

UK Club targets human error costs

JIM MULRENAN, LLOYD'S LIST INTERNATIONAL

Humans are highest marine risk

POST MAGAZINE

Claims costs “are avoidable”

LLOYD'S SHIP MANAGER

A Feast of Vital Statistics

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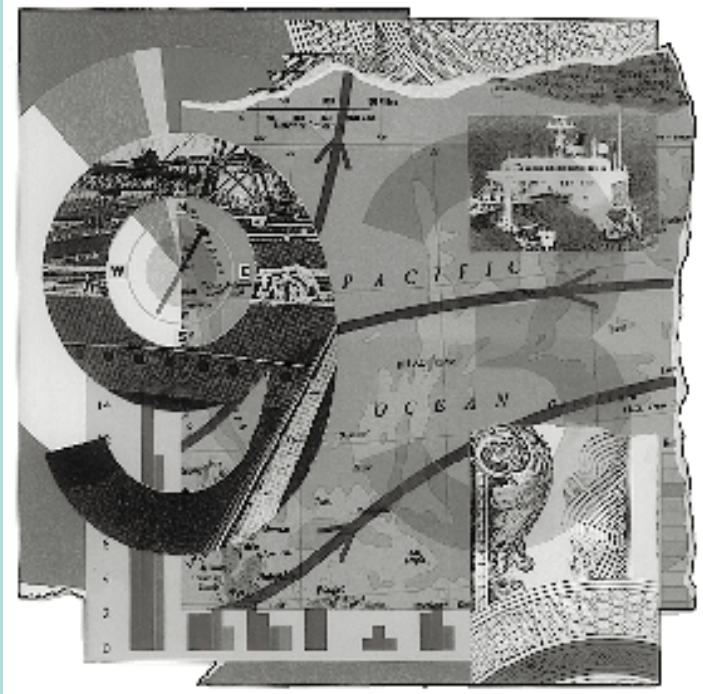
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THE ANATOMY OF MAJOR CLAIMS A MARINERS' GUIDE



UK P&I CLUB

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PREFACE

It is no surprise that most small claims are caused by small human errors. You might expect, therefore, that most really large claims would result from major human errors. They do not! They, too, are caused by minor errors. I was impressed by the

depth of analysis in this year's UK P&I Club Analysis of Major Claims and note this finding above all others: there is no discernible difference between the origins of small and large claims. It follows that the only reliable way of avoiding catastrophic loss is to operate in a way that minimises the risk of *any kind* of loss. Nautical Institute studies on accident prevention certainly confirm this.

The 1993 Major Claims Analysis runs to 72 pages and is intended principally for the insurance specialist. This digest highlights the main findings but places the emphasis on practical issues of relevance to the mariner. Masters, in particular, are in the front line in the war against major losses, yet often have little opportunity to appreciate the claims and financial impact of the incidents in which they have been involved. I commend this little publication to masters as a useful reminder of the causes and costs of major claims.

Captain Len Holder

President of the Nautical Institute

“There is **reason to hope**

that the **steep upward trend** in major

claims of recent years is **flattening out.**”

The UK Club has recently published its third annual analysis of Major Claims – that is claims costing US\$100,000 or more. It is not just a report

on a specific year of claims made on the Club, but an analysis of all such claims arising between 1987 and the end of 1992. As each year goes by, therefore, the statistical significance of the findings increases and trends become clearer.

The message that permeates the second analysis of claims produced by this most significant of protection and indemnity clubs is that a majority of the accidents that cost marine liability underwriters so dearly should not happen.

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The full document makes a major contribution to an overall understanding of how losses occur. This digest presents the principal findings, in

summary form, to ships' masters and other senior mariners. As most claims involve human error, these individuals are certainly in the position of greatest influence in changing the pattern of claims in the future.

Change is possible. There is reason to hope that the steep upward trend in major claims of recent years is flattening out, partly as a direct result of action by owners and masters. Feedback from the UK Club's ship inspection programme confirms that, in most ships, there is now reassuring evidence of sound loss-prevention initiatives.

Major claims tend to have the same causes as minor claims.

Why does the Club concentrate its analysis on 'major' claims? After all, they represent only just over 1% of the total, so a major claim is a rare

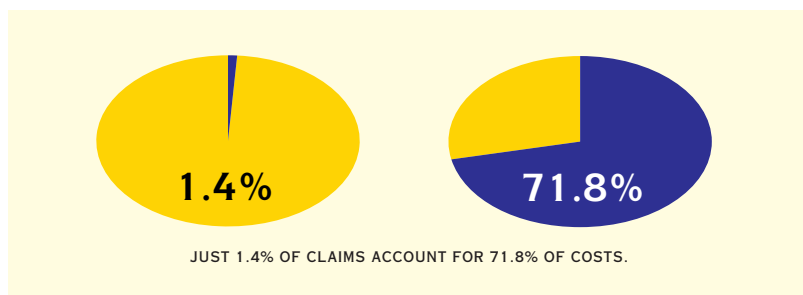
event by anyone's standards. The reason is that, though there have been fewer than 2000 major claims on the Club in six years, these have accounted for \$989 million – 72% of the total claims 'value'. So each major

If a master runs a ship aground, for instance, it is reasonable to ask beyond the final helm and engine orders, to the training he had received and the pressures he was under.

claim avoided makes an important contribution to the economy of the shipping industry – an economy which is as important for mariners as it is for world trade and prosperity.

But another reason for focusing on the big claims is that, in terms of their causes, they are not exceptions; there is no special major claims scenario; they happen for much the same reason

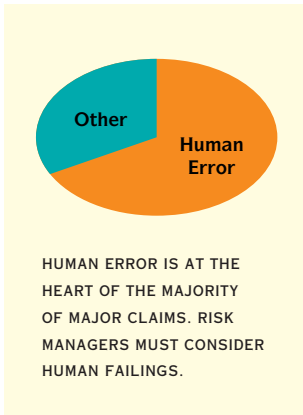
as small claims and the research proves that they can typically happen to any ship, anywhere, at any time. Two conclusions can be drawn: first, no master can regard himself as immune against a major loss; second, the way to reduce the risk of major loss is to reduce the risk of loss of any size.



“Why do people persistently make

flawed decisions which are at odds with

all their **training, experience** and better **judgement?**”



Human error is the overwhelmingly dominant factor in claims of all sizes. In looking at major claims, the report finds that more than 62% are directly attributable to error by one or more individuals. However, disturbing as it is in itself, this figure does not adequately reflect the real contribution of error to major claims.

For example, among those claims attributed primarily to mechanical, equipment and structural failure, there are

many in which the human element has also played an important part.

Pilot error is spotlighted, causing 34% of major property damage claims. Communications problems lie at the heart of many of these incidents – misunderstandings resulting from language barriers, and the failure of pilot and master to confer in advance and agree a clear division of responsibilities. This issue is the subject of an ongoing combined study by all Group Clubs, aiming to improve worldwide standards of pilotage.

Human errors occur more often in ships of 10-14 years old. This may reflect manning pressures on

there are sensible recommendations for improved personnel management, the importance of training on the carriage of cargo, the need for adequate manning levels and improved training and motivation for both crew and shore personnel.

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ships designed to run with larger crews than is now the practice, or accumulated lack of maintenance prior to the third survey.

Why do skilled, professionals persistently make flawed decisions which are at odds with all their training, experience and better judgement? Factors include over confidence, the tendency to respond to commercial pressures at the expense of good

10-14 year old ships experience the highest incidence of human error.

It might seem obvious, but here the UK P&I Club actually is spelling out the consequences of not doing these things, actually putting a price on malpractice.

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practice, personal pride leading to failure to seek assistance, linguistic confusion among mixed nationality crews and, not least, fatigue. All these factors need to be taken into account in developing effective risk management techniques, both on board and ashore.

STRUCTURAL FAILURE

“It is **simply not true** to say that the **older** the ship, the more prone to **structural failure**.

In ships, as in humans, **middle-age** is the **problem**.”

As you would expect, older ships are more prone to structural failure than newer ones. However, the picture is more complex than this. This year, for the first time, there has been sufficient accumulated data on structural

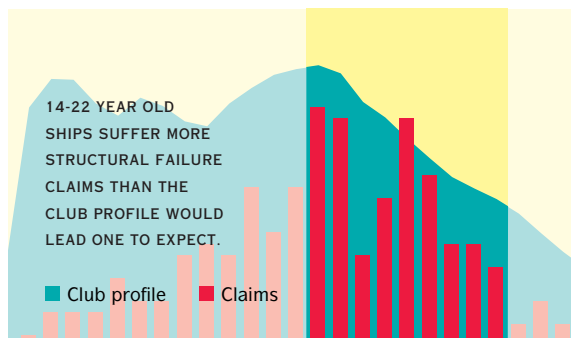
failure claims to perform a year-by-year ship age analysis. What has emerged is that it is simply not true to say that the older the ship, the more prone to structural failure. In ships, as in humans, middle-age is the problem! It is the 14-22 year-old ships that have the most frequent major claims of this category.

the UK Club’s analysis should be required reading for all ship operators, or at least all those who want to cut down on accidents and losses.

FAIRPLAY

The picture is not entirely consistent, though; 9% of 1971 built ships had a major structural failure claim in the six-year period, compared with 5% of 1970 and 1972 ships. The Club emphasises the need for rigorous attention to high quality surveys by classification societies, particularly at the 10 and 15 year surveys.

Major claims resulting from structural failure do not exclusively involve headline sinkings; cargo loss and damage also feature strongly. Bulk



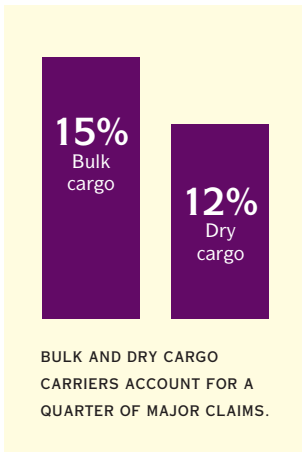
carriers suffer the most; structural failure appears in 16% of their major claims – compared with a norm of 11%. A substantial proportion of these stem from failure

of hatch covers. The need for preventive maintenance is clear.

The analysis also notes the relatively high occurrence of major structural failure claims from ships flagged in the USA, Cyprus and Panama. The Club notes the tendency for less conscientious owners to seek out less rigorous flag states.

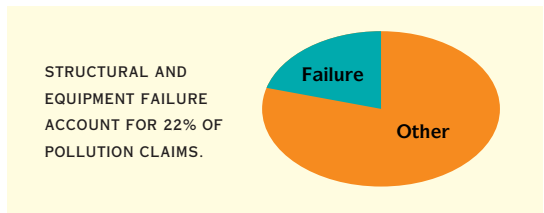
“The general perception of **pollution accidents**

is of large-scale **cargo spills**. But **half** of these claims involve ships **not carrying oil.**”



Pollution is one of the most expensive types of claim with average values now reaching \$1m and growing. The general perception of pollution accidents is of headline-making, large-scale oil cargo spills. Tankers are, indeed, accountable for nearly half the total number of pollution claims and for the most expensive and catastrophic losses. However, it is worth also remembering that around half of pollution claims involve ships not carrying oil cargo.

Spilled fuel oil from bulk and dry cargo carriers accounts for about a quarter of major claims. Analysed by cause, collision, shell plate failure and valve failure contribute 12% each to the total. Human error is the most significant factor in pollution claims, with deck officers and crew taking the brunt of the responsibility. However, structural and equipment failure are also significant, accounting for 22% of the claims.



Ships at special risk seem to be between 10 and 14 years old, but slightly older ships (15-19 years) tend to have more costly spills.

“Perhaps the most **disturbing fact** to emerge from the analysis of major injury claims is that they **tend to peak** in ships of between **5 and 9 years old.**”

Personal injury is a significant cause of high-value claims, amounting to about a third of the total number. 70% involve injury to crew members with slips and falls being responsible for 45% of cases and falling objects 20%. Back injury predominates.

As cruise passengers get younger, the value of personal injury claims rises.

Not surprisingly, most accidents are found to occur on the weather deck. 37% are attributed to error on the part of the victims themselves,

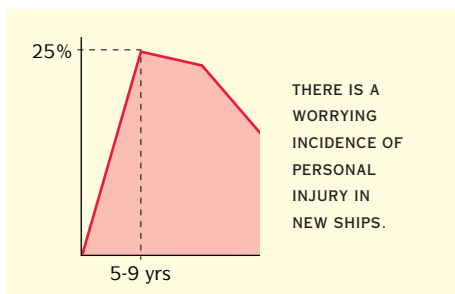
whilst a further 12% occur because the victim failed to ask for help when performing a task – a classic cause of back injury. However equipment failure is also a significant contributor, giving rise to 15% of the injury claims – further reason for emphasising the importance of sound maintenance routines.

Passenger injuries account for less than 10% of these claims, but their value is high – and likely to become higher as the average age of cruise passengers decreases and compensation awards increase as a consequence.

Perhaps the most disturbing fact to emerge from the analysis of major injury claims is that 25% come from ships between 5 and 9 years old. This does not square with the Club

In essence, the UK Club’s message is very simple. The vast number of major claims are avoidable, and insufficient attention is being paid by those who own, operate or manage ships to management control systems, standards of manning and training, as well as the structural conditions of the ship.

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entry profile of this age of ship – around 17%. The disparity is even greater, given the lower manning levels typical in these ships. Clearly, there are some unresolved safety issues here which demand close attention.

COLLISION

“Collisions, it seems, **can happen to any ship** irrespective of **age, type or location.**”

The most remarkable feature in the analysis of major collision claims was the relative lack of distinctive patterns. Collisions can and do happen to any ship irrespective of age, type or location.

One in five collisions occurs in open oceans. 58% of the ships that were hit were underway and crossing situations predominated. However, as many as 16% of impacted ships were at anchor. Many (40%) occurred during the morning watch, perhaps reflecting a combination of fatigue and the activities involved with entering port. This all reinforces the need for good professional planning and communications between masters, pilots and tugs.

A surprising proportion of major collision claims are caused by ships of less than 5 years old.

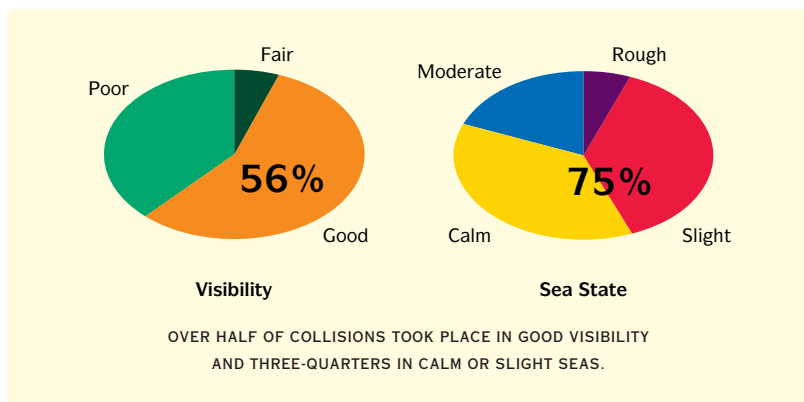
Human error is evident in most collision claims. Weather and sea conditions can be discounted as causes in most cases. 62% of collisions took place in good or fair visibility and 75% in calm or slight seas.

As in other categories of major claim, bulk carriers and tankers have the worst performance record, accounting together for 47% of collision claims. Age is not a significant factor; 15% of claims are caused by ships of less than 5 years old.

So the publication by the UK P&I Club of its second major claims analysis is important evidence for the whole marine industry about much that is seriously wrong with ships and shipping.

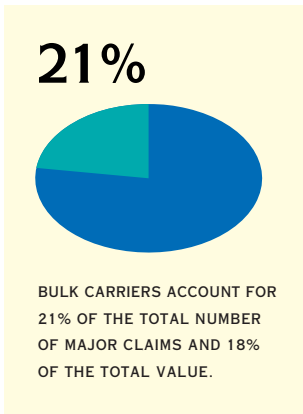
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The analysis points out the need to keep a good lookout (avoiding over-reliance on radar), to make careful berthing plans, to cultivate good working relationships with pilots, to take early and clearly signalled avoidance measures and to keep up-to-date on the regulations.



“The **pattern of claims** is different, tending to reinforce **persistent anxieties** about the **design and operation** of these ships.”

This year’s full analysis includes a major section in which the claims performance record of four of the principal ship types is examined in detail.



To do justice to this study is beyond the scope of this digest. However, we highlight bulk carriers here, not simply because of their substantial involvement in the Club’s portfolio of claims but because the pattern of claims is different from that applying to other types of ships. This would tend to reinforce the persistent anxieties which are expressed about the design and operation of these ships.

Bulk carriers account for 21% of the total number of major claims. Among these, the number involving cargo damage is exceptionally high – 190 out of 407. Of special concern is the well above average number of ship failures – 16% against a norm of 11%. Of these, a quarter are considered by the Club to involve such class problems as shell plate failure and serious hatch cover defects.

The size and membership profile of the UK Club is also supportive of the view that it may be regarded as proxy for the industry as a whole.

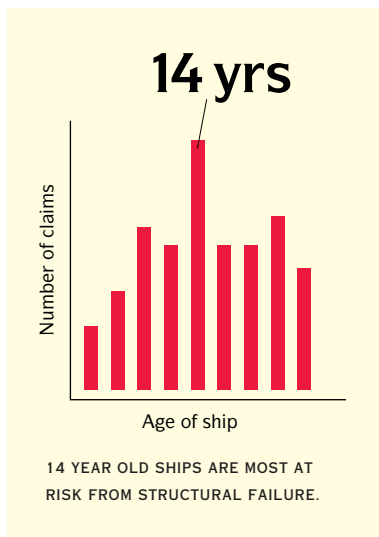
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The high-risk age window for bulk carriers is between 14 and 21 years. 67% of claims fell into this group. A high proportion – 22% – of affected ships were in the range 13,000-15,000 grt, whereas the law of

averages would lead one to expect something closer to 14%. The report surmises that this unusual age/tonnage pattern might suggest that it is the busy trading activities of the smaller bulk carrier that presents the highest risk profile.

14 year-old ships are specifically identified as being at greatest risk of structural failure, with those which were built between 1976 and 1977 being a particular problem.

The report also notes the singularly high proportion of claims arising within USA jurisdiction (33%), with Louisiana standing out with a conspicuously high number of personal injury claims. While such results are obviously distorted by large differences in traffic flows in various ports, it is hard to discount the influence of those legal systems with a reputation for hostility to ship owners. Vigilance is plainly required in respect of these jurisdictions.

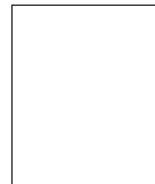


To obtain copies of the full report...

This digest summarises the longer Analysis. For copies of the full report (free to Members), please complete the request card at the back of this booklet. The supporting video 'Counting the Cost' is also available, in English and a number of other languages. Professionally produced, it aims to widen the understanding, by officers and ships' crews, of major claims and their causes. It, too, is available free to UK Club Members. Please use the reply card to obtain copies.

It would be a pity if a copy is not shortly on the desk of every shipowner and manager and everyone in the shipping chain who assists in the making of loss prevention decisions. That is a lot of people. I hope the UK Club can afford to make copies available to all who request them.

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