in *Iron Chieftain's* C-Loop space was identified and documented by the ship's operators, CSL Australia, as being unacceptable about five years before the fire. This risk rating was primarily due to the absence of an effective means of fire detection and fire suppression for the SUL system spaces. However, measures taken to address the risk were either inadequate or ineffective.

The ATSB also identified that the regulatory oversight of *Iron Chieftain* did not identify any deficiencies related to the safety factors identified by this investigation, or to the ship's inherent high fire safety risk and management of that risk.

In addition, the ATSB identified a safety issue related to the marine firefighting capability of FRNSW as well as other safety factors related to the inconsistent conduct of ship's drills and Port Kembla's emergency response plans.

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Orange Phoenix JTSB – Japan

While the cargo ship *Orange Phoenix* with master and 20 crew members aboard was anchored at Wakayama Shimotsu Port, Wakayama Prefecture, a crew member fell from a lifeboat to the deck when engaging in the lifting and recovery of the ship's freefall lifeboat during an abandon ship drill. The crewman sadly lost his life.

The investigation considered it probable that during the lifting and recovery of the lifeboat, the crewman lost his balance and fell to the deck because he was taking photographs at the doorway at the stern of the lifeboat without wearing a safety harness. The hook of the release system was released from the ring of the boat davit and the lifeboat moved downward along the guide rail. It is considered probable that the hook of the release system was released from the ring of the boat davit because it is likely that the "lock piece" was not hooked in the appropriate place.

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Ice Rose DMAIB – Denmark

On the morning of 23 September 2020, the refrigerated general cargo ship *Ice Rose* collided with anti-submarine ship 311 *Kazanets* of the Russian Navy in the Sound, Denmark. The collision happened as *Ice Rose* and 311 *Kazanets* were passing on crossing courses while navigating in a dense fog. Due to the restricted visibility, both ships' navigation relied on instrumentation only. Neither of the ships identified the other ship until a few minutes before the collision, and neither ship managed to avoid the collision once the risk of collision was recognised.

The investigation primarily describes the events from the perspective of *Ice Rose*, as DMAIB does not have jurisdiction to investigate warships and thus had limited access to data from 311 *Kazanets*. DMAIB concludes that the collision happened as a result of the navigational practises on both ships on that day. On *Ice Rose*, several coinciding factors contributed to the bridge team not recognising the risk of collision until 311 *Kazanets* was at close quarters. Those factors included bridge layout, radar settings and the division of work within the bridge team. Radar settings made it difficult to distinguish 311 *Kazanets* from stationary objects on the radar and was not identified as a target, until there were only a few minutes left to decide on a manoeuvre to avoid the collision. Due to uncertainties about 311 *Kazanets*' course and intentions, the master hesitated to make a large course alteration. As neither *Ice Rose* nor 311 *Kazanets* made any large course alteration, the collision was not avoided.

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