

# SEACURUS BULLETIN

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## CONTAINER WEIGHING DEBATE

TACKLING SEAFARER FATIGUE | CYBER SECURITY | PRESSURE BUILDS TO GO GREEN



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Inside this issue we explore the latest issues besetting shipping. With a raft of changes and challenges to face, 2016 looks set to be an interesting year for the industry. We look at some of the risks and opportunities that new policies, consolidations and threats could bring.

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## Welcome

> Happy New Year to you all.

The year ahead certainly looks to be an interesting one. There are a raft of changes and challenges to face, which means that there are risks, but of course opportunities too.

According to various analysts and observers the year ahead is likely to feature much industry consolidation as shipping companies' battle with difficult markets and those with large reserves seize opportunities to grow.

There are of course many who see the 2016 glass as half empty – and Junichero Ikeda, CEO of Mitsui OSK Lines, stated in his New Year message that there were "few prospects for recovery". It is a less than cheery prospect, but for others – namely tanker owners there is much to feel optimistic about.

The oil price was one of the defining factors of 2015, indeed the sharp drop meant lower operating costs, and it also stoked the demand for tankers.

Looking into 2016 a combination of weak demand growth and a continued oversupply of vessels makes optimism a tough sell – but that is where the innovators, the bold and those with real vision can shine.

The business of shipping does not solely rest on the here and now – it is about the event horizon, what is coming, and corporate alterations of course which are needed. Uppermost in the minds of many owners is how to deal with the raft of new rules, responsibilities and regulations which are set to emerge.

The European Community Shipowners' Association (ECSA) last month unveiled 16+1 proposals to strengthen the £10bn shipping industry ahead of an upcoming review of the European Union's (EU) shipping policy in 2017. The association has developed 16 policy proposals for better regulation to boost the EU's global leadership in the shipping sector.

The series of what ECSA refers to as potential "wins" is contained under 5 areas – and each would pave the way for safer, cleaner and more efficient shipping.

The areas covered are:

- European leadership for a global business
- 'Short Sea 2.0' policy to enable true Motorways of the Sea
- Shipping as a sustainable transport solution
- Life-long careers in shipping, at sea and on land
- A checklist for better and smarter shipping regulation

Another landmark development coming this year is the July 2016 deadline for ECDIS regulations and ECDIS adoption among the global tanker fleet. According to the United Kingdom Hydrographic Office (UKHO), over half of ships trading internationally are now using ECDIS. Of an estimated 41,500 internationally trading ships around the world, 24,300 or 58% are now using charts on ECDIS as a result of the SOLAS-mandated carriage of ECDIS, which is being introduced on a rolling timetable for different ship types and sizes.

So with technology coming to the fore, with shipowners flexing their lobbying muscle and with opportunities and challenges ahead, we hope you have a safe and prosperous 2016.



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# CYBER SECURITY FOCUS

*The year ahead seems likely to take an ever more intense view of maritime cyber security. According to cyber security experts' the voice, navigation, and radar data aboard ships are all at risk.*

## WEAKNESSES FOUND

According to these experts, some devices that contain sensitive ship information just aren't secure enough. This could be good news for pirates and spies, and bad news for the industry. Indeed, a number of "hacker" websites have reported that large cruise or cargo ships, are quite susceptible to hacking.

They have even stated that the maritime equivalent of an airplane's "black box" can be ridden with vulnerabilities, which practically invite ne'er-do-wells to spy on the vessels, slurping up all sorts of valuable information about the ships and their cargoes.

Rather worryingly, Ruben Santamarta, a researcher at security firm IOActive, wrote in a blog post last month that, "Remote attackers are able to access, modify, or erase data stored on the Voyage Data Recorder." Those Voyage Data Recorders, (VDRs), store data like speed, position, audio conversations, and other crucial info.

## NAMING AND SHAMING

In the post, Santamarta points to one example of a VDR in particular: the Furuno VR-3000. He alleges that it can't update firmware properly, its encryption is weak, and that "basically, almost the entire design should be considered insecure." Which is highly concerning to put it mildly.

Putting across Furuno's view – they claim that they would release a patch to fix the bugs by the end of this year. It is not currently known whether this has happened, and we can but hope. According to the sales blurb, Furuno's VR3000 is a complete Voyage Data Recorder (VDR) system and fully complies with IMO performance specifications and carriage requirements; intended for all passenger and new build cargo ships of 3,000+gt.

According to the specifications, the VR3000 stores recorded data in a Protective Storage Module (DRU), and a secondary backup Hard Disk Drive for easy post incident retrieval. A SAVE button on the Remote Alarm Panel can be initiated by crew to immediately preserve up to 4 incidents for review, while the system continues to record normally.

## SCALE OF THE PROBLEM

While ships' data isn't usually connected to the internet it's still easy for an attacker to hack into the ship's network via a crew member's computer. From there, enemies could install malware, delete radar images, alter position readings, listen in on conversations via microphones on the bridge, and more.

One site Gizmodo.com previously reported on hackers who claimed to have infiltrated the networks of "400,000 sea vessels worldwide in 2013". Given that there are only around 100,000 merchant ships (only 41,500 of which are internationally trading ships), the numbers may either be nonsense, include multiple weakness onboard the same vessels, or involve pleasure craft.

Whatever the truth it does seem that ships need security infrastructure that is effective and which delivers, and so ship operators, officers onboard and VDR manufacturers need to make sure ships are secure before even think of taking to the high seas.

In the past there have been suggestions that cyber security could well be a seaworthiness issue – and if an ECDIS were found to be corrupted at the start of the voyage, then it would perhaps seem difficult to argue that the vessel was ready for the marine adventure.

## US TAKES A STANCE

Recent developments in the United States suggest that cybersecurity of the maritime sector will come under increasing focus in 2016. On December 16, 2015, H.R. 3878, "Strengthening Cybersecurity Information Sharing and Coordination in Our Ports Act of 2015," passed the House of Representatives.

The Bill's language echoes and expands upon recommendations made by the General Accountability Audit's June 5, 2014 study Maritime Port Cybersecurity. It also reflects congressional focus on enabling cybersecurity information sharing as seen in the recent passage of the Cybersecurity Information Sharing Act (CISA).

## INSIDER THREATS

It's not just external attacks – sometimes it seems that crew are even infecting their own systems maliciously. In the past, there were two high profile incidents that involved VDRs.

When two Indian fishermen were shot from an Italian ship, the actions were justified as they thought the two were pirates. However, according to allegations made by the hacker site, softpedia.com the investigation, found out that data from the VDR was mysteriously corrupted.

This corruption, which it has been suggested was performed in situ meant that the authorities could not access crew communications and other information stored on the device around the pirate attack.

Coincidence? Well possibly, but it does suggest that sometimes corrupted data can be beneficial for vessels. According to Softpedia, second incident occurred in March 2012, when a Singapore ship hit and damaged another vessel, and then fled to the open sea. Three men were killed, and one was lost at sea but later rescued. During the subsequent investigation, authorities alleged that someone inserted a pen drive in the VDR, infecting it with malware and corrupting the data. Again, perhaps this was just an unfortunate incident – many computers get viruses, but it does seem that a worrying pattern could be emerging.

## MOVING FORWARD

In recent issues of Seacurus Monthly we have featured cyber security developments in the shipping industry, of which, the most high profile and recent has been the developments prompted by the round table of shipping organisations.

The guidelines they have released are a good start, and so too is the fact that the IMO is to tackle the issue. However, every day the threat is growing – and ships are ever more likely to fall victim to cyber-attacks.

There needs to be more than guidelines, and while training is needed there needs to be more than that too. Shipping companies need a root and branch review of both the problems and the solutions they need to implement.

Companies need to work ashore and at sea to defend and protect their systems. The systems, equipment, personnel and data all need to be understood, and the threats openly and honestly reviewed. Only then will there be a chance of truly progressing in the year ahead. Without real and rapid progress, then it seems shipping will remain frighteningly vulnerable.



# JOINT WAR COMMITTEE ACTS ON HRA

*With the decision of The Round Table of international shipping associations to cut the size of the Indian Ocean piracy High Risk Area, there were many discussions on whether the Joint War Committee at Lloyd's would follow suit.*

## FOLLOWING INDUSTRY LEAD

It was announced last month they would indeed follow the example, and so reduced reduce the size of the Hull War, Piracy, Terrorism and Related Perils Listed Area for the Indian Ocean in keeping with the BMP4 High Risk Area reduction.

Prior to the revision, the Listed Area had resembled the previous BMP4 High Risk Area, spanning an area that blanketed much of the Western Indian Ocean between the Bab al Mandeb Strait and Sri Lanka. However, prompted by the recent BMP HRA reduction a change in the War Listed Areas was announced on 10th December 2015. As follows:

The Indian Ocean / Arabian Sea / Gulf of Aden / Gulf of Oman / Southern Red Sea area is reduced on the Eastern boundary from Longitude 78° East to Longitude 65° East. The other boundaries, especially in the Gulf of Oman, remain unchanged:

- In the Red Sea: Latitude 15°N
- In the Gulf of Oman: Longitude 58°E
- Eastern limit: Longitude 65°E
- Southern limit: Latitude 12°S

In addition, Bahrain, North East Borneo and Sulu Archipelago are deleted from the JWC Listed Areas. Full definitions of the War Listed areas are available in the Joint War Committee circular JWLA022.

## WHAT EFFECT

According to Ocean's Beyond Piracy (OBP), the changes will have a significant effect on Hull War Risk insurance as the reduction in the size of the Listed Area for the Indian Ocean will result in a decrease in the number of vessels that will need to purchase additional WRAPs.

In particular, vessels transiting from the Persian Gulf to the western coast of India or East Asia will no longer transit through the listed area. OBP claims that this will disproportionately benefit tankers, which make up a significant amount of the traffic along those routes. While there are potential knock on effects in the market, there are also some potential benefits to littoral

States in the region. The HRA reduction off India is a move which is expected to speed up trade between India and the Gulf as ships take a more direct route.

However, security experts have warned it could make them vulnerable to attack by "opportunistic" Somali pirates. One maritime security company MAST says Somali pirates have previously demonstrated that they can operate in the centre and northern reaches of the Indian Ocean, and vessels that are high risk with a low freeboard and slow speed should continue to take armed security.

## AN OBVIOUS RESPONSE

In many ways these changes were coming for some time. India had long taken exception to the categorisation of its waters as a "high risk". However, aside from the political angle, it would have perhaps seemed odd that the obvious successes against Somali pirates did not translate into some positives for shipowners.

It does remain to see what real effect this will have – there are many reports of vessels letting their guard down, both literally and metaphorically – and it could be that these are the types of moves that pirates have been quietly waiting for.

As has been stated many times before, the pirates were hit with a perfect storm of armed guards, best practices and naval power. The going was not good for them – so what better approach than to lie low and wait for the heat to dissipate.

There are different views on whether the pirate gangs and their infrastructure have been destroyed or simply disrupted – it seems that we may find out in the months ahead.

## PIRACY TRENDS

Away from the High Risk Area, there are of course many other hotspots for piracy. Usually these contain pirates which like to be seen as separate and distinct from terrorists. For the reasons of extorting money for ransoms, most pirates often like to keep their "private

ends" very much clear and all about the money. There is little to be gained by criminals to be considered as terrorists, or so we thought.

In a rather surprising move, it emerged last month that some pirate gangs in the Philippines have seemingly been seduced by the "branding" of the Islamic State (IS). IS, is not just the world's current premier jihadist organisation, it seems to carry real cachet for those who like to invoke fear. Like Coca Cola or Nike, IS has become a recognised brand internationally. Its name alone evokes both extreme sadism and a terrifying sense of reach — a fear that radical acolytes lurk in all corners of the planet, many of them plotting spectacular violence.

That brand is ripe for exploitation and criminal gangs in the Philippines, where Islamic insurgency smoulders on remote tropical isles, are now tapping into the fearsome power of the Islamic State's name. Several commanders of Abu Sayyaf — a notorious criminal and pirate gang in the Philippines — have sworn loyalty to the Islamic State as they seek to spread their own reputations.

This is why a name is important- and perhaps shows just why it is so important to shape the naming narrative. IS has been known by many names, but after the atrocities in Paris, the French sought to denigrate them with the term "Daesh". Something which it is hoped may drain the group of its draw to disaffected Muslim youth and perhaps pirates too.

## PIRATES IN THE CARIBBEAN

While Africa and Asia have long been the hottest of piracy hot spots, the Caribbean is now seeing a reported rise in attacks. Authorities recently issued an alert to vessels sailing in waters between Trinidad and Tobago and Grenada, as the tail end of the year saw two extremely concerning attacks against sailing vessels north of Trinidad.

Both incidents took place in daylight and involved local (assumed Venezuelan) 18-20ft boats with powerful outboard engines (120-130 HP). Each craft had 5 or 6 pirates aboard, several armed with assault rifles and each was equipped with a spare powerful outboard and additional fuel in barrels. Hinting at a degree of sophistication and expertise.

In each case the sailing vessel was boarded and the boat ransacked for valuables. Stolen items included cash, passports, boat papers and electronics. Fortunately, there were no injuries or loss of life.

There are concerns that this trend may well be on the rise, and could spread from yachts to other traffic in the area. Across 2015, independent security analysis claimed there were 66 attacks in the Caribbean and Gulf of Mexico areas. Placing this region second only to the Malacca Straits in terms of attacks.





# CONTAINER WEIGHING DEBATE

*The year ahead seems to contain rather a few potential banana skins for the shipping industry – if it's not shifted piracy areas, hackers at the porthole or fatigued crew, there are issues such as container weighing to manage.*

## WEIGHING THE IMPLICATIONS

The implications of the verification of the gross mass of containers — a relatively modest change to rules that in essence reiterates the existing responsibility of shippers to declare gross mass accurately — are reverberating through the container supply chain.

For all too long the industry took a rather laissez faire approach to what was actually in the boxes. Aside from potential fire or security concerns, then there was a huge element of trust and hope.

The number of collapsed stacks and tipped over stackers suggested that this may not be a wholly sustainable approach, but the alternative – of actually weighing, seemed to be overly problematic.

## TIME FOR A SOLUTION

But time and tide waiteth for no solution, and eventually the powers that be alighted on a (hopefully) workable solution, and now the verification of the gross mass of containers is about to become reality.

Is the maritime industry ready for the strict compliance of this requirement? Will the enforcement, crinkle the existing supply chain leading to congestion of containers in in factories, depots or gateway Ports? We cannot be sure, but the industry has an astounding ability to bounce back in the face of new requirements.

While weighty issues do indeed lie ahead for the box sector, it seems unlikely that the new regime will cause that much of a problem. The ISM Code, ISPS Code, ECDIS, all requirements which were met with such hand wringing and ashen faces have been met and dealt with. Sure they may not have really had the desired effects, and there have definitely been rafts of unintended consequences – but in essence shipping does the seemingly impossible really rather well.

By crane hook or by crook, the wheels of commerce keep moving, and it is likely to be no different this time. This requirement will become mandatory on 1 July 2016 and will apply globally. After that date, it will be a violation of SOLAS to load a packed container onto a ship if the ocean carrier and terminal operator do not have a VGM. Recognising the pivotal nature of the port interface, they now have a joint responsibility not to load a container on board a ship if the VGM is not available.

## MOVING FORWARD

So come July 1, 2016, every export loaded container, from any part of the world, will have to be weighed and verified (Verified Gross Mass-VGM) before being loaded onto a vessel.

The IMO has amended SOLAS to require, as a condition for loading a packed container onto a ship for export, that the container has a verified gross mass (VGM). The shipper (as named on the ocean bill of lading) is responsible for obtaining the VGM of the packed container and communicating it to the ocean carrier and the terminal operator.

After the key date, it will be a violation of SOLAS to load a packed container onto a ship if the ocean carrier and terminal operator do not have a VGM. It is not just something for ships though – of course. It has been necessary to ensure the port interface is engaged in the weighing solution – as such container terminals have been drawn as recipients of information for ship stowage planning and, critically, they now have a joint responsibility not to load a container on board a ship if the VGM is not available.

There has been considerable debate as to whether container terminals need to position themselves to be able to weigh containers, not least because of the cost of creating appropriate infrastructure, and amending systems and procedures, with an uncertain return on investment. Some carriers and forwarders are also considering whether they wish to offer container weighing as a commercial service to their customers.

## MAIN REQUIREMENTS

According to maritime law experts Holman Fenwick Willan LLP some of the main requirements of the new regulations for ocean carriers and terminal operators are:

1. Ship stowage plans should use VGMs for all packed containers loaded on board.
2. A terminal operator may rely on a shipper's signed weight verification to be accurate. The terminal operator is not obliged to check the shipper's VGM. However, if the terminal operator establishes a VGM which differs from that declared by the shipper, the terminal operator's VGM should prevail.
3. If a packed container does not have a VGM when presented at a container terminal:

**3.1** Handling processes need to be agreed between the ocean carrier and the terminal operator. These will also be important for road hauliers which need to understand the consequences of arriving at a container terminal without a VGM.

**3.2** It may not be loaded on board a ship unless and until the VGM has been obtained and used in the stowage plan.

There are a number of key issues for ocean carriers and terminal operators to consider, including:

**1.** Reviewing the adequacy of existing terminal service agreements, haulage agreements and standard terms of business for terminals. Existing carrier bills of lading terms are unlikely to require revision.

**2.** Establishing which body is the Competent Authority in the jurisdiction of the export terminals and how these intend to implement the amended regulations.

**3.** Preparing and agreeing appropriate systems and procedures to address:

**3.1** Containers arriving without a VGM, including a consistent gate policy.

**3.2** Changes in VGM between booking and loading; and

**3.3** Preventing containers being loaded without a VGM.

**4.** Establishing and communicating deadlines for receipt of VGMs for export containers.

**5.** Establishing a system of record keeping for misdeclarations, discrepancies and corrections.

**6.** Consideration should be given to providing a commercial weighing service, assessing the available technologies, practical implementation and the commercial and legal terms and conditions to govern this.

**7.** What happens if the terminal operator establishes the VGM for those containers without one in order to allow the container to be loaded onboard the ship – who agrees and pays?

**8.** Reinforcing awareness amongst ocean carriers and their customers of existing free time and demurrage policies.

The position for shippers and freight forwarders is to establish the identity of the "Competent Authority" in their jurisdiction and how they intend implementing the SOLAS amendments. In the UK, this is the Maritime and Coastguard Agency (MCA) which has helpfully produced a guidance note (MGN 534 (M+F)).

Shippers and forwarders need to consider how they will comply with their obligations – whether by weighing the packed container (Method 1) or by calculating the

aggregate weight of the empty container (its tare weight) and weighing its contents (Method 2). If the shipper intends to use Method 2, the UK regime will require them to obtain accreditation from the MCA.

It will be important for shippers and forwarders to have dialogue between each other when working together and also for forwarders to have dialogue between themselves where they consolidate and co-load LCL shipments together into FCL shipments. It is hoped that ocean carriers will take a pro-active approach towards implementation in each jurisdiction in which they operate and be able to guide their customers accordingly. Carriers will need to communicate any revisions to cut-off times and highlight the consequences of failing to comply with the new SOLAS requirements.

This is probably an opportune time for forwarders, particularly when acting as NVOCCs, to review their agreements, standard terms of business and house bills of lading to ensure they contain adequate protections you would ordinarily expect in cases of claims from either shippers or carriers.

HFW also states that ocean carriers may wish to consider providing an online database of tare weights for their container fleets to assist those shippers using Method 2. Similarly road hauliers may wish to consider checking the accuracy of any internal databases containing the tare weights for their fleets of tractor and trailer units to assist those shippers using Method 1.

The advice also states that some road hauliers with weighbridge facilities at their depots may also consider whether they wish to offer container weighing as a commercial service to either shippers under merchant haulage or ocean carriers under carrier haulage. Alternatively, road hauliers may wish to investigate the network of available weighing facilities which offer a minimum deviation from the main routes to export port terminals.

Though any weighbridges used must be certified and calibrated in accordance with applicable national standards to provide compliant VGMs for the purposes of SOLAS.

The UK has taken a very proactive role in looking at the implementation of the SOLAS amendments. However, in short, there is much which probably still needs to be done and increasingly little time in which these needs are to be achieved. Whilst the challenges are not insurmountable, many remain to be resolved and only through concerted efforts between participants in the container supply chain is this likely to be achieved by 1 July 2016.

See [www.hfw.com](http://www.hfw.com) for more details.



## CLEANING UP OUR ACT

*2016 looks like it could also be a year of “cleaning up” – though, alas not from a financial perspective for many parts of the shipping industry. Many new initiatives look set to come to the fore – but so too are pressures building. But, questions are being if the incentives to improve are there.*

### UNDER REPORTING ADMITTED LOOKING AHEAD

According to its “World Oil Outlook”, the Organization of Petroleum Exporting Countries (OPEC) believes there is currently little incentive for ship owners to invest in scrubbers prior to 2020.

OPEC argues that while 2020 is the year that the International Maritime Organization (IMO) is planning to introduce a 0.5 percent global sulphur cap for bunkers, but this could be pushed back to 2025 pending a review which is now expected later this year.

Equivalent methods of compliance, such as using otherwise non-compliant bunkers in conjunction with scrubbing technology, will be permitted. But the whole

situation appears to be rather confused and messy – the solutions are unclear, and in many respects even the problems are not defined sufficiently well.

If the questions are unclear, then it will be increasingly hard for owners to answer them properly. Given the age of ships being scrapped is speeding up – it could be that even 4 or 5 years hence is too far over the horizon for many ships which may already be approaching their “scrap by dates”.

### SHIP SCRAPPING AND RECYCLING

The issue of quicker scrapping emerged last month when BIMCO alerted the industry to moves by Chinese owners who are willing to scrap younger dry bulk ships than their international counterparts.

These owners encouraged by government subsidies, according to BIMCO analyst Peter Sand are pulling the trigger on vessels far quicker than owners from elsewhere. In a research note Sand said international shipowners would only scrap bulkers of 18 years and older. “All ship owners have dug into the pool of 1995 to 1997-built bulk carriers in recent years, when choosing ships for scrapping,” Sand said.

While “Chinese shipowners in particular have scrapped even younger ships, built in 1998-2000. They were encouraged to do so by a subsidy program which has now been extended – so the belief is that we will likely see more of the same in 2016 and 2017.

Which is something which has a major impact on the other side of shipping clean up debate – that of scrapping and recycling. Younger and more vessels going to the wall mean more opportunities for recycling, but they also mean challenges to scrap them properly.

This is something which China may not be overly worried about, but it is vexing the European Union. Last month against the background of the perceived slow take-up of the Hong Kong Convention on recycling, the EU engaged consultants to conduct a study which attempts to find a financial instrument which would incentivise ship owners to recycle their ships in an environmentally friendly way.

### ON THE TABLE

Several options have been proposed and examined, including; guarantees, escrow accounts, insurance, port levies, licencing, or a hybrid of these. Members of the IUMI Political Forum recently attended three meetings where the various EU proposals were reviewed and the stakeholders asked to comment.

According to IUMI, the original idea which directly affected insurers was to create a fund which would be attached to the ship for its life and which would respond when the vessel was recycled at an EU approved yard. A revised version would have responded only where the vessel was a CTL.

There were a number of conceptual and legal problems which were enough for insurance to be dropped from the range of potential answers. The new proposal is instead for a port levy and licence system which will

require payments from any ship over 500gt using a European port.

There remain unanswered concerns about the possible distortion of markets in ports, ship values and even recycling facilities. The complexities, administrative structure and costs of the new scheme remain considerable and several flag states expressed reservations. Some noted that the scheme could lessen the attraction of EU ports and were concerned at the lack of approved yards. IUMI suggested that an alternative strategy might be for the EU to promote implementation of the Hong Kong convention, encourage the use of greener materials in ship construction, and support better recycling facilities.

### OTHER ISSUES

It is not just scrapping or scrubbing that has been hogging the headlines. Hardly a month goes by when another illegal maritime dumping violation is reported. Most violations, prosecuted in the United States, are based on false or fraudulent entries in the oil record book of a foreign-flag ship. Often, evidence of a “magic pipe” installation is found upon inspection in a United States port.

While not all such reported cases are successfully prosecuted, most are, with the help of a whistleblower aboard the ship. The steady stream of such violations is convincing evidence that prosecution alone is not an effective deterrent. Over the years, various complaints have been made: there aren’t enough accessible reception facilities for oily wastes in U.S. ports.

So if the stick isn’t working, what about a carrot? One such positive scheme is the Environmental Ship Index (ESI), a register of 3,600 vessels kept by the International Association for Ports and Harbours (IAPH)

This is a key to assessing green performance, and the vessels on it outperform the regulatory requirements for ship emissions. IAPH, which represents over 200 ports, has found that a further 40 of the ESI-listed vessels are eligible for rewards from ports providing incentive schemes for minimal emissions in port, IAPH MD Fer van de Laar said. This is a scheme which seems to work, and which could be harnessed and rolled out for other green issues.



# SHIPPING INDUSTRY TACKLING FATIGUE

*There is a growing sense that more needs to be done to address the current workload on seafarers and the knock on effects of stress and fatigue. The safety effects of these problems are massive, and there has to be action to improve the situation.*

## UNCEASING BURDEN

Gerardo Borromeo, the president of the global shipmanagement association, InterManager, last month used his end of year address to reiterate calls to ease the workload of seafarers.

Borromeo, who also heads up Philippine Transmarine Carriers, said: "We must not discount the ongoing discussions on fatigue and the unceasing administrative burdens onboard, which can only really be resolved if governments come together and take significant steps forward to streamline the myriad of reporting requirements."

The issue of fatigue at sea is one that just will not go away. The industry has had more luck fighting pirates than it has tackling the problems of lack of sleep, stress and exhaustion. So what can be done and how?

Well, inroads have already been made, Borromeo said, with the EU as well as with non-governmental organisations, such as the International Harbour Masters Association (IMHA). One of the leading hopes is that the concept of the paperless ship can finally come to fruition.

## PAPERING OVER CRACKS

So much time and effort is exerted by seafarers on paperwork, that there has to be a better and more sensible way of using their time. Perhaps there is a disconnect between the ship and shore on the actual implications of paperwork? But stripping it back, lest we forget that for every hour of paperwork there is more than an hour of potential sleep or rest lost. Paperwork can cause stress, frustration and annoyance, these can leave crew irritable and unable to switch off.

Seafarers are professionals at their specific jobs – they have been trained and educated to do what is expected of them – whether that is navigating or repairing machinery. So doing these tasks is second nature, alas sometimes performing the paperwork is not so easy in some instances. So we have potential situations in which seafarers are spending so much time documenting what has been done, that what is being done can eventually suffer.

This shows a definite logical flaw – we use paperwork to show that tasks are being performed properly, but in



spending so much time on documentation then we are almost ensuring that tasks cannot be done to the optimum level. Shipping has, alas, fallen into a classic "backside" covering trap and this causes not only quality concerns, but health and safety too.

## THE REAL DEAL

Fatigue is recognised as a serious medical concern. It can be called different names, tiredness, exhaustion, lethargy, and listlessness. In essence though it is all about the physical and/or mental state of being tired and weak. Although physical and mental fatigue are different, the two often exist together. It may seem obvious, but if a person is physically exhausted for long enough, they will also be mentally tired.

Fatigue, means a person cannot continue functioning at their normal levels of physical ability. Whereas mental fatigue means that someone would not be able to concentrate properly.

However, it should be remembered that fatigue is a symptom, it is a sign that something is going on which is damaging the physical and mental wellbeing of the sufferer. At sea this is likely to be over work, lack of sleep with a sprinkling of loneliness, isolation and perhaps even depression thrown in.

## SAFETY ISSUE

Fatigue brings with it many potential safety issues. A recent report by the U.K. Confidential Reporting

Programme for Aviation and Maritime (CHIRP) stressed that the importance and significance of seafarer fatigue management.

They believe that safe manning should take into account the minimisation of fatigue, but they constantly see malpractice; therefore at times of high work load due to operational requirements, this number is not sufficient to manage the risks associated with fatigue in seafarers.

Mind numbing routines of eat, sleep, watch... for months and months can wear down anyone, and lead to the type of inattentiveness that goes with the transitions from Active Operator to 'machine minder'. The result of fatigue is impaired performance and diminished alertness. These could have a significant impact on shipboard operations and personal safety.

In order to address the concerns of CHIRP, and to ensure the work of Intermanager is delivered on, there is a need to tackle the root causes of fatigue. Organisations including leading charities, such as Sailors Society and March on Stress are launching campaigns focusing on the problems facing seafarers, and they are seeking to raise awareness of the mental strains that shipboard life and work places on crew.

### • Mental Health

While a certain amount of stress can invigorate us, when it passes over a tipping point and stress levels become excessive, they can easily cause fatigue. Being away from home, working hard, having to deal with difficult situations, the dangers of the sea, and of potentially uncertainty over when seafarers may get home. All these can be draining, and cause fatigue. So what are the problems facing seafarers, and how can these affect safety and performance? The Sailors Society "wellness at sea" programme seeks to tackle these issues.

### • Disease and Illness

There are many medical reasons that seafarers may become fatigued. With an aging work force and with concerns over health issues at sea, then there can be issues such as kidney and liver disease, electrolyte problems, diabetes, hypothyroidism, anaemia. All can play a role, and seafarers should be medically screened before going to sea or being employed. Screening, as performed by many P&I Clubs, for such problems is important from a claims perspective, but it can also be a life saver.

### • Sleep Problems

Shift patterns at sea can cause problems sleeping – even the normal 4 on, 8 off. However this can be heightened dramatically if work demands increase. The 6 on -6 off is particularly hard for people to cope with. This is something which the Nautical Institute is looking to tackle through the International Maritime Organization (IMO) in the year ahead.

The demands on seafarers can be heavy enough in normal operations, but throw in a few cargo watches or mooring stations, then the sleep patterns can become extremely confused and messed up. There can also be weather issues – if a ship is bouncing around for days at a time, then this can have a real effect.

### • Diet Onboard

The effect of diet on the body can have massive implications for fatigue. Health and wellbeing rest on a good, healthy diet. So it is important that meals are healthy and nutritious and contain the vitamins and minerals that are needed.

Another problem at sea can be consumption of too many caffeinated drinks. Tea and coffee are extremely important parts of life at sea – and since the demise of smoking and alcohol, having a hot drink is an important relaxation ritual for many at sea. However, these may make it harder to get to sleep, or stay asleep, especially if consumed close to bedtime.

Energy drinks have also come to the fore in recent years, and there are even concerns that increased intake of the like of Red Bull, Monster et al can have serious implications on the decision making process. A US Food and Drink Administration (FDA) report and the US National Safety Commission (NSC) have warned of the effects, especially the serious lapses in concentration and slower reaction times as the effects of the high-energy drinks wear off.

So will 2016 see our first energy drink assisted collision? Probably not, as it has likely already happened – we just don't know it.

## LOOKING AHEAD

So it is vital that fatigue is addressed – that the symptoms are understood and the root causes addressed. It is not enough to think of this as simply a "sleep" issue, there is so much more to consider. A proper process for managing fatigue will take in all factors – work, contact with home, shore leave, diet, exercise as well as rest.

In essence there are two different forms of fatigue – one affecting the body, the other the mind. For seafarers each bring their own problems and challenges. Working onboard ship brings physical demands, and being tired can lead to slips, trips and falls, and even bigger problems.

Hopefully with so many organisations looking at the issues of fatigue, this year may finally see some progress on not just the problem but of solutions too. The implications of failure are great – and not just for those at sea. Accidents and claims will continue to rise unless this serious issue is tackled head on.

## NEWS ROUNDUP

### THE OTHER KEY STORIES WHICH CAUGHT OUR EYE LAST MONTH

**New IMO Chief Accepted:** Kitack Lim, former president of Busan Port Authority, has been named as secretary general of the International Maritime Organization (IMO), with effect from 1 January 2016. Lim, who will initially serve as secretary-general for four years, has long supported the IMO and attended his first meetings as part of the delegation from the Republic of Korea in 1986. From 1992, he engaged in activities to promote maritime safety through effective implementation of IMO conventions in his country and other IMO Member States in the Asian region. “IMO currently faces an array of challenges and issues,” said Lim.

<http://goo.gl/xT2Eiw>

**New Face at UK Register:** Simon Barham has been appointed as the first U.K. Ship Register Director at the Maritime and Coastguard Agency, scheduled to start his role in February 2016. Barham brings to the position both commercial and technical experience from his 40 year career in the industry. He initially served at sea for 16 years and since then has held senior positions ashore within both ship owning and ship management companies across the world. Previous roles include chief operations officer at Bibby Ship Management, managing director of Reederei Nord Ltd, chief executive officer of Gulf Navigation PJSC and managing director of Stena Bulk U.K.

<http://goo.gl/11lmvn>

**Shipping Left Out of COP21:** The shipping industry has been left out of the final agreement for COP21 on climate change agreed on Saturday. The International Chamber of Shipping (ICS) tweeted: “It seems no explicit mention of shipping in final UNFCCC text, but work will continue at IMO with industry encouragement and support.” It added that it would be reviewing the implications from the full and final COP21. Environmental groups had been pushing hard for the inclusion of emissions targets for both shipping and aviation in the COP21 agreement. The shipping and aviation industries had been included in an earlier draft but were dropped last week.

<http://goo.gl/kdQdea>

**Maersk Disappointed by COP21:** Maersk Group says it is “disappointed” that the landmark Paris agreement on climate change agreed to over the weekend does not include new regulations on international shipping. The final text of the Paris Agreement was adopted on Saturday following more than two weeks of intense negotiations involving delegates from almost 200 nations at the United Nations Climate Change Conference (COP21) in Paris. The agreement marks the most significant deal to date addressing global climate change, and seeks to limit global warming to below 2 degrees Celsius. Maersk wants to compete in “a level playing field, carbon constrained economy”.

<http://goo.gl/PLcVrP>

**IMO Wants Admin Cut:** The IMO has just closed its Assembly meeting in London after adopting a new resolution on reducing administrative burdens. The Assembly adopted a resolution on better regulation which sets the overall frame for how to formulate regulation so as to reduce any administrative difficulties. It establishes that all member states must carefully consider the consequences of new regulations to seafarers, administrations and shipowners before setting pen to paper. The resolution stresses a number of principles for better regulation, such as necessity, consistency, proportionality, resilience and clarity. Reduced administrative burden will free up time for seafarers and vessel managers.

<http://goo.gl/O7ryql>

**Seafarers Going Back to the Stone Age:** Crewtoo, the online social network for seafarers and a part of KVH Industries, has published the results of its third Crewtoo Seafarers Happiness Index report, which monitors and benchmarks seafarer satisfaction levels. This time round questions about connectivity and shore leave emerged as key issues among seafarers. With connectivity, seafarers’ responses indicated that there is growing disparity in internet access. A number of respondents feel that insufficient investment is being made in ensuring ongoing, high-speed, and quality connections, and that those without internet access liken conditions to being in the “stone age.”

<http://goo.gl/wLdP3D>

**Spike of Aussie Ship Arrests:** There has been an “unprecedented” spike in the number of ships arrested in Australian ports over the past six months because of commercial disputes. In less than six months since July 1, there have been 23 ships –arrested — compared with an –average of 10 ships a year for the previous three years. Last week, a Panama-registered bulk carrier was –arrested off the Port of Newcastle as part of a dispute over payment for shipping fuel, or “bunker” fuel. The Federal Court can arrest any ship in Australian waters if a claim is lodged against the ship’s owner or operator, for example for a debt, or because of damage done to another ship, or unpaid wages to the crew.

<http://goo.gl/5VPgKy>

**Expanded Canal Almost Ready:** The Panama Canal Authority (ACP) announced that the first-ever expansion is 96 percent complete. In line with this, ACP CEO/Administrator Jorge L. Quijano provided a next-step update at an industry event in Panama City. The key points: Locks reinforcements are scheduled to be completed mid-January 2016. Testing of locks reinforcements and additional testing will occur next. In April, transit trial tests with a chartered vessel in the Atlantic locks will occur (following conversations with GUPC). A date for the expansion’s inauguration will be then be selected, expected to be in the second quarter of 2016. Subsequently, the commercial opening date will be selected.

<http://goo.gl/38r7jk>

**Mooring Woes Continue:** Why do seafarers still get injured during mooring operations? Why do seafarers still suffocate when entering into enclosed spaces and carrying out other standard operations? Luckily, in most cases they are safe – but they are safe by accident. As a result, we tend to think that a good safety record mirrors a safe work process. Therefore, ship managers and officers must be aware of the dangers of behavioural safety complacency and over confidence. Some time ago Green-Jakobsen was asked to carry out an accident investigation after a very serious incident. This article sets out some of its post-investigation reflections on how crews can be misled in their risk perception.

<http://goo.gl/38URZt>

**Port State Carrot and Stick:** Quality ship operations will be rewarded with a reduced inspection burden when the Black Sea MOU launches its new inspection regime on 1 January 2016. The Black Sea (BS) MOU had announced that their new inspection regime, BS-IR (2016), will be in force from 1 January 2016. The new regime will apply a risk-based approach for selecting ships to be inspected and brings the BS MOU in line with the leading memorandums Paris MOU and Tokyo MOU. Under BS-IR (2016), scope, frequency and priority of inspections will depend on a “ship’s risk profile”. Each ship’s risk profile will be determined by Port State Control (PSC) data and the ship’s historical data.

<http://goo.gl/Uf3GAz>

**Poor Industry Perceptions:** Earlier this week 26 of the 35 charterers that include vessel efficiency in their supply chain selection have come forward to highlight their proactive measures on climate change. “By using the Greenhouse Gas (GHG) Emissions Rating to find the more efficient vessels these industry leaders are using their influence to incite change in the maritime industry by rewarding ship owners that prioritise efficiency,” RightShip said in a release. The organisation reckons calls from within industry and externally indicate that shipping have not done enough to convince the global community of its achievements to reduce emissions.

<http://goo.gl/XVe6M6>

**New Suez Will Cut Shipping Costs:** The Bank of Alexandria believes the new Suez Canal will reduce total operating costs of maritime transportation companies by between 5 and 10 percent. The Bank’s Intesa Sanpaolo Group research arm said in its study, ‘New Suez Canal: Economic Impacts on Mediterranean Maritime Trade’, that thanks to the Canal, transit time will be slashed from 18 to 11 hours, which in turn with benefit operating costs. The findings came from a study of traffic trends in the canal and the planning framework of the new infrastructure. Dante Campioni, CEO and managing director of Bank of Alexandria, said, “The study highlights the importance of the new Suez Canal”.

<http://goo.gl/VOdwLS>



## MORE NEWS...

**Getting Social Delivers for Shipping:** The international world of shipping is an unlikely place to find a Facebook campaign whose popularity and success is based in part on its open sharing of both positive and negative news – where striking and killing a whale at sea turns into an opportunity. But, on doing so, Maersk took its time to join the social media world and be open about the incident and engage. As a result, the strategy made the company one of the most widely read among international companies, even topping Disney, General Electric and the Ford Motor Company. The Maersk Line effectively used Facebook to engage with followers in a timely and conversational manner - and that has felt good.

<http://goo.gl/8PRTLw>

**German Fleet is Shrinking:** The German merchant fleet experienced its third consecutive year of contraction, amounting to a 17% decrease since its peak in 2012, the German Shipowners' Association (VDR) reports. The German-flagged fleet now amounts to 3,122 vessels, representing a fall, as well, of 12% in transport capacity. In total the fleet declined by 117 ships were in 2015, taking into account newbuildings and purchases. Only 13 of these were scrapped. "The decline in the size of our merchant fleet is a disturbing development," said Alfred Hartmann, VDR president. "Half of German shipping companies have fewer than five ships under their management" he added.

<http://goo.gl/bnXImU>

**Shipping Confidence Falls:** Overall confidence levels in the shipping industry fell in the three months to November 2015, according to the latest Shipping Confidence Survey from international accountant and shipping adviser Moore Stephens. The average confidence level expressed by respondents in the markets in which they operate was 5.6 on a scale of 1 (low) to 10 (high). This compares to the 5.9 recorded in August 2015. The survey was launched in May 2008 with a confidence rating of 6.8. All main categories of respondent recorded a fall in confidence this time, most notably charterers (down from 6.5 to 5.5). The confidence of managers was down from 6.4 to 5.8, that of brokers from 5.2 to 4.6.

<http://goo.gl/m62Og1>

**When to Say No to Cargo:** P&I Clubs have been reminding of the master's authority to clause bills of lading issued by or on his behalf. This can sometimes become the cause of disagreement between shippers, charterers and carriers. Under Article III Rule 3 of the Hague/Hague Visby Rules after receiving the cargo, and on the demand of the shipper, the master is obliged to issue a bill of lading evidencing the quantity and apparent order and condition of goods to be carried. However, and practically speaking, he will often be under extreme commercial pressure to issue clean bills in exchange for a letter of indemnity (LOI) from his charterer.

<http://goo.gl/HuxdqU>

**Poor Watchkeeping Blamed:** A collision between UK-flagged containership Ever Smart and Marshall Islands-registered oil tanker Alexandra 1 in Jebel Ali, UAE, was in large part caused by poor watchkeeping, an investigation by the Marine Accident Investigation Branch (MAIB) has concluded. Evergreen Marine (UK)-managed "Ever Smart" hit Iships Management's "Alexandra 1" at a speed of 12 knots, while attempting to pass one another in the Jebel Ali approach channel, had not agreed a passing arrangement beforehand. Both vessels sustained severe bow damage, but no injuries or pollution were reported. The crucial factor was deemed to be inadequate watchkeeping on both vessels.

<http://goo.gl/lkPFLv>

**Shipowner Calls for End of Corruption:** Nick Fisher, the CEO of Masterbulk, calls for an industry-wide zero-tolerance approach to corruption, warning we are all tarred by the same brush. Today, 9 December, is International Anti-Corruption Day. On this day we look to raise awareness of corruption and of the role of the United Nations Convention against Corruption has in combating and preventing it. The shipping industry, as a sector, comes face-to-face with the issue of corruption more than most. From significant demands for funds and threats to seize and detain vessels, through to demands for cigarettes, alcohol and ships stores from low ranking officials – corrupt practices affect our industry and our reputation.

<http://goo.gl/Eoz1QA>



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