

SHIP INSPECTION PROGRAMME

Ship standards getting better

While the general condition and operational and maintenance standards of ships entered with the UK P&I Club are getting better, the improvements will have to continue. Club managers believe that rising insurance costs and ever more demanding legislation and regulation mean that the 'quality momentum' is not only desirable but unavoidable.

It is estimated that hull, machinery and P&I insurance for a typical Panamax vessel is now around 15% of operating costs. Given the millions of dollars paid out by the P&I clubs alone each year in respect of thousands of injury, collision, cargo, pollution and other claims, it follows that loss prevention advice needs to play a growing role in keeping incidents in check.

Recent years have seen the introduction of ISM (1998/2002), STCW 95 (1997) and MARPOL Annex 1 Amendments (1995). At the same time, Port State Control regimes, the US Coast Guard, more demanding IACS quality systems and increased numbers of commercial inspections have added to the pressures borne by shipowners and operators.

The programme aims to:

- identify ships below the Club's acceptable standard
- suggest better maintenance and operational practices
- improve the master's and the crew's knowledge and awareness of P&I, what it covers and how it relates to the conduct and management of the ship
- improve risk awareness and encourage risk management practices on board
- encourage communication between head office, ship staff and superintendents

The UK P&I Club, with around 20% of the world's tonnage on its books, is at the forefront of providing advice and materials to prevent and curb losses and to advise on legislative and regulatory compliance. At the sharp end is the Club's Ship Inspection Programme which involves expert examination of entered vessels at ports around the world.

The Club's analysis of major claims of over \$100,000 provides a salutary context. From 1987 to 2000, over 5,250 large claims cost the UK P&I Club \$2,250 million.

Half these claims involved human error – around 20% from deck officers, 15% crew, 2% engineering officers, 5% pilots and 9% people onshore. For personal injury alone, crew error accounted for about 43% of such claims and deck officer error and equipment failure 11% each.

While the number of claims caused by officer/crew error declined from around 240 in 1990, when the programme began, to just over 100 in 1999, their escalating costs have diluted the financial benefits.

Over 6,000 visits have been made in the 12 years the Ship Inspection Programme has been running. In that time, the number of vessels found in a poor enough state to require condition surveys has fallen steadily. By 2001, the figure was only 2%.

Further, the volume of formal comments devoted to improving and rectifying installations, procedures and operations

Ship Inspection Programme

Reduction in formal comments for the period 1995-2001:

Operational performance

1995 25%

2001 5%

Cargoworthiness

1995 18%

2001 7%

Manning

1995 15%

2001 6%

With improvements also in:
Pollution control
Safety
Service and maintenance

has also fallen markedly in recent years. The period 1995-2001 saw comments on 'operational performance' drop from 25% to 5%, on 'cargoworthiness' from 18% to 7% and on 'manning' from 15% to 6%. Improvements have also been observed in 'pollution control', 'safety' and 'service and maintenance'.

Members benchmarking service

The six categories the inspectors report on also provide a 'confidential' benchmarking facility where Members can compare the performance of their ships with that of the Club as a whole. With 'key performance indicators' becoming a norm, as the world becomes increasingly audit driven, the Club's facility is an independent and unbiased service that Members are utilising more and more.

It can be accessed online through the Club's website www.ukpandi.com "online services" / "claimsTrac" and is titled "Benchmarking" ■

What the inspectors said

Cargoworthiness

Cargo accounts for around 40% of the Club's large claims. While there is a clear downward trend in such claims – from 193 valued at \$53 million in 1995 to 98 worth \$30 million in 1999 – the sheer scale means the area demands the closest attention from the inspectors.

In 2001, one ship in ten incurred comments on cargoworthiness, half the level of 1995. These encompassed securing and hatch packing (12% each), covers/pontoons, cross joints and compression bars (8% each), packing channel and access hatches (7% each), lifting gear (6%) and container lashing, ventilators, coamings, drain valves and hydraulics.

Manning

The STCW 95 amendments of February 1997 helped push comments made up to 22% of visits as inspectors drew masters' attention to the higher standards required. However, this was followed by a steady reduction, indicating good progress towards the 2002 deadline for further STCW 95 amendments.

Pollution

Pollution accounts for only 5% of the Club's large claims by number but 17% by value. In 1996-97, comments made reached around 20% of visits. This coincided with MARPOL Annex 1 Amendments coming into force, requiring all ships to have a shipboard oil pollution emergency plan (SOPEP). Oil leaks and SOPEPs accounted for half the pollution comments in the seven-year period 1995-2001. Encouragingly, the volume of comment has halved in the past four years.

Operations

Operational performance deficiencies have concerned auto pilot, echo sounder, radio equipment, main propulsion and bow thruster not working; hatch closing device problems; spare gear shortage and detention by Port State Control. The period also saw a steady reduction in such comments.

Service and maintenance

Standards of service and maintenance have come under increasing scrutiny because of the impact of cost saving measures, particularly the widespread deployment of smaller and cheaper crews. A trend towards major maintenance work being done during mandatory drydock periods has been associated with a downward trend in the use of riding crews.

In the past five years, formal comments have fallen very slightly to around 15% of visits. The update of nautical publications and charts and problems with bridge and pilotage procedures accounted for more than half of comments in this area. Clearly there is still room for improvement.

Safety

Engine room safety and fire hazards attracted 24% of comments, safety procedures 19% and fire-fighting equipment 14%. According to the report: "Most comments relate to factors known to the crew – the people most likely to suffer the consequences of accidents caused by deficiencies. A culture of safety awareness still seems to be a challenge for many crews."

UK Club Loss Prevention Director Karl Lumbers explained: "These seven-year trends provide indications of positive developments in the quality of the Club's entered tonnage. However, there remains plenty of room for improvement, not least in cargoworthiness, where better measures are sometimes quite easy to put into effect, and in personal safety where the consequences of unsafe installations and practices can be massive."

Technical bulletins

Another service provided by the Loss Prevention department is 'Technical Bulletins'. Following on from the successful 'Good Practice' posters the inspectors are using the Club's claims experience with their own onboard experience to highlight current technical problems influencing P&I claims. These are more detailed than the posters and hopefully provide a source of information the shipowner can use in his own loss prevention programmes.

The Club's LP programme remains firmly committed to providing material to raise awareness, a selection of which the Member can tailor to his own needs. The bulletins are not provided in paper form but electronically (pdf format) and on demand. Members wishing to be put on the mailing list, should contact karl.lumbers@thomasmiller.com ■



Does anyone love an inspector?

Hopefully the Club's claims handlers do. Digital photographs of over 1,400 ships taken by inspectors are now available on the electronic claims handling system (Oasis).

This enables them to have immediate access to general shots of the ships when opening a claims file, giving them a visual idea of the type of ship they are dealing with ■

When ship inspectors call

The UK P&I Club's Ship Inspection Programme depends on a handful of dedicated former ship masters determined to help owners and masters towards safe working practices which in turn enhance the overall quality of the entered fleet.

The inspectors' reports provide broad information about vessel condition, operational practice, cargoworthiness, crew experience and training, safety practice and pollution control. However, their role is essentially an advisory one and very different from the highly formalised requirements of official bodies. They are the Club's own inspectors.

Between 1990 and 2001, the number of ships the inspectors found "unacceptable to Club standards" fell from 12% to 2%. The fall has been accompanied by a shift away from 'policing' to giving advice on risk awareness and risk management.

Inspections, which take around four hours, also relate closely to official requirements, such as Standards of Training and Certification of Watchkeeping, the International Safety Management Code, SOLAS and MARPOL. Pre-empting what the authorities are likely to pick up is a major consideration.

There are two key questions for an inspector:

- Is the ship acceptable by UK Club standards?
- Would he sail on this ship without reservation under its present management?

Bases in Rotterdam and Houston are permanently manned as these centres see as much shipping as anywhere. However, the inspectors have to follow the fleets as well.

There are grain carrying bulkers at Buenos Aires in February and at Seattle in October, while Miami is suitable all year round for cruise ships. Reefers are generally inspected in Western Europe where so many unload. Durban, Newcastle (New South Wales) and Dampier (Western Australia) are favoured locations for bulker inspection.

The UK Club inspectors are all former masters with great diversity of experience. All have held senior management positions with shipping operations and are qualified ISO 9000 and ISM lead auditors.

They take into account the general appearance of the vessel and broad considerations such as company policies and communications between ship and shore personnel. There is a particular focus on manning, officers' and crews' knowledge of the ship, bridge equipment and procedures, engine room and steering gear, safety, lifesaving and firefighting aspects, pollution, cargo/ballast system and mooring equipment. Emphases vary between major vessel types.

Captain David Wright, one of the UK Club's longest serving ship inspectors, explains: "We walk around the deck and look into the cargo areas, consider

have little or nothing to do directly with the inspection.

"Many masters feel unfairly put upon by paperwork," continues Captain Wright. "ISM, GMDSS and increased use of third party crewing companies have been responsible for significant extra paperwork in recent years. So much falls back onto the master in the broad context of insufficient officers with insufficient training.

"We play a valuable role in reminding masters that the smallest oversight or slack practice can lead to an expensive claim. We are not trying to trip people up but to promote awareness among masters and crews. We are always looking at areas which could be improved. Sometimes, we see good ideas being put into practice and advise other ships to consider them."



Photos on this page courtesy of Lloyd's List

accommodation, living and working conditions and check diagrams and other displayed information designed to improve best and safe practice. The language mix is important. Where vessels are likely to call at a range of international ports, a working knowledge of English for the officers is almost essential for dealing with procedures and emergencies.

"We listen particularly carefully to masters' and chief engineers' problems and sometimes act as sounding boards for items they are considering raising with their companies. We offer various on-the-spot assistance, some of which may

After each visit, the inspectors write to the Member outlining the findings and recommending remedial measures as appropriate.

Captain Wright concludes: "Safety is a passion with all the inspectors. We are seamen first and inspectors second. Having inspected over 6,000 ships in the last twelve years, the team has a unique overview of working practices among Club Members. However, we cannot afford to be complacent about the problems even if we've seen nearly all of them before. Our whole approach is to assist the master, crew and Member." ■

Posters popular with Members

A series of 23 'Good Practice' posters, produced in 2002 by the UK Club to encourage a safety and loss prevention culture aboard ship, has been well received by owners, operators and other maritime organisations.

They reflect the observations and opinions of the UK Club's ship inspection team, contrasting good and bad practice in



key operational areas. Photographs taken by inspectors are supported by advisory comments and exhortations, presented through cartoon images of an albatross, the seabird most commonly associated with safe

voyages by ancient and modern mariners.

The English language posters cover grinders, fire doors and fire hose storage, liferafts, coaming drains, bilges, garbage, gangways, access/hazard markings, oxygen and acetylene treatment, sight glasses, paint locker storage, sounding pipes, safety harnesses, twistlocks, mob lights, hatch cleats and vents, cargo hold access, main engine, steering gear and swimming pools.

Members and their representatives in 18 countries have asked for more sets. Correspondents say they have found the posters valuable and impressive.



A Greek shipping organisation described the posters as: "an excellent job, easily understood by ships' officers and crew and a valuable guide to minimising deficiencies and

accidents onboard." A ship management company wrote: "we congratulate your ship inspection team for a very appropriate and good effort in putting across very common deficiencies." ■

It could only happen to a ship inspector...

Excuse the pun, but the life of a ship inspector is not always plain sailing. The Club's inspectors sometimes find themselves dealing with dangers and unexpected incidents arising from the most unusual sources. Some of these trials and tribulations follow.

First, find your ship

Finding a ship is not always as easy as you might think. With experience, a ship inspector builds up a pretty good mental database of locations and landmarks, not to mention a sense of humour when agents' directions land him yet again at the dead end of many a dirt track in the middle of nowhere. But until that database is well on its way, locating a berth in the more obscure ports can be frustrating to say the least.

On one occasion, a UK Club inspector took two trains, a flight, a bus, a hovercraft, another bus, a taxi and a launch before he finally reached the ship – and all this without being able to speak the local language!

Indiana Jones?

Moreover, journeys can be fraught with hazards. Imagine being dumped into the sea whilst boarding a ship or being tipped off an accommodation ladder into the Mississippi. And how scared would you be if you were shot at whilst travelling in a car in Venezuela or facing a weekend in a Louisiana jail?

One of the Club's inspectors has experienced all these setbacks in the line of duty. He has also had to chip ice from the upper works of a launch to maintain stability when going offshore from the US East Coast. He had to abandon a plane when part of the wing was ripped off by a fuel tanker. He's been accused of spying, twice, had his accelerator jam, twice, in traffic and suffered numerous attacks of food poisoning.



He has been severely interrogated by Canadian Immigration on suspicion of working without a permit and faced a US policeman with a drawn gun accusing him of doing a drug deal, when he was simply driving slowly trying to attract the attention of a pedestrian to ask directions. All this is on top of all the other minor irritations that go hand-in-hand with doing a job, alone, in unfamiliar surroundings.

The canine factor

Coming face-to-face with the ship's canine occupant is one aspect of the inspectors' work that puts them in a league with postmen and milkmen. According to one severely threatened inspector: "far be it from us to suggest that the animal is primed ready to make our visit as unpleasant as possible in the hope that it will be as short as possible. Given that all of us have sailed as masters ourselves, we have a fair idea of the drill! It is usually the dog that can jump no higher than your knee that makes the most noise and snarls to greatest effect. We're almost disappointed to find not a Doberman but a Yorkshire Terrier!"



Mrs Master

Incurring the wrath of the master's wife is another positive factor in the inspectors' argument for danger money. Explained one inspector: "not only are we seen to be taking up more of the master's precious free time in port (of which we are very conscious) but a visit is often seen more as a ploy by the master to avoid his wife's long anticipated visit to the shopping mall to spend more of his hard-earned wages!"

Have you seen my laundry?

On one occasion, the master received a stern reprimand from his wife for unwittingly showing the inspector to a spare cabin (for the purpose of changing into a boilersuit) that was being used as a drying room and was festooned with wet lingerie.



Tackling marine criminals

Because all the UK Club's ship inspectors have served as masters at sea and held senior shipping positions ashore, they often find they are able to offer advice on other operational matters. Their experience can sometimes assist in deterring or detecting criminal activity that could result in considerable expense for both the Members and the Club.

Artistic licence

A Club inspector happened to be visiting two passenger ships in the same pier at the same port on the same day. He boarded the first ship shortly after it docked at the end of one cruise and during preparations for the start of the next. Passengers were disembarking and the crew were busy with the numerous duties associated with a quick turnaround.



Meeting with the staff captain in the ship's office, the inspector witnessed a scene. An artist was alleging in a most aggressive manner that his most expensive painting – supposedly worth \$70,000 – had been stolen from his cabin during an auction of his works. The inspector thought it strange that the artist would leave his most expensive painting in his cabin during the auction when it would have been an ideal time to try to sell it. And how convenient to discover the painting was missing when half the passengers had already left the ship, therefore making a search of departing passengers a potentially fruitless exercise? However, ship inspectors do not interfere in shipboard incidents unless requested by the master, so the inspector left.

In discussions with the master of the second vessel, the subject of the artist came up. To the inspector's surprise,

both master and staff captain had experienced similar incidents on other voyages. The inspector's description of the artist matched that in the other incidents. The operator of both ships was immediately informed so that he could deal with the matter.

Crew morale

From UK Club ship inspectors' reports over the years, a common thread has emerged: when the toilets still flush and washrooms are hygienic, and when plants or flowers are being grown onboard, you have a happy ship. In about 85% of the cases where these conditions are not met, there are other operational areas in which attention is required. Coincidence? Maybe. But whilst owners may not instruct their masters to buy packets of seed, plant pots and bags of compost, there is certainly no harm in getting the toilets fixed! ■



Safer and smarter

Based on widespread experience, the UK Club inspectors offer the following advice and suggestions in the interests of safety, operations and maintenance.

Q: Why should the engine room double bottom sounding pipes be kept closed?



A: Although these important safety devices should remain closed at ALL times except for routine soundings, the 'deadman' weight is frequently removed or reversed, leaving the automatic closing device open. The duty oiler usually does this as he cannot see why this 'annoying' lever should hamper his regular sounding of compartments. Sometimes, sounding rods or filter funnels are left inside open sounding pipes for ease of operation, leading to all sorts of potentially hazardous situations, such as engine room flooding, flash fire and sinking.

Q: Why do engine room ventilator intake dampers frequently seize?

A: They are usually left in the open position under normal operational conditions. Move them every week.

Q: What attention should be paid to engine room gantry cranes?

A: Ship personnel sometimes overlook the need to examine and certify lifting appliances onboard on a regular basis. Consult the 'Register of Lifting Appliances and Cargo Handling Gear Book'.

Q: Why should the door to the steering gear space from the engine room be kept closed at all times?

A: To restrict any fire in the engine room. Most steering gear spaces are not included in the calculation of the quantity of fixed fire fighting medium used in the engine room. Escape of this medium (CO₂, Halon) into the steering room would dilute the effect in the engine room. On older ships, there is often direct access from the steering gear room into accommodation or onto the poop.

Q: What happens to visibility when CO₂ is released in the engine room?

A: Since it is cold, it forms a dense fog-like effect. Highlight exit/access doors to make them easily distinguishable from surrounding paintwork, which is usually white/light coloured.

Q: What could be the quickest, easiest way to remove an injured person from the engine room?

A: By stretcher lifted up the escape trunk. Fit an eye pad and lift block at the top.

Q: What is one of the quickest, easiest and most practical ways of boarding a forward stowed life raft?

A: By knotted 'jumping rope', similar to those on open lifeboats davits.

Q: Why should oil tank gauge cocks not be jacked or locked open?



A: If the glass breaks, you lose all the oil, which is very expensive. If it breaks during a fire, you add fuel to the conflagration.



Q: What item seizes most frequently on the forecandle?

A: The windlass brake hinge pins. Seizure can reduce brake holding power by up to 30%. Replace mild steel pins with stainless steel ones, preferably with greasing facility. Keep the hinge protected from seawater ingress by white lead and tallow.

Q: Why should there be clear highlighting around the vessel?

A: An estimated 45% of slips and falls could be avoided if steps, ladders and companionways have the bottom and top steps highlighted.

Q: Why should there be exit and direction arrow signs at low levels in accommodation alleyways?

A: Alleyways can fill with smoke in a fire. People inside are more likely to be crawling at deck level than walking upright.

Q: What is one of the best ways of being seen in a dark / smokey place?

A: Retro reflective tape. Fit strips on breathing apparatus cylinders, emergency lamps and firemen's suits.

Q: Why should safety shower and eye wash areas be highlighted with fluorescent or 'tiger' stripes?

A: If you have chemicals in your eyes or face, your eyes may be streaming with tears. It may be difficult to see where the emergency eyewash or shower is located unless it is a different and highly visible colour. Most chemical ships have orange painted decks to help 'tiger' stripes stand out.

Q: *Why should there be non-slip coatings around certain deck areas?*

A: They can be slippery when wet, increasing chances of slips and falls. The most likely places are around manifolds on tankers, mooring decks, at the base of ladders and at ship entry points. These include pilot boarding area, gangways, abandon ship stations (boat deck) and outside watertight doors.

Q: *What is one of the most frequent times for pilots to board?*



A: Early morning about 0600 hours when decks are often wet with overnight dew/condensation. To minimise tripping hazards, make an extra rough non-skid painted walkway from the pilot boarding area to the accommodation.

Q: *Why should a written record of the ship's position be kept in a book during pilotage passages?*

A: Apart from forming part of the record of the whole of the ship's passage, this is the only way of proving a ship's position

and speed over the ground. Wash damage claims can be very expensive, so being able to prove correct speed is vital to any defence.

Q: *Why should fire, damage and ventilation control plans be placed on the bridge?*

A: The command and control teams are based on the bridge and may need to refer to such plans during emergencies.

Q: *Why should GMDSS radios not be used for routine operations like bunkering or mooring?*

A: If GMDSS VHF radios were to be damaged during these operations, a PSC or USCG officer conducting a routine PSC inspection might feel the vessel was not complying with SOLAS regulations and prohibit her from sailing until replacement units were supplied.

Q: *Why should there be an 'English only' day?*

A: As English remains the main international marine language, masters and officers have to use it in many situations. In ships manned by one nationality whose primary language is not English, officers and crew may lose proficiency in English. One day per week (at least) when everybody has to try speaking English only would assist ship to shore and other international communications ■

Concerns over STCW standards

Inspectors have become concerned about STCW '95 implementation, particularly the lack of uniformity between flags and differing levels of crew competence.

STCW regulations are designed to standardise qualifications and training of crews and to regulate work and rest periods for watchkeepers – but notably not masters. It follows that certificates are supposed to have the same standing.

Unfortunately, UK Club inspectors have found disparities between flag states in the real standards required to obtain training course certificates. This tends to devalue certificates issued by stricter training establishments.

Nor does an STCW training course certificate necessarily reflect the practical ability of the holder. Even where some crews have undergone the necessary training, there may still be a lack of sound basic seamanship and navigational knowledge and ability. Inspectors' questioning has shown up considerable differences in individuals' knowledge.

Fatigue is clearly a problem in relation to watchkeeping. Although no one admits to failing to comply with the required rest/work rotation periods, inspectors often board ships where the situation is clearly unsatisfactory. For example, a watchkeeping master may be almost 'dead on his feet' after a long, sometimes fog-bound trip up the English Channel or along the North European coast in winter.

When added to the extra strains of pilotage (usually in accordance with SMS/ISM requirements), this makes for unacceptable fatigue – and increases the possibilities of incidents.

Although apprentices sometimes keep watch to enable officers to obtain some sleep, it would be a very brave master who would stop his ship's operation because he and his officers had not had enough rest ■



Keeping ahead of Port State Control

Time and time again, the UK Club's inspectors see vessels adversely commented on and detained by Port State Control officers for deficiencies which could easily have been rectified in advance.

Most onboard deficiencies do not occur overnight. They are often the result of long periods of neglect.

Port State Control officers have a better working knowledge of marine rules and regulations than most masters – particularly the SOLAS and STCW conventions. So, when fire dampers are found to be inoperative or fire hose nozzles seized through lack of maintenance, blaming the third mate or whoever is responsible for maintaining fire fighting equipment and life saving apparatus cuts no ice with PSC.

A physical check is always better than accepting a checklist at face value. Senior officers must set aside time to ensure that work reportedly carried out has been completed.

The UK Club has found that the main areas where PSC detention is incurred are fire dampers/flaps; emergency fire pumps; lifeboats, hull and engines; launching arrangements; ship certificates; charts and nautical publications; fire fighting equipment; and oily water separators.

Accordingly, Club inspectors focus on areas where they are sure PSC in particular countries will look for deficiencies and faults. Over the years, they have helped resolve many problems

recorded during PSC inspections and helped ships to avoid future difficulties.

An inspector who boarded a ship, just as the US Coast Guard had asked for a fire drill, described what followed as a "circus". He commented: "the only two people who knew how to wear the breathing apparatus were ashore. The fire hose party were pointing their hoses – which had very little water pressure – over the side when a small fire had been started in an oil drum which they were supposed to extinguish. And so it went on."

The inspector's offer to spend the next six hours teaching emergency drills to ship personnel was accepted and the Coast Guard agreed to return the following day to re-test the crew rather than issue a detention order immediately. Both crew and master were then subject to intensive training about procedures which had never before been explained to them. They got through the next USCG visit without problems.

Another ship was detained because the flame screens on the oil tank vents were wasted away and needed replacing prior to sailing. The master told a Club inspector it was a "dry dock job", reckoning the authorities would let him sail on completion of cargo. When they would not, the inspector managed to find a couple of flour sieves from the galley. These were cut up and installed to the satisfaction of the PSC inspector! ■

Not plain sailing for ISM

The introduction of the ISM Safety Code has coincided with an improvement in safety awareness and in liaison between ship and shore bases with beneficial effects on delivery of parts and supplies.

However, UK Club inspectors have found drawbacks. There is evidence of differing audit standards among the various authorities (usually Class) who issue and validate Safety Management Certificates.

Even on ISM certificated ships, they have come across instances of falsification of documents associated with ISM. Examples have included sailing/departure lists completed shortly after a ship has berthed; and confirmation that enclosed spaces atmospheres have supposedly been tested when the ship did not have instruments to measure the oxygen content.

Time constraints and poor crew training may have contributed to these shortcomings.

The inspectors feel ISM should be seen in the context of the loss of the radio officer post from most ships. This has meant an increase in time spent by masters on communications and administrative matters. "Too much paperwork – not enough time to spend on our proper jobs" is a familiar cry ■

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