NEWSLETTER

To promote, develop and support in the spirit of cooperation, the common interests of its members in all matters concerning the development and quality of maritime education and training.

MAY – 2012

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TRAIN, TRAIN, RETRAIN, RETAIN!

GLOBAL MET
MARITIME EDUCATION & TRAINING

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Editorial

Queen Mary 2 and HMS Endeavour rendezvous off Victoria Australia in March

This picture portrays a large modern ship overtaking a replica of a ship built some 250 years ago and clearly depicts the changes in ship design, construction and operation. QM2 is well over 300 metres long, strong, very powerful with extensive electro-technology. Endeavour was wooden, just over 30 metres long and relied on the wind to drive her along. QM2 crosses the oceans with ease. Endeavour circumnavigated and explored the world over three years, from 1768 to 1771, under the command of Captain James Cook, a brilliant leader, seaman, navigator and surveyor.

After Board Meeting 19/12 on 27 April, lunch in the Singapore Polytechnic Staff Club

Clockwise from centre front: Xinhui Wang & Jinshui Zhang of Guangzhou Maritime College, Tim Wilson of New Zealand Maritime School, Chairman of GlobalMET, Stephen Cross of Maritime Institute Willem Barentz, Takahiro Takemoto & Hideo Yabuki of Tokyo University of Marine Science & Technology, Anura Seneviratne of Australian Maritime College, David Fredrick of Malaysian Maritime Academy, Subir Mukerji of Qmetrix, Pan Wenzhong of Guangzhou Maritime College, Nantha Kumar of Singapore Maritime Academy, Rod Short of GlobalMET

Aboard QM2 the navigation, management and operations associated with 'sailing' the ship are relatively remote from the sea, protected by glass and steel and are often performed through an electronic screen, with extensive use of technology. 'Manpower' is seldom required. Aboard Endeavour all were close to the sea, 'manpower' was essential to ensure wind power was well used and the art of taking her safely from haven to haven was practiced using little more than basic, well found, navigation and seamanship aids and human abilities. The living environment was uncomfortable.

Endeavour required high levels of seamanship - the 'ordinary practices of seamen'- by a large crew, crowded into and able to work within the confines of a small, creaking, rolling, pitching vessel. Despite her size, if the hotel and entertainment functions are put to one side, only a relatively small crew, competent to monitor and use the extensive technology the automation, is required aboard QM2, a large comfortable vessel.

Development in all aspects of ship operations over the quarter millennium is extensive and accelerating in response to the technological revolution. To ensure safe passages, efficient, reliable operation and monitoring of the mechanical and electro technology on board is essential.

But, 'the sea is still the sea'. Modern maritime education and training must ensure that seafarers are competent in the use of the technology on board, as well as understand that they are operating a ship at sea with many associated risks. With increasing concentration on the electro-technological aspects of ship operation, there is growing risk of inadequate attention being given to 'the ordinary practices of seamen.'

Rod Short
Executive Secretary

Visit to HCMC University of Transport

While in Ho Chi Minh City, primarily to participate in the Pacific Forum's Center for Strategic and International Studies two-day workshop on Maritime Security, I was very warmly welcomed to the Ho Chi Minh City University of Transport, which has been a Member and strong supporter of GlobalMET ever since the days when the network was referred to as AMETIAP. The Vietnam Maritime University (VIMARU) in Haiphong has been similarly involved since those early days of networking MET in Asia Pacific and I look forward to the opportunity to visit them again in the not too distant future.

After being welcomed and briefed by university President Dr Nguyen Van Thu, Senior Adviser Dr Tran Canh Vinh and senior colleagues, it was a delight to have the opportunity to address some 200 maritime students. Having listened to my presentation about the 'Oceans of Opportunity' in the global shipping industry, the students made the most of the time available for questions. While the presentation was done with the help of a translator – with Dr Nguyen Van Thu assisting with technical terms at times – the students used English when asking questions. This left a very good impression of the standard of English among the maritime students. It was a highly participative, very worthwhile session for all involved.

Lunch in a restaurant beside a nearby lake was a very pleasant occasion, during which there was more discussion about maritime education and training in Vietnam and the opportunities for Vietnamese graduates to work in the global industry. In this respect the joint-venture project linking the University with the STC - Group in Rotterdam, is facilitating procurement of seagoing berths for the students.

This large and growing university, formerly a branch of VIMARU, has four campuses housing twelve faculties and departments, including Navigation, Marine Engineering, Electronic and Electrical Engineering, Naval Architecture and Transport Economics, with an overall enrolment of some 17,000 students.

Although too brief, the visit left no doubt as to the effectiveness of the maritime learning and skills being provided to the many students seeking a career in a global industry of critical importance to the future of Vietnam. It is a pleasure to express heartfelt thanks to President Nguyen Van Thu, his senior colleagues and to the many bright, interested students I was privileged to interact with and to wish them well.

UK P&I CLUB

Dangers of Pressing up Ballast Tanks

20/03/2012

In a recent case an entered vessel pressed up its ballast tanks in order to optimise trim and to satisfy mandatory stability criteria. The operation resulted in the unexpected flooding of a cargo hold causing extensive damage to cargo.

An entered containership was carrying out ballast exchange operations mid voyage and pressed up one set of double bottom ballast tanks. On arrival it was observed that one of her holds had significant water inside and considerable damage to bottom stow cargo. The vessel had recently opened up several manhole covers for routine inspection of her ballast tanks. After the incident it was noted that the high level bilge alarms in the hold were not functioning.

Whilst investigations are still continuing into this particular case it maybe timely to remind Members that poorly secured manhole covers are still a frequent cause of water ingress into holds, many, but not all, arising after drydocking where shore staff have not secured covers properly. If double bottom manhole covers are removed for whatever purpose it is recommended a note be made of where and when, this not only acts as an aide memoire but also helps in defending claims should water ingress occur.

Good maintenance should also be in place, the manhole covers/gasket arrangement and like should be routinely checked, if not already included as part of the routine inspection/maintenance programme associated with the ship's ballast tanks Hold high level bilge alarms should be tested on a regular basis, logged and defects, if any, rectified immediately.

Source: **UK P&I Club**

Re-engaging Your Senses – The Future of Integrated Bridge Design

by **JOHN KONRAD** on NOVEMBER 18, 2010

Do you miss the ticks of the analog gyro repeater?

Today's gyro compasses are more functional and easy to interface with modern electronics but they lack the ticks which were so effective in letting feel the ship's rate of turn. I also miss single function electronics. Sure I enjoy viewing AIS, radar, and propulsion information on one screen but, the problem is, the alarms now sound all the same.

The modern bridge has become a visually enticing environment but at the expense of our other senses. Sure you can still feel the ship's motion but you can't smell the cargo from the CCR, feel the wind from inside climate controlled bridge wings, or hear the increasingly rapid clicks of the gyro when the helmsman gets sleepy.

The future of marine electronics and integrated bridge systems will include terms like ergonomics, tactile response and acoustic resonance. Of course, we won't need to know these terms but they will work together to engage the watchstander by stimulating all five senses.

While I don't predict the return of smell-o-vision, I do see a future in which naval architects borrow ideas from Hollywood and theme park designers to improve the situational awareness of watchstanders.

The Gelso M, an Italian-flagged tanker ran aground off the coast of Santa Panagia, Sicily this morning in stormy weather. gCaptain 11 March

Fatalities Caused by Fumes from Cargo

A few years ago, a Surveyor, whose seagoing career had been spent on tankers, was assigned to do an out-turn survey which included sampling the soy bean cargo. No problems were experienced as most of the hatches were open, however, the last hold to be sampled was still closed, possibly due to a small technical fault. Rather than wait for the repairs to be completed, like all good surveyors he was keen to finish the sampling and get on with the deadweight calculation, he entered the hold with one of the officers down the access ladder.

When they did not return after some minutes, the alarm was given. The Master was informed and, being more careful, he instructed the crew to open the hatch. They saw the men laying face down under the box beams. They were both dead before expert help arrived on the scene. It would appear that CO_2 gas was present, this is colourless and odourless and is common in foodstuffs such as grain.

A lesson was learnt by all. Most of us brought a gas detection/oxygen depletion monitoring instrument and made sure we used it. It was also a lesson for tankermen who think that nothing much of importance or dangerous happens on a dry cargo ship.

Such portable monitoring equipment was common on board all tankers but not usually found on bulk carriers or other vessels unless it had been specially provided for particular cargoes. All ships should be fitted with gas sampling apparatus for entry into enclosed spaces, it should be remembered that this includes cargo spaces where fumes may be present.

Officers and crew should get to know various smells and colours of dangerous gases and fumes. Not all gases have any smell or colour, CO_2 as has already been mentioned and carbon monoxide are included in these. Hydrogen given off by coal cargoes is also odourless and is very flammable.

For quick reference here are a few that come to mind:

- Chlorine gas is greenish/yellow in colour
- Fluorine is pale yellow
- Hydrogen Sulphide smells like rotten eggs
- Phosphene smells like rotting fish.

It must be remembered that many strong smelling gases can damage the olfactory nerves after short term exposure. If this happens, further detection or an increase in the intensity is not noticed, thus a person becomes unaware of the danger, possibly with dire consequences.

Dangerous Goods Warning

Long experience has shown that extreme care has to be taken by non-chemists handling chemical names, in some cases a one letter wrong in the name can completely alter what a substance is or does. It is also very easy in an emergency to locate a substance in an index that is nearly right, but if slightly different is definitely not the right substance, writes Capt. Graham Evans, the well respected DG expert.

The MARS co-ordinator has been found guilty of this very offence, for which I offer my sincere apologies.

Dr J Cowley has pointed out that I spelt "fluorine" as "flourine" in MARS 99042. He also says;

> "Phosphene smells like rotting fish" should probably be - "phosphine smells like garlic" or perhaps "phosgen has a foul odour" (This can be described as an unpleasant choking odour" some say like rotting fish but at low levels it just smells like hay).

Capt. Evans goes on to say. "On the whole this well-intentioned article was a good one illustrating the type of incident that kills hundreds of seamen and dock workers every year around the world, including the odd surveyor. The author of MARS 99042 says to use gas detection and monitoring equipment and that some dangerous gases have no colour or smell. Too many good seamen have been lost relying on their nose for safety.

The bit that rang warning bells in my mind was where he suggests that officers and crew should get to know the colours and smells of dangerous gases. This brings to mind the picture of an enthusiastic junior officer deliberately sniffing different gases or vapours. What is meant of course is to have this information to hand as reference material in case of accidents. Whether you will be able to smell it before it is doing you harm depends on the relationship between the odour threshold and the occupation exposure standard. As pointed out by the author, some gases (such as hydrogen sulphide) anaesthetise your sense of smell at the levels where they begin to do you harm.

We once had a phosphine poisoning incident and there was no reported smell, just symptoms afterwards. The poisons centre diagnosed phosphine gas poisoning from a description of the symptoms. In the ASIA FREIGHTER incident, the London poisons centre diagnosed arsine gas poisoning from a description of the symptoms which later turned out to be correct."

Source: **Mars, The Nautical Institute,** 26/03/2012

Mercantile Marine World Fleet Advancement

A Comparative Study on Future Developments

By

Jai Acharya
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STET Maritime Pte Ltd
Singapore

Abstract

The prime intention of this write-up, is to link an overall brief analysis of the current and future advancement of the mercantile marine world fleet with the great challenges in the future maritime education and training arena, to make MET compatible with and relevant to the 'smart' ships of the future equipped with ever-changing, complex technology.

Growth of the Shipping Industry

The composition of the world fleet reflects the demands of different commodities for seaborne trade, including dry and liquid bulk and manufactured goods, as well as the tourism industry for cruise ships visiting popular exotic destinations. As manufactured goods are increasingly containerized, the containership fleet has increased its share from 1.6 per cent of the world fleet in 1980 to over 13 per cent in 2011. This has happened mostly at the expense of general cargo vessels, whose share has dropped from 17 to 7.8 per cent during the same period. Reefer cargo is also increasingly containerized, with very few new specialized reefer ships are being built. It is estimated that in 2010, only 35 per cent of seaborne perishable reefer cargo was transported by specialized reefer vessels, while 65 per cent was already containerized – a share which is forecast to grow to 85 per cent by 2015. Most of the exporters of refrigerated cargo such as bananas, other fruit, beef and fish are developing countries, which need to adapt their supply chain to this trend for further containerization.

Enhancing fuel efficiency

Shipowners are confronted with the long-term prospect of higher fuel prices and stricter emission controls. Nuclear-fuelled vessels are being considered, which, however, may not find public acceptance in view of recent discussions concerning nuclear energy. Increased attention is being paid to natural gas as a potential fuel for commercial shipping; in 2010, two European companies presented an 8,700 TEU containership concept that uses gas fuel and reportedly cuts CO_2 emissions by as much as one third.

In a similar vein, a shipyard in the Republic of Korea has announced that it has built a ship with lower operating costs, making use of an electronic ship area network. In the medium term, analysts expect more technological advances – including concepts with modified hull forms, the use of air bubble lubrication, air cavity systems and new types of surface materials; and also, possibly, ballast-free ships.

New maximum vessel sizes

A classic approach to enhancing fuel efficiency is to increase vessel sizes in order to achieve economies of scale – assuming that the ships will be full. As the industry was recovering from the economic crisis, early 2011 saw orders and deliveries of ships of record-breaking size in various dry cargo vessel categories.

Growth of the Cruise Line Industry

The trend in the growth of the cruise line industry and cruise ships is no different than with liquid/dry cargo vessels. The markets influence each other and progress gets amplified. The more people who have cruised, the more will tell others and the more who will want to take a cruise. Studies shows that the worldwide cruise industry has an annual passenger compound growth rate of 7.38% from 1990-2015. Growth strategies to date have been driven by shorter cruises, more local ports, more destinations and new on-board/on-shore activities that match demands of consumers. The industry is also expanding rapidly internationally and has yet to maximize all its online potential. "Mega-ships with super luxury touch" are being built at rapid pace with a similar pace being targeted for the number of available terminals and passenger berths, while focusing greatly on further lowering the cost-of-sailing per passenger with economies of scale.

These activities help increase penetration in a worldwide core market that still has a great growth potential. It is noted that only 52.9% of the target North American market (or 23.1% of the whole U.S. population) has ever taken an ocean cruise. With all the cruise ships in the entire world filled to capacity all year long, it would still only amount to less than half of the total number of visitors to Las Vegas. Capitalizing on the capacity growth will be based on sound marketing strategies and brand diversification using a segmentation model of the marketplace, identifying the right pods and then communicating the right value proposition to them. These and other strategies for industry growth will continue to propel the industry into the future.

A total of 7 new ships will be added in 2012 with a total passenger capacity of 18,499. From 2013 to 2014, a net of 8 more new cruise ships will be adding 24,508 lower berths or 5.8% to passenger capacity. The market researchers findings show that the ships from 2013 to 2014 will add USD 2.3 billion in annual revenue to the cruise industry.

The number of cruise passengers (3.75 million) in 1990 rose to about 19 million in 2011 and expected to be on the level of 20 million in 2012 with further rising figure to 22.4 million in 2015.

Expected New Passenger Ships in Year 2013-2014
(Courtesy Source: Cruise Market Watch)

Cruise Line	Ship Name	Delivery	Lower Berths
Princess	Royal Princess	Spring 2013	3,600
NCL	Norwegian Breakaway	Spring 2013	4,000
AIDA	Unnamed	Spring 2013	2,192
Hapag-Lloyd	Europa 2	Spring 2013	516
Princess	Unnamed	Spring 2014	3,600
NCL	Norwegian Getaway	Spring 2014	4,000
Tui Cruises	Unnamed	Spring 2014	2,500
Royal Caribbean	Unnamed	Fall 2014	4,100
Total			**24,508**

Continuous updating work on maritime education and training is indeed a 'call of the time' to make it compatible to the technical and operationally advanced 'smart' ships of the future. In order to address the challenging future scenarios for the sake of safety, efficiency, security and maritime environmental protection, it is of the utmost importance to effectively plan and prepare the future generation of competent, reliable marine engineers, deck officers and ratings on board ships and of maritime professionals ashore.

Jai Acharya has been recently invited by the International Ocean Institute (IOI) to join its mission as a Director of (IOI) Singapore to establish an IOI Focal Point @STET Maritime Pte Ltd.

The IOI is an international, non profit, NGO, with consultative status at the United Nations. With HQ @Malta, its mission is to promote education, training and research to enhance the peaceful uses of ocean space and its resources, their management and regulation as well as the protection and conservation of the maritime environment, guided by the concept of the Common Heritage of Mankind.

As a Director of IOI Singapore @STET Maritime, Jai intends to actively participate in IOI activities and share the benefits through various education and training programs and global IOI networks, by information dissemination to NGOs and coastal communities.

The IOI carries out its missions through 22 Operational Centres as well as 7 focal points worldwide.

Lessons Learnt-Bunkering Hazards

A gas tanker was completing cargo operations at night when another cargo vessel bunkering at a berth upwind suffered a ruptured hose and spilled fuel oil into the harbour. The spreading oil quickly coated the harbour installations and the hull of the unfortunate reporting vessel.

Her alert deck watch noted the oil on the water at first light, raised the alarm and informed the gas terminal. Emergency response teams from both the gas tanker and the gas terminal swung into action immediately and directed fire hoses at the slick in an attempt to control its spread. However, this did not prevent some oil staining on the gas tanker's hull. As a result, she was prevented from sailing on schedule pending cleaning of these stains. Clearly a case of cleaning up someone else's mess and suffering for it as well!

Root cause/contributory factors

1. Bunker hose failure;
2. No oil boom deployed around bunkering vessel;
3. Slow communications among terminals and ships in harbour.

Other valuable lessons

- If practicable, deploy a boom around the vessel during bunkering operations and (as this case illustrates) even if not involved in oil transfers, when berthed near an oil terminal.
- Repeatedly practise ship's emergency and reporting procedures as outlined in the shipboard oil pollution plan (SOPEP) and shipboard marine pollution emergency plan (SMPEP).
- Conduct a realistic spill response and reporting drill before every arrival, including a mock transmission to the appropriate national authority for pollution or spill-related incidents.
- On berthing, brief the crew on the terminal's alerting procedure.
- Inspect transfer hose carefully and reject it if any visible defects seen, despite evidence of a 'proof test'.
- In case of a spill, immediately send initial notification to qualified individual (QI if in US waters), shore facility, harbour/port/national authorities, P&I representative, owners/managers; preserve communication records.
- Prevent escape of spill overside. Although it is impossible to predict what trajectory the fluid may take from a ruptured hose, it may be worth the effort to rig lightweight plastic sheeting under the suspended transfer hose between supply and reception manifolds.
- Wherever possible after the initial report, the master may delegate the task of filing reports to additional parties to a responsible agency or person (QI, local agent, designated person ashore (DPA), P&I correspondent etc).
- Use dispersants or detergents only with the express permission of local authorities.
- Carefully preserve all samples, records, evidence, communication logs and make detailed log book entries of all events. Photographs may be taken if safety and local regulations permit.

Source: **Mars, The Nautical Institute**
27/03/2012

"You only live once, but if you do it right, once is enough."

Comments

The root-cause analysis could go a bit deeper :
Why did the hose burst?
Why was no report made from the bunkering ship or the Bunker terminal?
The answers to these questions should lead to more "why"s being asked.
In their answers lies the true root.

All to frequently when investigating incidents the "root cause" is incorrectly identified and hence the corrective action is aimed at the wrong target. In this case the "Primary Cause" of the incident was the rupture of the transfer hose and the mitigating actions were as stated, "No oil boom deployed around bunkering vessel" and Slow communications among terminals and ships in harbour". The "root cause" although not stated as such may have been due to lack of inspection or poor condition of the hose or due to mal-operation of valves during the transfer. There were lots of relevant lessons learned but until we all get better at identifying the real root cause similar incidents will continue to occur.

It would be interesting to know where this event happened and if the terminal and or the vessel actual notified the proper authorities about the event. If the proper authorities were notified one might think that those authorities would raise a notice in the port.

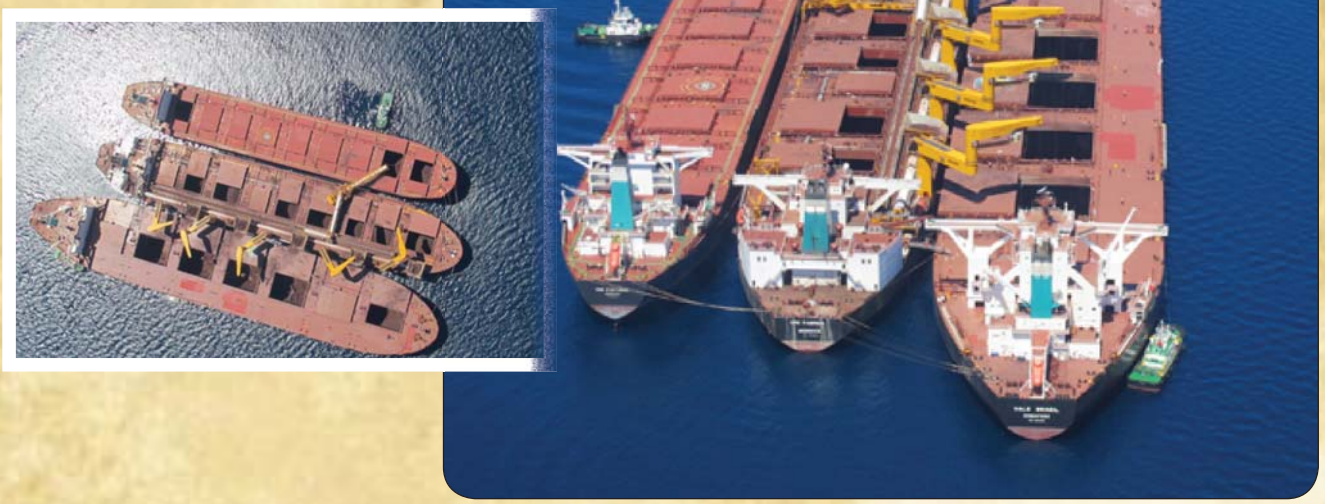
It is not clear that there were booms available and that the bunkering vessel did not to the best of its ability follow the procedures set out in her SOPEP.

Nonetheless, it would have been advisable to notify other vessels in the vicinity of the spill by the terminal or the bunkering vessel.

The terminal should have had a boom deployed as SOP. The hoses should have (might have been-it is not clear they were not) been inspected but that inspection by the would have been cursory at best. The terminal operator may have failed to properly operate the valves. The authorities should have required a report from both the terminal and the bunkering vessel.

Finally, the gas tanker should have recourse against the terminal and or bunkering vessel for cleaning and delay.

Offloading iron ore in Subic Bay



As a size comparison, the Ore Pantanal on the left is 179,000 DWT, whereas the 400,000 DWT Vale Brasil is moored on the starboard side of the Ore Fabrica. Image courtesy Bedeschi.

Vale's Ships in Subic Month-Long

By **MICHELLE WIESE BOCKMANN**
Manila Bulletin April, 16 2012

Vale SA, the biggest producer of iron ore, kept two of the world's largest carriers of the commodity for as long as a month in a bay in the Philippines as they unloaded or waited to discharge their cargoes.

Vale China and Vale Brasil, both able to carry 400,000 metric tons, were in Subic Bay, according to vessel tracking data compiled by Bloomberg. It took 22 days for the Vale Brasil to unload into a Capesize vessel and a floating transfer station, the company said in an e-mailed statement April 12. The Vale China waited before discharging over 14 days into two Capesizes via the floating transfer station, the company said.

"Our floating transfer station, (FTS), which allows partial or total transfer of iron ore cargoes from ship-to-ship, is ramping up and not operating at full capacity yet," Vale said in the April 12 statement.

Vale China arrived at Subic Bay on Feb. 27 and next signaled about 23 miles away on March 31, by which time it was sailing for Singapore, the data shows. The vessel was 8.4 meters (27.6 feet) higher in the water once it departed, indicating cargo was unloaded. Vale Brasil arrived at Subic Bay on Feb. 11 and signaled from the same place on March 3. Its next signal was on March 8 about 200 miles from Singapore.

Vale, which controls about 26 percent of seaborne iron ore trade, is spending more than $8 billion on the so-called Valemax ships to lower freight costs to Asia from Brazil and allow it to compete with Australian exporters. Eight of the 35 ships being built for Vale were delivered in the past 11 months, according to the spokeswoman and company statements as of April 5.

The Valemaxes have so far been excluded from China, the company's biggest customer. Jose Carlos Martins, Vale's head of ferrous and strategy, told journalists in London on Dec. 7 that the company was seeking permits for the vessels to call at Chinese ports.

Zhang Shouguo, vice executive chairman of the China Shipowners Association, said in December that the carriers "arouse safety and environment risks" because Vale lacks experience in shipping, according to a transcript of his remarks on the group's website.

Daily operating costs for the Valemax fleet are $33,956 to $39,691, including fuel and loan repayments, according to estimates from DVB Bank SE. The estimates are based on fuel costs at $500 a metric ton and a contract price of $130 million a ship.

"Life is like riding a bicycle. To keep your balance, you must keep moving."

Safety and Shipping Report

Key facts & figures from recent research on safety and shipping from 1912-2012 by Allianz and Cardiff University:

** Since 1910, world fleet tonnage has increased by a factor of 23 and now approaches one billion gross tonnes (2010).

** World seaborne trade has trebled since 1970 to over 8.4 billion tonnes of cargo loaded per annum.

** Cruise passenger numbers have shown significant growth in recent years, and are forecast to grow by 7.4% year on year from 1990-2015. It is estimated that in 2015, over 22 million passengers will be carried on cruise vessels worldwide (2011: 19.2 million).

** Marine transport is one of the safest means of passenger transport overall with far lower fatal accident rates than car, motorcycle, bicycle or walking in Europe.

** Professional seafarer fatality rates have fallen in many countries: for example, in the UK, in 1919 it was estimated that there would be 358 fatal accidents for every 100,000 seafarer years spent 'at risk'--a rate which had fallen to 11 by the period 1996-2005. However, this fatality rate is still twelve times higher than in the general workforce.

** Accident 'black spots' include South China, Indo-China, Indonesia and Philippines with 17% of total losses in 2001-2011, followed by East Mediterranean and Black Sea (13%), and Japan, Korea and North China (12%). The seas around the British Isles also show relatively high loss concentrations (8%).

** Technical innovations over the last 100 years include improved construction techniques, echo-sounding, RADAR, Very High Frequency radios, Automatic Radar Plotting Aid, satellite communications, GPS positioning finding, and Electronic Chart Display and Information Systems--all of which have supported marine safety.

Perpetual Ocean

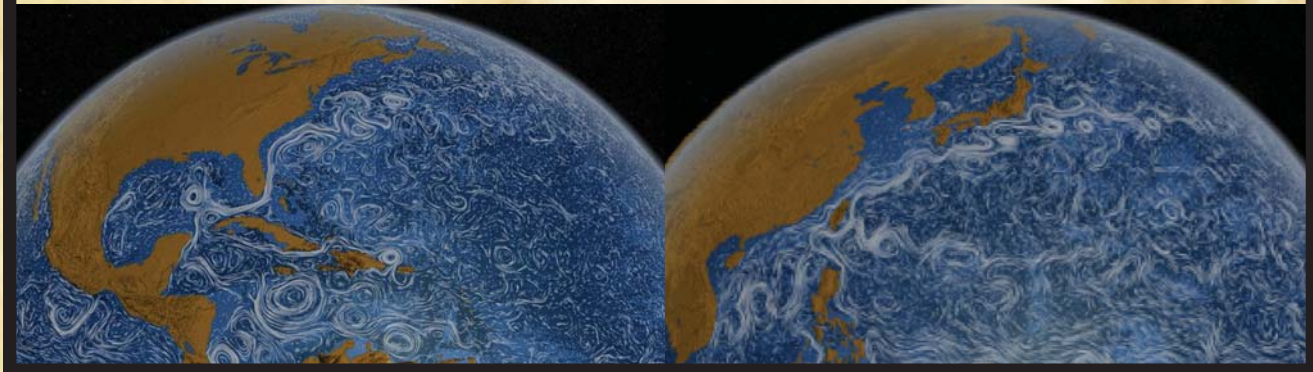
The visualization, titled *Perpetual Ocean*, was created by NASA scientists at the Goddard Space Flight Center and shows ocean currents around the world during the period from June 2005 through December 2007. Here's a look at a still shot of the Atlantic and Gulf Stream.

So how was this video and image made? The simple answer… it's confusing, so let's leave it up to the scientists at NASA to explain while we just sit back and marvel at the beauty that is the ocean currents.

This visualization was produced using model output from the joint MIT/JPL project: Estimating the Circulation and Climate of the Ocean, Phase II or ECCO2.. ECCO2 uses the MIT general circulation model (MITgcm) to synthesize satellite and in-situ data of the global ocean and sea-ice at resolutions that begin to resolve ocean eddies and other narrow current systems, which transport heat and carbon in the oceans. ECCO2 provides ocean flows at all depths, but only surface flows are used in this visualization. The dark patterns under the ocean represent the undersea bathymetry. Topographic land exaggeration is 20x and bathymetric exaggeration is 40x.

This image and more can be seen at the Goddard Space Flight Center.

http://svs.gsfc.nasa.gov/vis/a000000/a003800/a003827/



"We Never Take Anything Away"

GW: If you look at the way the industry is legislated, particularly through the IMO, you realize that the way things are evolving with new rules and regulations, we never take anything away, the bureaucracy keeps piling up.

The way it's managed through the IMO is via a number of different instruments, whether it be the STCW, SOLAS, MARPOL, etc, so the question I was posing is that IMO really, at some point, should take a step back, and really look at the impact all this legislation is having, and ask, "is there a better, or more streamlined way, of enacting it so that it's easier for the seafarers, so that they can concentrate on their real job which is managing risk."

You now have new regulations on ballast water and emissions control and you need to look at it and ask what is the real impact? How is the seafarer going to implement this? It's the seafarers themselves that concerns me, and the burdens we place on them.

RA: So essentially it comes down to the training and the knowledge of being able to implement these regulations properly.

GW: You first of all have to understand them, then you have to comply and demonstrate compliance. Demonstration of compliance is probably the most burdensome.

INTERTANKO's Chairman and Teekay EVP Graham Westgarth, in an interview by Rob Almeida of gCaptain on MARCH 26, 2012

Fatal Accident on Board Anna Maersk

The "Anna Maersk" was hit by a fatal accident on March 28, 2012, in the Japanese port of Kobe, in connection with a man-overboard drill. The suspension of a lifeboat failed, and it crashed into the water from a great height. A Filipino crewmember was killed, while a Danish officer was badly injured.

The relatives have been informed and also the relevant authorities. AP Moller - Maersk has sent a psychologist and a representative of the company to Kobe to help the crew and the authorities. An investigation was ongoing.

The company was working closely with the authorities to clarify the cause of the accident. Until the cause has been established, all the company's container ships received orders not to carry out man-overboard drills.

Source: **Vesseltracker**

IMO Paper SLF 54/26

Investigation report on the very serious casualty on board the container ship "Chicago Express"


Chicago-Express

Analysis

1. Type of Casualty:

Very serious marine casualty – fatality

2. Event and Consequences:

At about 0245 on 24 September 2008, a very serious casualty occurred on board the 8,749 TEU container ship Chicago Express. A crew member suffered fatal head injuries, the Master suffered serious injuries and four more seamen suffered minor injuries when the vessel underwent severe rolling while trying to weather a typhoon off a lee shore. The vessel was under the control of the Master and being manually steered by the helmsman when it was suddenly hit by a violent wave coming from starboard just as it rolled to starboard. The vessel rolled violently several times, the inclinometer registering a maximum heel of 44 degrees from perpendicular. (The indicated heel angle was probably false due to the dynamics of roll motion. Subsequent calculations did however confirm that heel angles of more than 30 degrees occurred or could have occurred). The Master, the helmsman and the lookout all lost their footing and were thrown across the bridge. The OOW had been hanging on to the chart table and was able to reach the helm and stabilise the vessel's course. The helmsman, who was uninjured, regained his footing and he and the OOW found both the Master and the lookout lying unconscious and bleeding on the floor. The AB did not regain consciousness and died of his injuries. The Master was still recovering from his injuries one year after the incident when it was reported that it was still uncertain whether he would regain full health because of the severity of his internal injuries.

From the various wheelhouse cabinet deformations and scuff marks observed by the investigators, it was concluded that the Master and AB lookout had been catapulted across the entire width of the wheelhouse.

There was no noticeable damage to the vessel; however six empty containers were lost overboard.

3. Contributing Factors:

- The accident was ultimately caused by very strong excitation moments of swell, coupled with very low roll damping due to the vessel's low speed. Critical resonances were not evident. Further calculations showed that a moderate change in stability would not in principle have improved the situation substantially.
- The watch keepers had difficulty determining the best course to steer during the hours of darkness when the direction of the seas could not be seen.
- Extreme weather conditions, estimated as Bft Force 11 and significant waves of 7.5 m height.
- The speed and extent of the rolls, which caused the bridge personnel to lose their footing.
- Heel angles of more than 30° degrees could have occurred and would be reached below a critical speed of 5 kts; such heel angles resulted in significant transverse acceleration of more than 1 g.
- The vessel's light load condition and high GM, combined with limited roll damping due to very slow speed steaming into the sea, left the vessel vulnerable to rapid heavy rolling hit by a number of large waves approached from the side.
- The bridge environment, including: lack of sufficient handholds; and, the open layout which allowed the unbalanced personnel to gain significant momentum before striking bulkheads or other unyielding equipment.
- There was no advice available to the crew that would have suggested a better course of action than the one they adopted.

4. Issues Raised/Lessons Learned:

- Static stability calculations alone will not identify how vulnerable vessels are to extreme weather conditions, and therefore dynamic stability modelling, coupled with limiting criteria, are required if such accidents are to be prevented.
- Masters and watchkeepers need to better understand the vulnerability of vessels in high sea states, and have available guidance on measures to take avoid undesired events.
- Increased operational awareness needed of the hazards on the bridge of large container vessels in heavy swell and that decreasing the vessel's speed below a critical value may lead to dangerous deterioration of the dynamic roll damping.
- Roll damping is important to allow vessels to dissipate absorbed wave energy, however there are no statutorily required minima for roll damping. The dimensioning of bilge keels should be considered together with the possibility of introducing relevant mandatory building regulations.

- More attention in the design and approval stages to the consequences of swell related stability effects, noting that very large units often sail with very little cargo which, in some weather conditions, results in both crew and cargo being exposed to very dangerous forces and accelerations.
- Differences in the righting lever values were produced by the ship's computer and those calculated from the stability book. It was concluded however that this did not contribute to the incident. Since, despite mandatory guidelines, it is possible to calculate divergent lever arm curves depending on the program used with different calculation hypotheses, it is recommended that, in cooperation with the classification societies an IMO standardisation of the fundamental calculations and methods used for intact stability is agreed so that clear and unambiguous calculation results will be achieved in any given event.
- Greater attention and importance needed during planning approval and construction to the issue of handholds, taking account of the possible effects of heavy weather, especially to [large container] ships [of the size of Chicago Express].
- To further expedite research and development of systems that enable the vessel's command to monitor and correctly assess sea-related vessel motions, to assist them to take necessary measures promptly to avoid vessel motions and manoeuvres that jeopardise safety. (This repeats an earlier recommendation of BSU regarding the casualty involving the vessel JRS Canis on 12th January 2007.)
- The VDR internal hard drive appears to have been inoperable during the incident and the optional removable hard drive (CF card) was not connected to the system. The functionality and practicability of the installed VDR was problematic.
- Increasing the roll damping by partially filling ballast tanks might have had a positive impact on the cause of the accident.
- The crisis management on the part of the officers and crew aboard the Chicago Express showed a high degree of professionalism.

5. Observations on the Human Element:

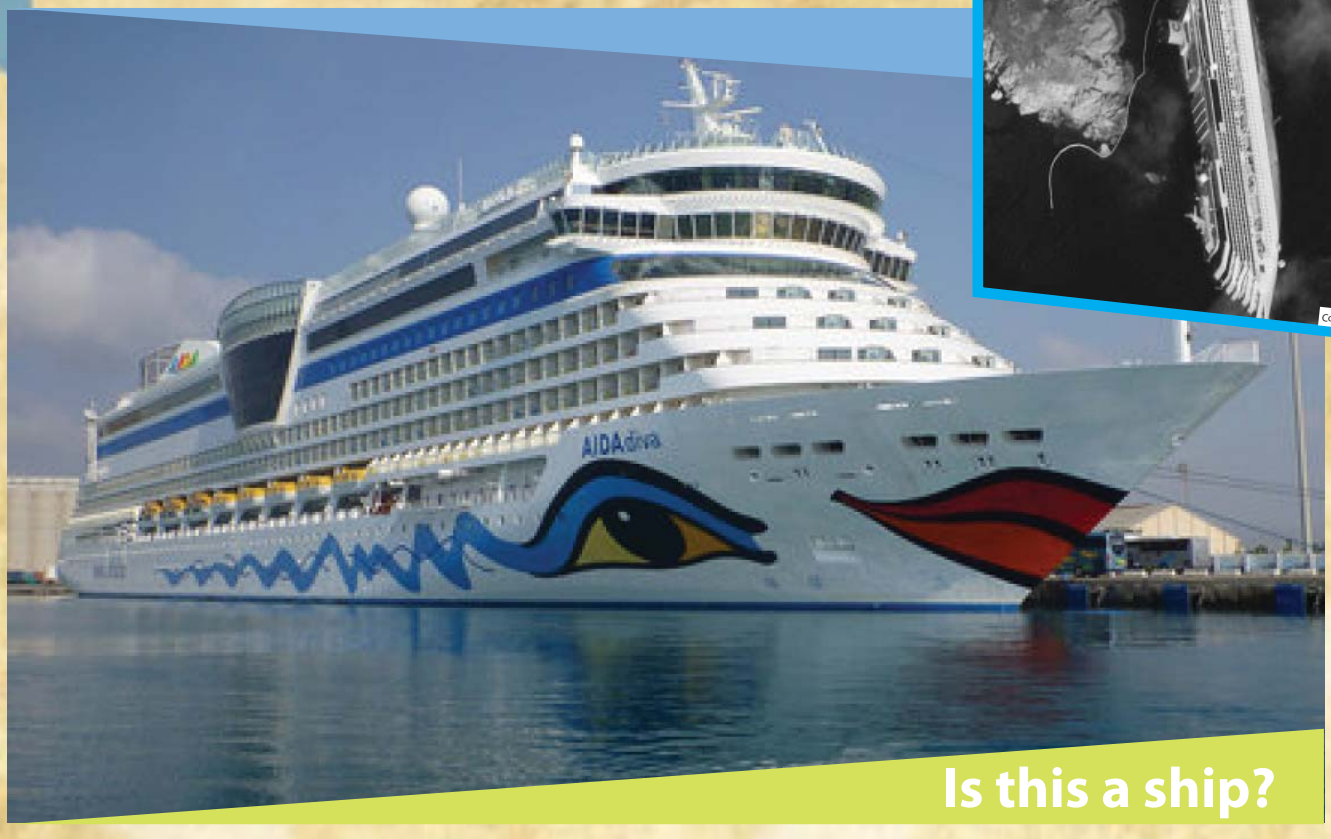
- No operational matters contributed to the casualty. Several attempts were made to steer a course which would reduce the severe rolling, but options were limited due to the proximity of land.
- The vessel's designers gave insufficient attention to the layout of the wheelhouse with regard to adverse weather conditions and the ability of seafarers within the wheelhouse to keep their footing.
- Greater attention at the design stage to the possibility of swell-related rolling and the provision of a means of appropriate roll damping may have reduced the possibility of this type of incident occurring.
- Through no fault of their own, the crew were insufficiently aware of the vessel's particular vulnerability to heavy weather rolling or of the actions they could take to avoid undesired sea keeping behaviour.

ANZAC DAY IN MADANG

We are very pleased to receive the following text and pictures from Capt Richard Teo, Principal of the PNG Maritime College in Madang and a Director of GlobalMET.

ANZAC Day on 25 April is observed as a national day of remembrance in Australia, New Zealand, Papua new Guinea and other countries in the South Pacific to commemorate all those who served and died in military operations for their countries.

The Madang people remembered ANZAC with a Dawn Service at the Coastwatchers Memorial Lighthouse on the morning of the 25th. It was attended by hundreds of residents including Col Alby Hughes representing the Australian Government, a number of New Zealanders, staff and students from the PNG Maritime College and from other educational institutes in Madang.



Costa-Concordia from space

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