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Cay Grunau, CEO

Out of conviction, I'm a civil engineer specialized in marine and inland waters construction. This was my plan from the age of 12, when I was allowed to go with my father to a construction site at the Ennepetal Reservoir in Sauerland. Nature is simply too beautiful and important for us. So we have to protect it in those places where it's threatened. To me, there's nothing more wonderful than to work on and under the water and to simultaneously protect a part of the animal world – except for the smiles of my wife and children.



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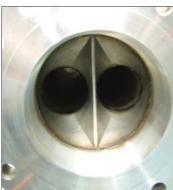
#### **PUBLISHED BY:**

TranSeas Associates, Bizspace Wimbledon, Lombard Business Park, 8 Lombard Road, Suite 116, Wimbledon, London SW19 3TZ.

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Each module presents theories and gives a thorough introduction to reading material and motivates participants for their independent studies.

Participants study the material in between sessions and write an assignment for each module. These assignments, as far as possible, will be focused on a problem related to the candidate's own firm.

For the final integrating strategy project, topics should be chosen for their strategic purpose and integrating function, giving participating companies a valuable and practical analysis.

Module 00	Accounting and international economics	18-20 Sept. 2013	Copenhage Denmark
Shipping	as a Business and a Market		
Module 01	Shipping as a business and a market + Leadership	23-28 Sept. 2013	Copenhage Denmark
Understa	anding the Global Environment		
Module 02	Supply-chain management – new logistical challenges	02-06 Dec. 2013	Copenhage Denmark
Module 03	International economics and market analysis + Leadership	10-15 Feb. 2014	Copenhage Denmark
Focus of	n Maritime Issues		
Module 04	Ship design The maritime legal framework	07-11 April 2014	Hamburg Germany
Module 05	Operational management and information technology + Leadership	23-28 June 2014	Copenhage Denmark
Core Ma	nagement Issues		
Module 06	Investment analysis, risk management and finance	01-05 Sept. 2014	London UK
Module 07	International marketing and organization Introduction to ISP Process	03-07 Nov. 2014	Copenhage Denmark
Module 08	Managing strategy and change Introduction to Industry Analysis + Leadership	12-17 Jan. 2015	Copenhage Denmark
	ng Strategy Project (ISP/Thesis)		
Integrati	Presentation of Industry Analysis Introduction to Company and Issue Analysis		Copenhage
Presentation		18-20 March 2015	Denmark
Presentation Introduction to Presentation		20-22 May 2015	
Presentation Introduction to Presentation Introduction to	o Company and Issue Analysis of Company and Issue Analysis		Copenhage

#### THE GREEN FERRY VISION



ne of the 'greenest' islands on the planet, picturesque Aeroe in southern Denmark, is working on plans for a unique type of ferry that could provide environmental

inspiration on a global scale. At the heart of the project is a steering group which includes Henrik Hagbarth Mikkelsen, a graduate of the Class of 2005 of the Executive MBA in

Shipping and Logistics (the Blue MBA), Copenhagen Business School.

The project involves replacing traditional ferries with vessels powered by stored energy from wind turbine, which would reap big efficiency savings in serving the island, lauded in tourist literature for its "fairy-tale charm."

Aeroe, which boasts that it is the sunniest island in Denmark, is just 30km by 8km, but it has the world's largest thermal solar plant for heating and storage, and is an exporter of wind power.

Working on the principle that small is beautiful, Mr Mikkelsen has collaborated with other specialists with solid shipping and technical competencies to draw up a blueprint for substituting the three ferries currently operating, each of which is manned by five people, with four smaller ferries each run by only three crew.

The scheme would have a big impact regionally – the three conventional ferries transport around 600,000 passengers and 170,000 cars to and from the island, located by the Baltic Sea – and be closely watched internationally for its adaptability for crossings in other waters.

The conventional ferries were designed at a time when oil prices were less than a third of what they are now, and their size was guided by parameters of safe manning and economy of scale. According to Mr Mikkelsen and his co-workers, this made the ferries rather large for their task. The island routes take in many areas of shallow water; and service needs to be provided during winter when there is low demand. Logistics combined with pricing has proven an expensive cocktail, forcing fares up and depressing demand further.

Smaller ferries would offer better possibilities of scaling the operation to variations in demand. They would reduce fuel consumption drastically as a new, slimmer design would account much better for water resistance in shallow and narrow channels. Safer ship design and manning practices would allow for a lower crew ratio per passenger.

Chief among the innovations attainable from building on a smaller scale would be 'greener' power. There would be no diesel engine on board – and hence zero emissions of carbon dioxide and nitrogen oxide. Batteries and electrical engines would drive a conventional propeller. Battery packs would be charged from just two wind turbines (of 2.3 MW), feasible because of Aeroe's reserves of wind power.

The group is considering using carbon fibre in the ferry superstructure. Preliminary studies will show if this is viable and can be reconciled with national and European legislation. The hull form is conventional single hull with narrow lines resembling Danish ferries from the 1950s and 1960s. Cost savings have been calculated as stemming from such well known hull designs, but more innovative designs have not yet been ruled out. The new green ferries would not be high speed models. They would have a service speed of around 13 knots, a little in excess of the existing tonnage, but would not need to reduce speed in sailing channels, allowing them to save 25% of transit time for instance between Marstal and Soeby.

The green ferries would each carry 25 cars compared to between 36 and 40 for each of the existing ferries. Fully deployed, the four new ferries would, however, improve capacity by around 15% because of the shorter transit time. This extra capacity is already needed during peak hours and in the busy summertime when tourists are flocking to the Island.

Preliminary studies show that energy costs could be more than halved by this new model of operation, at the same time eliminating 9m kilos of carbon dioxide a year. The smaller and faster ferries would improve frequency and with 65% more planned departures, running costs would still be down by more than  $\in$  3m per year (from a total 2012 budget of  $\in$  11m).

Around half of the cost savings is seen as coming from the lower energy consumption and the other half from lower crewing costs. Cost savings would be equivalent to a 20% fares reduction of  $\in$ 5 per passenger roundtrip and  $\in$ 10 per car ticket, exceeding the price reduction from the public subsidies for the island routes in Denmark.

The preliminary studies further suggest that subsidies to technological development and design could form a substantial 30% to 50% part of funding for newbuildings, based on the experience of similar green projects on Aeroe – some of the people behind the green ferries vision were involved in the island's solar power project.

The project would be viable without public funding, but annual cost savings would of course be smaller (around half) and the incentive for the public and private partners to get involved weakened. Members of the planning group agree that Aeroe needs a solid and long term sustainable vision for its ferry operation. In a statement, the group said: "We believe that the timing for introducing new and energy efficient tonnage is now," and called for solutions better adapted to transport demand and the need for viable, green operation.

It says that a paradigm shift is already possible in ferry operation, "a shift away from oil consuming, low-efficient ships and towards electrical vessels powered by modern batteries and charged by power from wind turbines ashore or at sea."

The green ferry vision would shield the island economy from future rises in the price of oil and from emission taxes. A further advantage is seen as synergy with electrically-driven buses on the small island through sharing charging stations. Taken with existing wind turbines and solar power plants, the scheme would place Aeroe at the forefront of green solutions, said the group.

The group comprises Flemming Boye, associate professor in economy; Roar Falkenberg, chief executive of the local shipyard; Leif Jensen, harbour master; Niels Aage Jensen, master mariner and instructor; Peter Jensen, hotel owner; Jens Kristensen, consultant naval architect; Boye Kroman, shipowner; Henrik Hagbarth Mikkelsen, MBA in Shipping and logistics, Copenhagen Business School; and John Strojek, MBA Copenhagen Business School. Mr Mikkelsen was judged to have written the best Blue MBA integrated strategy project (the thesis that is the culmination of the course) of his year.

#### By Irene Rosberg, Program Director, The Blue MBA

More details at www.greenferries.dk

Above article was first published in Ship Management International (March April Issue)

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#### **RESPONSIBLE RECYCLING OF SHIPS**



or at least the last fifteen years, ship-recycling yards in Bangladesh, China, India, Pakistan and Turkey have been recycling 97% to 98% of all the tonnage that is recycled in the world. The economies of these countries are characterised by a great appetite for scrap steel for their steel making needs. Of the five, the three South Asian countries recycle two thirds of the world's recycled tonnage and are the most competitive in the industry in terms of the prices they pay for buying end-of-life ships. Also, these three countries are less developed and poorer when compared to the other recycling destinations. As poverty is usually linked to lower safety, social welfare and environmental standards, the question arises on whether it is inconsistent for a socially responsible shipowner to recycle ships in South Asia.

In the last twenty years, the conditions under which ships are recycled have come under a spotlight, mostly as a result of persistent campaigns by civil society activists. This, in turn, has led to efforts to regulate the recycling industry with common international standards intended to create a level playing field and improved safety and environmental protection standards. Around the end of the 1990s the United Nations Environment Programme decided that the already in force Basel Convention ("The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal") should also regulate the recycling of ships. However, because the Basel Convention had not been developed with shipping in mind, serious practical and legal difficulties were experienced when attempting to enforce the provisions of this convention to ship recycling. Therefore, in 2004 the governing body of the Basel Convention in its decision VII/26 requested UN's International Maritime Organization to develop a new convention specific to the recycling of ships. IMO agreed to develop the new convention and in May 2009 it adopted the "Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009", also known as "the Hong Kong Convention".

The Hong Kong Convention has been opposed and frequently criticised by civil society activists, primarily for not banning the beaching method of ship recycling that is used exclusively in South Asia. Nevertheless, IMO's intention was not to close down the ship recycling industries in South Asia, nor to exclude them from the scope of the Convention, but instead to produce safety and environmental improvements in recycling yards in the developing world where 70% of the world's ship recycling takes place.

It is expected that within the next ten years or so, the Hong Kong Convention will not only enter into force but will also become the recognised and globally implemented standard of the industry. In the meantime meaningful progress has been taking place as all five recycling countries are working, at their own pace, towards implementing tighter safety and pollution prevention requirements to their recycling industries, and in so doing, progressively are satisfying more of the requirements of the Hong Kong Convention. Also, a number of individual recycling yards are investing in improvements in their facilities, equipment and working practices.

It is fair to say that the great majority of the shipowners have not yet seen an immediate justification to changing the way they prepare their ships for recycling before the Hong Kong Convention's entry into force, other than in providing their ships with inventories of hazardous materials in slowly increasing numbers. In isolated cases, NGO activists target shipowners sending ships for recycling to South Asian yards with aggressive negative publicity. Lastly, there is a small number of shipowners who, often in line with their company's policy of Corporate Social Responsibility, have changed the way they sell ships for recycling by opting for what has come to be known as "green ship recycling", or possibly better termed as "responsible recycling". This, more often than not, has meant selling their end-of-life ships to yards located outside South Asia, generally at lower prices, in order to avoid being associated with substandard recycling and also to avoid bad publicity.



And this is the conundrum. As mentioned above, in both India and Bangladesh, there are recycling yards that are already implementing gradual improvements to safety, to environmental protection, and to social welfare. The owners of these yards need – and deserve – to be supported by the custom of quality shipowners, so that their businesses can prosper and so that they can become examples to be imitated by the rest of the recycling industry in their country. If these yards are not positively favoured by the socially responsible shipowners, then how will safety, environmental and welfare improvements be fuelled in the countries that need them most?

When the Hong Kong Convention enters into force, shipowners will have no difficulty in identifying yards that are compliant with the Convention's standards. In the meantime, a socially responsible shipowner needs to differentiate between yards that are suitable and yards that are unacceptable. However, this is not a task many shipowners are familiar with, as shipowners normally sell their end-of-life ships to Cash Buyers who then deal with the recycling industry and its complexities.

GMS as the largest Cash Buyer, responsible for around 30% of all ship recycling transactions, has unparalleled expertise and knowledge of the ship recycling industry, and has developed a "green ship recycling program" that tailors the contracting, preparation, and actual recycling to the specific requirements of shipowners who might want to ensure that their vessels are recycled to specified safety and environmental standards. For example, a shipowner may wish to follow the standards of the Hong Kong Convention, or those by the European Union, or simply tailor a recycling process based on his inhouse standards. Here GMS can assist with advice, with the development of the Inventory of Hazardous Materials, the vetting of yards, and the development of a Ship Recycling Plan. Through well-established relationships with responsible recycling yards worldwide, GMS can select with the owner the right yard with the right certification (ISO 9001, 14001, 3000 & OHSAS 18001). Depending on the owner's requirements, GMS is also able to monitor the recycling process and provide a report on the recycling of the specific vessel. If required, such a program can include supervision by a leading classification society to monitor the process, to raise recommendations, to certify the Ship Recycling Plan, and to report to the owner.

This way GMS is beginning to apply the technical standards of the HKC well before the Convention's entry into force, and, most importantly, is encouraging individual recyclers to implement improvements, and to market their recycling yards through these improvements.

> Dr Nikos Mikelis Non Executive Director, Green Ship Recycling Program GMS



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#### **E-LEARNING IS A FORCE FOR GOOD IN SHIPPING**

t a time when cost-conscious shippers are looking for zero-downtime from crews, it's wise to make the most of the new opportunities offered by online learning.

The fast-growing online learning sector is expected to be worth \$168bn by 2018 (according to an investigation by Global Industry Analysts). This growth is driven by the need for cost-effective ways to develop and maintain a skilled workforce but it is also attributed to the increasingly mobile, 24/7 nature of communications.

It is encouraging to see that companies in the shipping sector are embracing the opportunities presented by e-learning in increasing numbers and in a variety of ways. After all, the global and mobile nature of the shipping sector makes access to anywhere, anytime knowledge and learning development tools a must.

What is particularly interesting now is that whilst many companies continue to use e-learning tools as a platform for accredited course content, others are seeing their value for broader education and awareness raising – in some senses as a marketing channel.

Our work with the IMO is a case in point (see below). The content we developed for them is not a formal, accredited course. Instead it aims to educate people about their work in a specific area, namely PSSAs (Particularly Sensitive Sea Areas). This calls for a different, arguably more creative, approach than an accredited course.

Whatever the objective, e-learning in today's increasingly social, online world needs to take account of the unstructured ways we now gather news and information. Learners may place structured course content at the core of their learning experience but they look further afield – at Apps, YouTube, webinars, social networks and forums for content that complements their learning. They also want to share what they find useful, interesting or entertaining with their peers or tutors.

Professional bodies have long been aware that unstructured learning is an important part of CPD but capturing and validating it can be difficult. With Coracle's innovative Learning Line and 'I Learnt This' button we've developed a simple and effective answer to the problem which also appeals to the need for increasingly open and social learning.

#### James Tweed, Coracle CEO, explains it like this:

"Imagine you're following a structured course on insurance. You're already recording everything you do on your Learning Line, but you want some additional background on contracts. So you search Google and watch a video of a talk explaining liability, read an article about the London insurance market and study an important case about fraud. It's all useful stuff, but how can you remember what it was about and record the fact that you've studied this extra material?

The simple answer is to hit the 'I Learnt This' button, which will add what you've been looking at to your Learning Line. In this way, your Learning Line starts to give a picture of your learning as it happens in real life, not just as it happens according a structured course textbook."

#### CASE STUDY: EDUCATION AND AWARENESS RAISING

A key focus of the IMO's work in environmental protection is the designation and protection of Particularly Sensitive Sea Areas (PSSAs). A PSSA is an area that needs special protection because it is deemed vulnerable to damage by international maritime activities or it is significant for recognised ecological, socio-economic or scientific reasons.

The IMO commissioned Coracle to help raise awareness of PSSAs and educate people about the issues. They wanted a permanent display at the prestigious headquarters in



James Tweed of Coracle shows IMO Secretary-General, Mr. Koji Sekimizu and UNESCO Head of Ocean Science, Mr Jorge Valdes about the interactive exhibition space his team created

London, to appeal to a broad audience, ranging from members of the public to policy makers. The content also needed to be accessible to all.

#### SOLUTION

We proposed an interactive exhibition, replicated online, to make the unique story of each of the 14 PSSAs around the world accessible to the widest audience.

As we developed the system, we drew on our experience of online learning to make the content accessible, inspiring and educational.

We collated and edited copy and applied a ruthless structure to the content plan, to ensure that it was intuitive. Even though there are over 80 pages of content, simplicity rules. Key terms are defined for the ordinary user, and the rationale behind PSSAs is explained clearly using questions and answers.

We also took full advantage of the spectacular photography and video footage these marine environments offer, to create exhibition displays and engaging digital content for people to browse on the interactive touch screen and website. A giant, wall-mounted map of the world locates the 14 PSSAs to help orientate people quickly.

#### RESULTS

Speaking at the launch, IMO Secretary-General Koji Sekimizu predicted that the new display would be "a continual reminder and a celebration of the substantial contribution that has been made to environmental protection through IMO's PSSA scheme, which currently protects 14 PSSAs around the world."

#### CASE STUDY: KNOWLEDGE BUILDING AND SKILLS DEVELOPMENT

SSY Futures Ltd (part of independent global shipbroking group Simpson Spence & Young (SSY)) arranges derivative contracts in the shipping and bulk commodities markets, using Forward Freight Agreements (FFA), iron ore and steel swaps.

The use of derivatives can help companies manage cash flow but the financial benefits of fixing forward contracts are sometimes overlooked. SSY saw a need to educate the marketplace about the role and structure of derivatives and the part they can play in risk management.

#### SOLUTION

Coracle developed plain-English courses covering FFAs, iron ore and steel derivatives including:

- modules on iron ore swaps, steel swaps and forward freight agreements
- web software that reflects the latest thinking in online learning
- explanations of key terms and industry jargon
- graphs and charts drawn from real data to illustrate ideas and rules

Learning objectives were devised to meet the identified needs. The style and tone were key priorities but Coracle's Learning Line platform was important too. By allowing users to record their newly-found skills through the structured content, whilst also offering the means of capturing unstructured learning, the platform enables them to record their whole learning journey in one place, making it easier to preserve and share.

#### RESULTS

The courses have been extremely well received by a broad spectrum of learners ranging from junior traders to senior managers of some of the world's largest trading companies.

#### Freight Trading Analyst at major trader:

"The 'Learning Line' was very easy to navigate and the percentages of pages visited or understood was clear in terms of ensuring that all content was covered. The content was impressive - containing the right amount of information for new or more experienced shipping professionals to take on board."

#### CASE STUDY: ACCREDITED LEARNING AND SKILLS DEVELOPMENT

The International Group of Protection and Indemnity Clubs (IGP&I) is a not-for-profit membership organisation with thirteen principal underwriting member clubs. Between them they provide liability cover (protection and indemnity) for approximately 90% of the world's oceangoing tonnage.

IGP&I members are operating in a fast-changing environment where vessels are getting bigger, there are more hazards (environmental, piracy etc) and tonnage continues to grow year on year. These changes combined with new technologies and legislation require innovative responses to skills development, training and recruitment in the sector.

To tackle these issues, the IPG&I decided to partner with Coracle in the development of www.pandiq.com - a dedicated learning portal.

#### SOLUTION

Coracle worked with IGP&I's subject matter experts to build, from scratch, a modular programme that would be approved and accredited by The Chartered Insurance Institute (CII), whilst also forming a standalone qualification. We now manage the process including:

- registering candidates on pandiq.com
- producing online and kindle optimised course content
- managing exam bookings for bi-annual exams held in London, Singapore, Hong Kong and Athens
- sending exam results and certificates
- notifying CII of successful candidates in order that they get the appropriate credit.

#### RESULTS

To date, five out of seven modules have been completed and accredited by CII. Once the final two are accredited, the course will take students 90% of the way to completing CII.

Before PANDIQ was developed, there were no standardised learning and development resources to help staff grow their knowledge of the P&I and marine insurance business. Instead, individual clubs maintained their own study programmes. This led to inconsistencies and was problematic when staff moved from one club to another. PANDIQ has transformed the provision of training and development and added credibility to the sector.



Bringing knowledge to life in a digital world.



IMO SYMPOSIUM ON THE

### FUTURE ØF SHIP SAFETY



SUSTAINABLE DEVELOPMENT: IMO'S CONTRIBUTION BEYOND RIO+20

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#### IMO SYMPOSIUM ON THE FUTURE OF SHIP SAFETY

IMO Headquarters, London, 10 and 11 June 2013



#### MESSAGE FROM THE SECRETARY-GENERAL MR. KOJI SEKIMIZU

#### Aim and Objective of the Symposium

There is a trend towards a more scientific approach, including risk based methodologies, in the design and operation of the safe ship of today.

This trend is set to continue but it requires structured data collection and analysis methodologies to give shipping a sound basis from which to continuously improve. The advances in technology unavoidably outpace prescriptive regulation. Ships are being built today to meet demands and challenges not thought of until very recently and the innovation inherent in their design today will find its way into the mainstream design of tomorrow. As such there is a need to devise a regulatory framework that will encourage designs for safety through technological innovation and promotes operational excellence within clearly accepted high level parameters.

The Symposium aims to look ahead in the decades to come to the ships of the future that meet clear goals and functional requirements to fulfil the safety and, increasingly, the environmental protection expectations of Society. The ships of the future must provide a sustainable response to the needs of Society, industry and global trade and be operated within a framework which encourages a safety culture beyond mere compliance with statutory requirements. This will require all stakeholders to not only accept their own responsibilities but to work seamlessly with others to ensure that areas of shared or overlapping responsibility are always fully and effectively addressed.

The Symposium will discuss all of these issues from the standpoints of designers, builders, operators, regulators, class and academia and will provide the forum for a look over the horizon at the shape of things to come. The Symposium will attempt to picture the world of the future and conceptualise shipping in that world in order to initiate the identification of actions needed to get from where we are today to where we want to be in that future world.

#### **CONSULTANCY MANAGEMENT & ADVISORY SERVICES**

The primary area of expertise of Ecotech & Surveys Limited is in marine environmental surveying including environmental pollution management in general and specifically in the oil & gas activities, in the inshore and coastal regions, with emphasis on marpol convention.

We are also involved in coastal & environmental resources management particularly the impact of the artisanal occupational activities of the peoples of the littoral states, contribute to pollution (advertently and inadvertently), we also put in place environment educational information & dissemination.

By sticking to old operational systems in fisheries expeditions and other indigenous activities, that have serious effect on the environment – water bodies, land space, air and vegetal resources.

The directors, consultants, associates and management team of ecotech & surveys limited, are versed in the technical, managerial and latest techniques on maritime modal system and transportation, on national, regional and international platforms and it will be leveraged into their management approaches of consultancy & services.

#### Consultancy management & advisory services:

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Relations with maritime grass-root / community/ nongovernmental / intergovernmental organizations, minerals & commodities sourcing & logistics support from mines / farm gates to international markets, coastal & environmental resources management, lead auditing/qms/qa/qc/ems, container inspection - [survey & repairs], fire analysis & loss prevention, debt recovery and claims management, legal & arbitration support - [mediation, conciliation, negotiation,] regulatory, legislative & fiscal relations, human capital development & training, technical & management consultancy, brokerage, representational services at international, regional, national levels, logistics & supply chain management, bunker brokerage, marine surveying, security, forensic investigation, health, safety, ecology & environmental management, expert witness / opinion / panel adjuticatory, laboratory support services, materials inspection, testing, certification, conformance and standards, maritime conventions / protocols & consular affairs.

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- Chartered institute of taxation
- Guild of marine surveyors
- Society of hydrographers
- International association of safety practitioners
- Chartered institute of loss adjusters [cila]
- International bunker industry association [ibia]

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### LIVEWIRES

#### **55 HIGH SPEED CRAFTS TO VENEZUELA**

US-based Horizon Shipbuilders and Trinity Yachts have received an order for 55 fast utility crafts, designed by Damen Shipyards. The Damen design number 1204 has been ordered by CITGO to be used on Lake Maracaibo, Venezuela. The boats have a length over all of 12.56 m, a beam of 3.85m, and a draught of 0.80m and will be built in Alabama and Louisiana respectively.

The aluminum longitudinal framed, heavy-duty hull design has a very deep bow section. It also has a modern modular designed GRP superstructure, which is vacuum injected.

The vessels are to be equipped with twin 315bhp Caterpillar C7 engines rated at 2,400rpm. The ZF286 transmissions have a 1.237:1 reduction ratio and the UJ340 water jets are supplied by Marine Jet Power. The vessels will reach a speed of 25 knots.

The UltraJet waterjet propulsion system together with the JetMaster joystick control system gives the boat excellent maneuverability and if necessary, the vessel can be stopped within one boat s length from full ahead. For further information, please contact:

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#### **ALGERIA INVESTIGATION COMPLETES INTERVIEWS**

What can Statoil learn? That is the most important question for the leader of the Algeria investigation, Torgeir Hagen.

Since it was established on 26 February, the investigation has conducted more than 120 interviews with Statoil employees, partners in the joint venture, government representatives and other relevant sources.

"We have experienced openness, cooperation and willingness to contribute to our work on all levels in Statoil," says Hagen.

#### Report to learn

There are still some outstanding interviews, but the main work of the investigation team is now shifting to the analysis phase. The board mandate gives two main objectives for the investigation:

Determine the relevant chain of events before, during and after the In Amenas terror attack

Enable Statoil to further improve within the areas of security, risk assessment, and emergency preparedness.

"Through our work we have gotten far in establishing the chain of events at the site. The true measure of success for the investigation team will be if we enable learning and improvement in Statoil," says Hagen.

The investigation is not undertaken to assign personal responsibility or liability, and individuals will not be named in the report.

"We are concerned with what Statoil as an organisation can learn," says Hagen.

#### Visit to Algeria

The investigation team visited Algiers and In Amenas in April, and has also met with government representatives in Great Britain, Norway, the US and Canada.

As provided for in the mandate, the investigation has been supported by an internal resource group of managers and employee representatives.

"This group has provided us with valuable input to our work, and I want to thank them for their contributions so far," says Hagen.

In addition, Hagen and other representatives from the investigation have regularly met with the group of Statoil employees working at In Amenas to get their input and give updates on the investigation's work.

The investigation team will work through the summer, and is currently finalising the last interviews.

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### ENVIRONMENTAL SERVICES U.A.E. LLC

RC's previous article in the Spring 2013 edition of Cleaner Seas showed what the organisation does as a global provider of environmental, industrial and emergency solutions. This article, however, will concentrate on a couple of case studies detailing projects that NRC's Dubai and Abu Dhabi-based personnel have recently undertaken in combating the effects of pollution on the environment, and also an update on services offered by the company.

Despite efforts and progress across society, pollution incidents and damage to the environment still, unfortunately, occurs. This may take many forms from car emissions to littering to accidental spill incidents. Every citizen has a responsibility to do what they can to help from taking public transport instead of the car, to disposing of fast-food waste properly up to governments and industry putting mechanisms in place to minimise the risk of larger incidents occurring. Each of these seemingly small actions helps make a big difference.

#### Turtle breeding ground protection

NRC's main purpose is to assist larger organisations in minimising their environmental impacts through preparation e.g. training and planning, and response to incidents e.g. fire, oil spill and hazmat incidents. The organisation, however, promotes more responsible thinking in many other ways too, as is illustrated in this case study.



NRC's colleagues at a large industrial base in Abu Dhabi, supported closely by the NRC fire fighters, have become very involved in the preservation of the beaches surrounding the site due to their use as a breeding ground by both Hawksbill Sea Turtles (Eretmochelys and imbricata) Green Turtles (Chelonia mydas). A huge amount of time and effort has been expended to ensure these sites are protected and regularly cleaned.

To assist in protecting the sites, a network of automatic cameras has been set up to record activity and daily checks are made by the NRC/client Emergency Response Team to ensure this area is kept clear of litter washed up on the shoreline.

The activity recorded to date indicates that the nests each hold around 90 to 100 eggs. These turtles are registered as Critically Endangered on the International Union for Conservation of Nature's Red List as their population has declined by 80% worldwide in recent years due to habitat destruction. The breeding females return to their place of birth to lay their own eggs so it is essential that these areas are protected.

#### Jebel Ali spill response

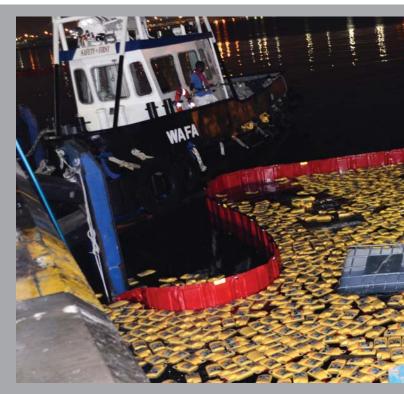
Timely response to accidental spillage is another way to reduce impacts on the environment. Faster response times and an earlier start to the clean-up, can assist in reducing long term damage caused. As is illustrated in this case study, NRC's capability and willingness to deal with any size of incident, from small, operational spills to major seaborne incidents, shows its commitment to protecting the environment.

An example of the type of incident regularly attended by NCR's Emergency Response Team (ERT) occurred at the port in Jebel Ali on 24th May 2013.





**NRC** International Operations Centre 24-hour Emergency Contact: Inside the US: 800-899-4672 International: +1 631 224 9141, Ext O www.nrccintl.com

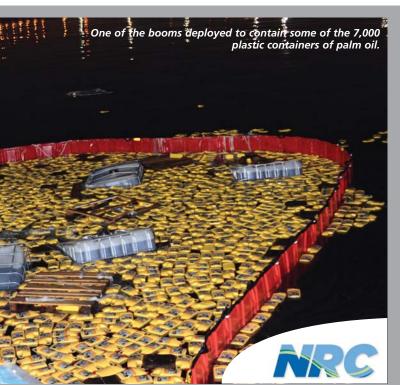




Difficult weather conditions had caused a ship carrying containers with assorted contents to list severely. Approximately 16 of the containers fell from the ship into the dock. While sub-aqua crews from the Port Authority searched to locate the containers, NRC personnel were tasked to recover approximately 7,000 three litre plastic cans of palm oil and ten IBC's that had spread throughout the dock area. NRC responded with a mix of its permanent oil spill and hazmat response teams and off-duty fire fighters who are also trained to HAZWOPER and IMO level 1 and 2. Due to the rapid response and the use of floating booms laid with assistance from DP World tugs, NRC was able to retrieve all of the cans before any contamination could occur .

The swift response of the NRC team, in close co-operation with the Port Authority, allowed the effects of this accident to have minimal impact on port operations. The NRC team was just a small part of a larger diving, salvage and recovery operation which, without suitably trained personnel familiar with multi-role and agency, would not have made it the safe and effective response it was. Incidents such as this, large or small, are a continuous challenge but the experience gained by NRC personnel allows any future incidents to be dealt with a higher level of efficiency.





#### Fire response training

Fire is a danger we all face and, in the words of the UAE Civil Defence, "We never sleep so that you can". This is a motto that can be used by fire fighters anywhere in the world with respect to saving life, but the protection of property is also very important. The effects of property fire on individuals, the economy and the environment cannot be ignored. NRC is actively involved in providing trained fire fighters to protect major industrial premises such as the client mentioned in this article. NRC is also increasingly using its highly experienced Officers to pass on their vast range of knowledge via the training courses offered by NRC, which cover all aspects of fire fighting:

- Basic fire fighting skills with extinguishers.
- Fire warder duties.
- Basic first aid.
- Line rescue.
- Working in confined space using breathing apparatus.
- Hazmat detection and identification.



NRC is taking a slightly different approach in this training – they feel that anyone can learn how to operate a fire extinguisher but the operator's behaviour in a real event will always be unpredictable. NRC's technique is to spend a considerable amount of the allocated training time explaining and helping the trainees understand the nature of fire, via various media including film. By passing on some of the vast experience of their instructors, NRC believes the effectiveness of the trainee will be hugely increased in the event of a real fire.

This article provides a few examples of some of the ways in which NRC is helping to minimise impacts to the environment from fires, spills and hazmat incidents. Protecting the environment, however, should be a priority not only of professional organisations like NRC but for all of us in our everyday lives.

### INTERVIEW QUESTIONS AND ANSWERS WITH LEO KISSEL MANAGING DIRECTOR



Whith various risks being faced by a ship owner, there has always been a provision to acquire tailor-made insurance covers, just as there should also be a provision to buy tailor-made K&R cover.

The natural question which arises for any ship owner is; what are the different factors that constitute a tailor-made K&R cover?

Leo Kissel, Managing Director of Trident Special Risks, a specialist Kidnap & Ransom broker based in Hamburg, Germany, states that Marine K&R cover, not withstanding whether or not for a single transit or for a fleet of vessels (e.g. 5 vessels), needs to reflect certain important aspects, such as a Waiver of Subrogation against, at the very least, Hull & Machinery and/or War Risk insurance.

Furthermore, a single transit cover should ideally cover the voyage from Port to Port, thus giving the Ship owner the widest possible geographical cover for the vessel and its crew.

A Fleet cover on the other hand, bought on an annual basis, should provide coverage on a worldwide basis and ideally include the necessary number of transits through the High Risk Areas (e.g. Southern Red Sea / Gulf of Aden / Indian Ocean / Gulf of Guinea).

Naturally, this is a rather simplified depiction of how such a cover could look like.

Ideally, when structuring such a cover for a Ship Owner, one should take a detailed look at the fleet and its trading routes etc. and therefore structure the cover accordingly, so that it provides the Ship Owner with the utmost flexibility.

Furthermore, it is always important that such a cover is structured in such a manner that it suits the needs of the Ship Owner and not the other way around.

Another point of concern for the industry at the moment is the use of armed guards on board and as popularly indicated, ships having such guards have not been successfully hijacked as yet. Further, a number of new companies providing security are being floated by new entrants in the Market with all of them contacting ship owners for business. Leo was questioned on his opinion of armed guards in general and what factors should a Ship Owner take consideration, prior to into selecting one of these security companies.

Leo states that this is a highly complex topic and he goes on to say that yes, it is correct that, as of today, vessels with armed guards on board have not been hijacked. Nevertheless, it is to be noted that pirates have always been able to adapt to the situation at hand. "I am strongly convinced (and unfortunately, I am not alone on this belief) that this will be the case, yet again. We are beginning to see this in the tactics that are currently being tried out e.g. swarming of several skiffs on one

target, use of heavier weaponry etc".

It is nevertheless important that Ship Owners that have vessels transiting the High Risk Areas, seriously consider using the services of competent security companies to put armed guards on board, especially if the vessel is highly vulnerable (low freeboard / speed) and / or carries high value cargo (e.g. crude oil etc.) as one of their hardening measures.

These measures nevertheless do not replace the necessity of having proper insurance cover (e.g. Marine Kidnap & Ransom and Marine Loss of Hire cover) in place to protect the financial burden of such unfortunate events.

Having said that, Ship Owners are now faced with a growing number of companies that provide such Armed Guards. These companies vary in pricing and unfortunately, also in quality.

Leo advises that, before entering into a contract with a security company, it is very important for a Ship Owner to contact the relevant Flag State to clarify the legality of carrying Armed Guards on board. It is also important that Ship Owners always check the companies' references (both formally by request and also informally by speaking with people and/or organisations they know and trust) and also check for a maritime background (incl. knowledge and practice of the latest Best Management Practice). These companies should also be able to provide evidence of insurance, which covers its liability to its own employees and to cover third party liability and liability to the Ship Owners. The limit of such insurance should be at the very least USD 5 million.

### **INTERVIEW QUESTIONS AND ANSWERS WITH**

#### **LEO KISSEL** MANAGING DIRECTOR (CONTINUED)

Further, it is also important that Ship owners provide a draft of the contract to the relevant insurers (e.g. P&I Club, H&M insurer and War Risk insurer) for their perusal and agreement, so that such coverage is not prejudiced in any manner. The K&R insurer would also be interested to know which company would be providing such Armed Guards and would, under certain circumstances, be willing to offer a rebate to the Ship Owner.

Finally, it would also be advisable for the Ship Owner to seek legal advice from an experienced legal firm before entering into negotiations with the security company.

With the use of armed guards being effective to deter pirates, it seems Pirates are now negotiating for higher ransoms for ships successfully hijacked, leading to higher limits of liabilities in the K&R policies and higher premiums. This seems to be a vicious circle and Leo was asked to comment on the future of the values of K&R policies. He states that this is currently a two-fold situation at hand.

Firstly, the number of assets that pirates have under their control is decreasing rapidly. They are therefore naturally trying to get the best price out of these assets. This is a natural development in any sort of economically based system, which piracy is unfortunately, to the pirates.

Secondly, when speaking to several security experts that have intelligence assets on the ground, certain pirate groups do seem to have developed an intelligence based approached to hijacking vessels i.e. they are no longer going after every vessel that they see and can get their hands, on but are rather targeting, what they feel, to higher value assets; therefore increasing the chances of getting higher ransom monies. Both of the above imply that the average ransom amounts (currently at approx... US5 - US5.5 million) will increase further, also the average number of days (currently around 180 days) that vessels are held will also increase.

"I strongly believe that if a Ship Owner is looking to buy a Marine Kidnap & Ransom policy that the minimum limits nowadays lie at USD 5 million. To be on the safe side, I would always suggest thinking about buying limits of USD 7.5 million. Should the Ship Owner be looking at buying Marine Loss of Hire, then the minimum I would suggest is 150 days of coverage; more ideally they would think about buying 180 days of coverage".

Finally, having said all of the above, Leo warns not to only look at the pricing of such policies but rather to look at getting the right balance between price and value.

In case of a claim, not only the financial well-being of a company, but also the lives of the crew on board, are in danger. A Ship Owner cannot afford to only then realise that the Marine Kidnap & Ransom policy in place is of substandard in nature. The stakes are just too high.

As a final word, Leo quotes Warren Buffet who once very correctly pointed out, "Price is what you pay, value is what you get".



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### Clyde&Co

Clyde&Co is an international law firm renowned worldwide for its experience and expertise across the globe in shipping, offshore, energy, trade and insurance related areas.

Clyde's have received a number of accolades in the maritime and offshore sectors.

The firm now has approximately **1350** lawyers and casehandlers and has 30 offices of its own worldwide.

A large number of Clyde's lawyers and casehandlers are dedicated to working in the marine and offshore sectors, and are spread out globally amongst our international offices in order to be able to offer a truly global and one stop service to clients.

Clyde's marine and offshore teams are divided, as well as geographically, into specialist sectors, and represent clients from all sectors connected to the marine and offshore industries.

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Clyde is a true pioneer and was one of the first international firms to be involved with Brazil and Latin America and now has its own offices and lawyers based in the region, who regularly advise on marine and environmental issues.



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### LIVEWIRES

#### **ABDUCTED CREW RELEASED**

FOUR CREW members from the 1,740teu box ship Hansa Marburg have been released by kidnappers in the Gulf of Guinea, more than a month after their abduction.

The seafarers from Ukraine, Russia and Kiribati were taken hostage after a pirate attack on the German-owned ship about 130 miles southwest of Malabo, Equatorial Guinea, on 22 April.

They safely arrived in Germany over the weekend, German federal police said.

The master, second officer, chief engineer and bosun of the vessel are in good spirits despite their 31-day captivity, shipowner and manager Leonhardt & Blumberg of Hamburg said.

Further details regarding the location of their captivity, ransom payments and insurance arrangements for the Hansa Marburg were not released.

The ship, insured by the Steamship Mutual for P&I risks, has been on charter, along with sister vessel Hansa Cloppenburg, to Spanish liner operator Marguisa, which maintains a regular service between the Mediterranean and Equatorial Guinea.

International cargo vessels trading in the region are generally vulnerable to armed attacks because of legal limits on deployment of armed guards, a German insurance broker told Fairplay.

Security analyst Dave Sloggett told Fairplay: "As far as pirate attacks in the Gulf of Guinea are concerned, this was unusual. It reveals the degree to which pirates are now able to board very large vessels whilst they are under way and represents another step in the scale of pirate attacks in the region."

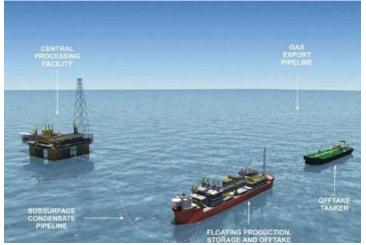
### THE MARINE ENVIRONMENT PROTECTION COMMITTEE (MEPC) OF THE INTERNATIONAL MARITIME ORGANIZATION (IMO)...

...met for its 65th session from 13 to 17 May 2013, at IMO Headquarters in London.



### LIVEWIRES

#### **NEW LNG-WIN FOR AIR PRODUCTS**



ICHTYS OFFSHORE PRODUCTION: LNG is processed onboard special production vessels and at landbased installations

Air Products has signed an important supply agreement with leading shipyards Samsung Heavy Industries and Daewoo Shipbuilding & Marine Engineering Co., Ltd (DSME). The contract covers delivery of nitrogen generator sets for use on the large-scale Australian offshore Ichtys LNG Project, and confirms Air Products' position as a world leader in the liquefied natural gas (LNG) equipment field. Air Products previously signed a contract with Shell for a similar delivery to the company's huge Prelude LNG Project. The newest contract, with Samsung and DSME, has a minimum value of NOK 35 million (US \$6 million).

Tom Cantero, CEO and Managing Director of Air Products Norway says: "We are very glad that Samsung and DSME have recognised the high quality of our nitrogen generator sets and we look forward to future cooperation. There is growing global demand for LNG and we feel that the positive trends within this segment will accelerate in coming years. We find ourselves very well positioned to play a key role in this development as Air Products has a very clear focus, a dedicated team and a strong work ethic."

LNG is gaining a reputation as an environmentally friendly source of energy that has now been adopted by a number of sectors, including commercial shipping, which is seeing an influx of LNG powered and dual-fuel vessels. The latter use diesel fuel to start up power generation and then switch to LNG. Another important driver for LNG demand has been the widespread distrust of nuclear power generation following the 2012 earthquake disaster in Japan.

The Inpex manufacturing facility in Darwin Harbour, Australia, will contribute towards meeting Japan's LNG requirements. When the plant is launched in 2017, it will supply 70% of its 8.4 million ton annual production to Japan through a pipeline. The offshore plant consists of a drilling unit and a production vessel, both of which will be equipped with nitrogen generator packages from Air Products.

"Our agreement with Samsung is the result of intense work and development. We feel that our specially developed membrane-based nitrogen generator sets are setting the industry standard for use in the LNG sector. The contract to supply to the world's leading developers of LNG production plants confirms the quality of our products," Tom Cantero adds.

Air Products was the first company to introduce compact systems for membrane-based production of nitrogen for use onboard ships and offshore installations. Initially the equipment was used as a method for choking gas during loading and unloading in order to prevent explosions onboard the vessels. However the product has been shown to have additional uses, such as treatment of water in ballast tanks, extended preservation of food during transport, and increasing the lifetimes of ships' tanks.

Air Products' nitrogen plant is a vital link in the LNG safety chain as there is a considerable risk of explosions during the loading and unloading of a vessel. Accordingly, many LNG tankers that are built or on order from shipyards around the

NITROGEN GENERATOR: Air Products' complete nitrogen generator uses advanced membrane filtration technologies to derive pure nitrogen from clean air. world are fitted with nitrogen plants from Air Products.

"Globally, there is an increased focus on LNG and we are very happy to be a preferred supplier to both the shipping and processing industries," says Tom Cantero.

For more information, please contact:

Tom Cantero, CEO and Managing Director Air Products Norway Tel. +47-3803 9900 cantert@airproducts.com

### A Norwegian leader in maritime law



Vogt and Wiig consistently ranks as a top tier law firm in Norwegian maritime law. Our firm serves the legal needs of international and domestic clients by providing leading expertise in all aspects of international and domestic maritime law. Our shipping clients include shipbuilders, carriers and transport customers as well as banking and insurance companies.

Vogt and Wiig handles all matters of maritime law, and is respected for its work in the areas:

- Maritime litigation
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  - Ship building
- Acquisitions and sale of vessels
  - Ship finance
  - P&I/ Cargo claims
    - Insurance

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Vogt and Wiig's 70 lawyers provide their advice out of offices in Oslo, Bergen and Trondheim. The firm is also represented in Spain.

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#### **RUSSIA GEARS UP FOR GLOBAL ROLE**



EVA 2013, which opens its doors to the global shipping community at the Lenexpo exhibition complex in St Petersburg from September 24 to 27, will showcase the significant developments in the structure and operation of Russia's maritime industries and the nation's growing presence on the international stage.

More than 1,200 participants from over 50 countries attended NEVA 2011, with 17,000 visitors registering for the event, and this year the number is expected to exceed 20,000 as Russian companies seek to develop links with foreign companies and investment and access to international markets.

The catalyst to this projected growth has been Russia's long anticipated entry into the World Trade Organisation, leading to a lowering of import and limiting of export duties and a crucial opportunity for Russian business to develop links with Asia and the Pacific Rim and strengthen ties with the European Union, to whose members it currently exports Euros 200bn of goods, of which oil accounts for Euros 130bn.

Russia, in fact, is the European Union's third biggest trading partner, with member countries exporting Euros 108bn of goods to Russia, including Euros 7bn worth of cars and Euros 6bn of medicines.

NEVA 2013 will put the spotlight firmly on how Russia is upgrading and modernising its shipbuilding, ship equipment, ports and offshore energy industries as well as the massive inland waterways system, all of which require investment and state-of-the-art infrastructure and technology which, in many instances, are available in the global market place.

#### "Russia is open for business"

Russian companies are ready to meet these challenges and NEVA 2013 will afford Russian businesses and foreign companies alike unparalleled opportunities to develop international cooperation and partnerships to boost the implementation of urgently required investment and technology.

"The NEVA 2013 message is Russia is open for business, says Roderick Keay, General Director of UK-headquartered Dolphin Exhibitions, the event organiser. "NEVA 2013 will build on the tremendous success of the previous exhibition and conference in 2011, focusing on the development of ship building and marine equipment, navigation, logistics, ports, the offshore sector and inland waterways.

"NEVA is supported by leading administrations and enterprises in Russia and it provides a unique gateway to meet shipping and offshore energy executives from all regions of this massive country under one roof."

NEVA 2013 is honoured to welcome Hans Peters, former Principal, Trade and Transport, The World Bank, as Conference Senior Consultant and Moderator.

#### International Links the way Forward

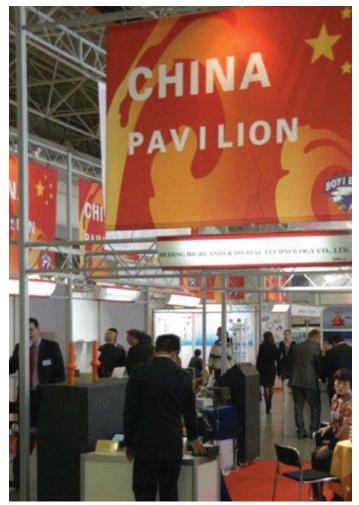
Important Russian maritime industry initiatives will come under the spotlight at NEVA 2013.

The Krylov Shipbuilding Research Institute has been upgraded and, as the KSRI Maritime Centre, it can implement commercial programmes more effectively, with new authority to function on a commercial basis via its Ocean Engineering Division, Civil Shipbuilding.

The Administration Offi ce for the Northern Sea Route was established in Moscow at the end of January to oversee regulatory, technical and financial control of shipping routes, port operations and the Arctic undersea / off shore marine sector.

#### President Vladimir Putin has called on Russian industry to boost the design and production of hi-tech vessels

In another major development, the newly merged Makarov Academy and State University for Waterborne Transport organisation has been made responsible for overseeing and implementing the major modernisation programme for Russia's inland waterways network and its fleet. President Vladimir Putin recently called on Russian industry to boost the design and production of hi-tech vessels and underlined the necessity for these industries to cooperate more closely with foreign counterparts.



The president's call will be heard at NEVA 2013 through United Shipbuilding Corporation (USC), which believes that NEVA 2013 offers a "widely acknowledged platform for international business cooperation" in developing technology for extracting oil and gas at sea and for transporting cargoes on Northern Sea Routes.

"USC guarantees the promotion of national achievements in the design, producti on, supply, repair and conversion of sea and inland waterway vessels for commercial fleet operations, based on the most advanced international technology, and increases the competitiveness of the shipbuilding industry and shipping as a reliable partner in global marine markets," says A.A. Diachkov, USC president.

Another NEVA 2013 supporter, the Ministry for Industry and Trade, believes Russian shipbuilding will offer its technologies

"to strengthen international cooperation and investment in shipbuilding, off shore technique production, technologies and equipment and to increase the international image of Russian shipbuilding and shipping as a reliable partner in global maritime markets, "according to L.V. Strugov, Department Director.

The Ministry will also focus on the de-velopment of the Arctic sea transport system in Russia including a nuclear ice breaking fleet for Arctic sea routes, international transit, a Russian Arctic sea transport system, navigation and hydrographic services for ship owners looking to operate via the Northern Sea Route and the transportation of oil and gas from Arctic deposits.

The Union of Russian Shipowners (SO-ROSS) will use NEVA 2013 as a platform to address global shipping and its influence on Russia and the development of the Arctic sea transport system in Russia.

SOROSS will also consider the consequences for shipping of Russia's entry into the World Trade Organisation, Russian national policy governing commercial shipping, the competitiveness of Russian shipping, the role of Russian shipyards in developing a commercial fleet, opening the Arctic Shelf, building LNG and ice-strengthened vessels and drilling platforms and addressing concerns over the transportation of oil and liquefied natural gas.

The Association of Russian Sea Commercial Ports (ASOP) will focus on advanced port equipment and technical knowledge to develop infrastructure and superstructure needed to support off shore oil and gas exploration and will hold a seminar programme during NEVA 2013 highlighting Russian and other state-of-the-art port equipment, systems and technology.

Navigation and hydrographic issues will be addressed by the Department for Navigation and Oceanography (Ministry of Defence) with specific reference to creating technical facilities and equipment for high precision navigation, digital sea maps and data bases. Training will also be covered.

Safety issues arising from programmes to develop the Arctic and Northern Sea Route will be addressed by The Association for Development of Sea Rescue, Safety and Diving Equipment highlighting plans for the construction and operation of rescue vessels and fire fighting vessels in ports and at sea.

Further information about NEVA 2013 and previous events can be found on the website www.transtec-neva.com

Contact details: Roderick Keay, General Director, Dolphin Exhibitions, +44 1449 741801, info@dolphin-exhibitions.com

Media inquiries: Christopher Mayer, JLA Media Ltd, +44 208 865 3194, chris.mayer@j-l-a.com



#### **NEW GLOBAL EXHIBITORS**

NEVA 2013 welcomes two new national pavilions from South Korea (KOTRA) and the UK Shipbuilders & Ship Repairers Association along with, for the first time, industry groups from Italy and individual companies from India.

The Marine Offshore Centre at the exhibition will provide information on development of the offshore support fleet.

The Centre will be coordinated by the HOTCHYA Design Bureau in Russia with participation from all sectors of Russian activity and foreign counterparts.

Caterpillar Power USA will join the group to explore possibilities for its new generation of hybrid units for offshore application.





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### LIVEWIRES

#### **GULF OF MEXICO SUCCESS AT SHELLS VICKSBURG A WELL**

Shell today announces a successful exploratory well at Vicksburg in the deep-water Gulf of Mexico.

The well is located 75 miles (120 kilometers) offshore in the Mississippi Canyon Block 393 in 7,446 feet (2,269 meters) of water. It was drilled to a total depth of 26,385 feet (8,042 meters) and encountered more than 500 feet (152 meters) of net oil pay.

In total, the Vicksburg "A" discovery is estimated to hold potentially recoverable resources of more than 100 million barrels of oil equivalent (mmboe). It adds to the more than 500 mmboe of potentially recoverable resources that have already been discovered and appraised at the nearby Appomattox discovery. Vicksburg "A" is a separate accumulation from both Appomattox and the 2007 Vicksburg "B" discovery.

"The results of the Vicksburg well strengthen our existing deepwater Gulf of Mexico exploration portfolio and should contribute to the nearby Appomattox discovery," said Mark Shuster, Executive Vice President Shell Upstream Americas Exploration.

Shell (the operator with a 75% interest) and Nexen, a wholly-owned subsidiary of CNOOC Limited, (25% interest), are following up the Vicksburg "A" well with a sidetrack well to test the Corinth prospect, a separate fault block from the Vicksburg discovery. Further exploration drilling targeting tie-backs to Appomattox will follow.

Enquiries: Shell Media Relations: International +44 207 934 5550 Americas +1 713 241 4544

### WÄRTSILÄ AND CEVA LOGISTICS RECEIVE LEAN & GREEN STAR AWARD FOR SIGNIFICANT REDUCTIONS IN EMISSIONS

Wärtsilä, a leading global supplier of marine and power plant solutions and services, together with CEVA Logistics, one of the world's leading supply chain companies, have been recognised for their successful efforts to reduce CO2 emissions by 60 per cent at Wärtsilä's warehousing operations.

The two companies have been named as winners of the Lean & Green Star Award 2013, a programme aimed at encouraging businesses and government bodies to move to a higher level of sustainability by taking measures that not only yield cost savings, but at the same time reduce the burden on the environment.

The achievement has been made possible thanks to the combined efforts of CEVA and Wärtsilä. One of the key factors in achieving the emission reductions was the decision to integrate nine local warehouses into one strategically favourable location in Kampen, the Netherlands. The Central Distribution Centre in Kampen is the hub of Wärtsilä Global Logistics Services, and covers the entire material flow from order confirmation until the point of delivery at the customer's doorstep.

"We are continuously focusing on improving environmental performance within our operations, and naturally this is something we also expect from our partners. We are, therefore, very pleased to receive this award together with CEVA," says Mr Christian Rönnholm, Director, Global Parts Management, Wärtsilä Services.

"CEVA is very pleased with the recognition for our Corporate Sustainability and Responsibility approach" says Mr Pierre Girardin, Executive Vice President of CEVA Logistics in the Benelux. "This award is a further encouragement for CEVA to carry out our logistical activities in a sustainable manner. We want to be admired for our responsible working methods which are based on respect for the environment we live in."

The award is given by Connekt, a Dutch agency which, in collaboration with the Dutch Ministry of Infrastructure and the Environment, has created the Connekt Sustainable Logistics programme. Under this programme, companies that are actively dedicated to making their logistics processes more sustainable, are considered for this prestigious honour. In 2008 CEVA won one of the first Lean & Green Awards for its best practice example of a CO2 friendly supply chain redesign for Wärtsilä.

#### **KDB PLEDGES HUGE STX O&S INJECTION**

KOREA Development Bank and other creditors have decided to inject up to 3 trillion won (\$2.6Bn) over the next three years to help STX Offshore & Shipbuilding s survive.

The bank made the decision recently after due diligence showed the debt-ridden shipbuilder s going concern exceeds its liquidation value.

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### LIVEWIRES

#### **TYPE SPECIFIC ECDIS TRAINING FOR THE FURUNO FMD-3200/FMD-3300 ECDIS IS NOW AVAILABLE IN MANILA**



FURUNO ELECTRIC CO., LTD. is delighted to announce that type specific ECDIS training for the new ECDIS FMD-3200/FMD-3300 is now available in the Philippines.

In May 2013 the NavSkills training facility Competent Maritime Professionals and Sea Staff (COMPASS) Training Center Inc. had FMD-3200/FMD-3300 training workstations installed at their training center.

The COMPASS instructors have been trained through FURUNO's train-thetrainer program in order for them to be authorized to provide the new training course to navigators in the Philippines.

The first training session was successfully concluded on the 16th and 17th of May 2013 for a group of navigators, who have gained the in-depth knowledge about the functionalities and user interface specific to the new ECDIS. In the first group of trainees, all were satisfied with the content of the training, and all came out with unwavering confidence in their ability to operate the new ECDIS installed onboard their respective vessels.

The training program for the FMD-3200/FMD-3300 available at COMPASS is identical to the type specific training for the same models provided by FURUNO's own training centers in Denmark and Singapore. The syllabus has been carefully developed by INSTC Denmark following the same philosophy that was applied to the development of the type specific training course for the FURUNO FEA-2107/FEA-2807 ECDIS. The new training program is strictly compliant with the STCW and ISM Codes as well as with all currently known requirements from flag states and other stakeholders.

Since COMPASS joined the NavSkills network in April 2012, they have concluded about 170 FURUNO type specific ECDIS courses for the FEA2107/FEA-2807, leading to an issuing of just about 1,000 certificates to Philippine navigators.

With the extended availability of FURUNO type specific ECDIS training for the FMD-3200/FMD-3000 in the Philippines, FURUNO is now able to provide the training for the new ECDIS in Denmark, Singapore, Germany, Greece, The Philippines and China. Further efforts of boosting the training availability are continuously being made in order to contribute to the global implementation of the ECDIS mandatory carriage.

For further information, please contact: Ms. Mette Møland, Marketing Assistant, FURUNO INS Training Center, Copenhagen, Denmark - mem@furuno-ebo.com

#### NORWAY IS FIRST TO ACCEDE TO HONG KONG SHIP RECYCLING TREATY

35



The Kingdom of Norway became the first contracting State to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.

The Hong Kong Convention is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment.

First Secretary Kristin Stockman, of the Royal Norwegian Embassy to the United Kingdom, deposited Norway s instrument of accession at IMO headquarters.

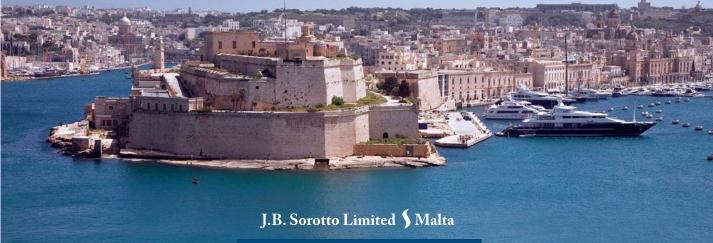
The Hong Kong treaty will enter into force 24 months after ratification by not less than 15 States, representing 40 per cent of world merchant shipping by gross tonnage, with a combined maximum annual ship recycling volume not less than 3 per cent of their combined tonnage.



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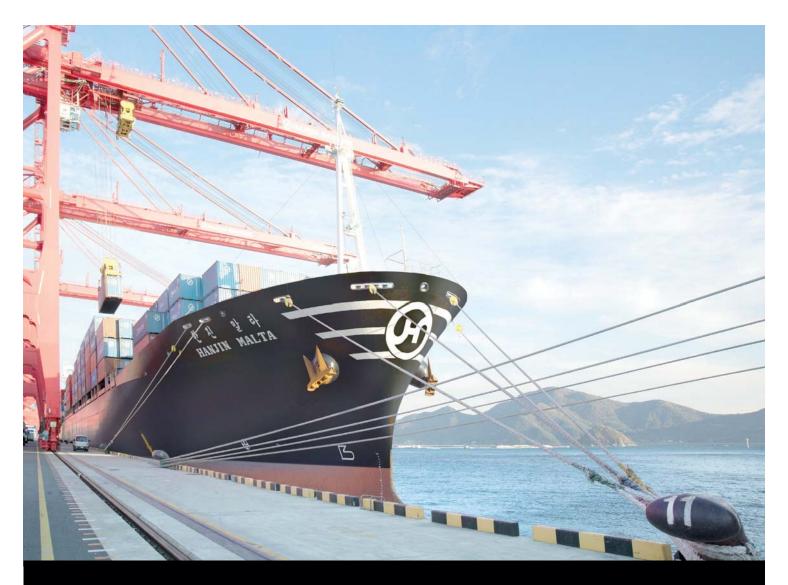


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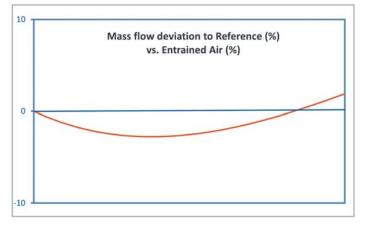
## CONTINUOUS, DIRECT AND ACCURATE MEASUREMENT

## **OF BUNKERS**

The expectation is that when using Coriolis mass flowmeters for bunkering the user gets a "continuous" "direct" and "accurate" measurement of the bunker. Is that actually the case? This article attempts to dispel some of the myths, report the reality and explain how the design of mass flowmeter technology has to change to meet the market expectation.

There are in truth two primary issues in bunkering where mass flowmeters in the past have not been optimised to meet the process. The first is air entrainment, known in the industry as the cappuccino effect, and the second is high viscosity fluids, especially where viscosity is variable.

So far mass flowmeter suppliers have attempted to provide corrections for viscosity and air entrainment, but these corrections use very limited information and are only valid over restricted ranges of operation and therefore intervention is required when these operating conditions are not met.



Non-linear entrained air measurement error

Firstly, taking viscosity effects into consideration, HFO fuel viscosity varies rapidly with temperature. Based on the measurement principle, mass flowmeters should be completely viscosity independent but in the application and the mechanical design of the sensor viscosity effects creep in causing non-linear measurement errors. This is especially the case in bent tube meter designs where the bends cause disturbance in the flow which can result in reverse flow around the sensors at certain flow rates. Secondly, and this will be explored more closely below when we discuss the effects of air, viscous products cause damping in the measurement system.

#### Cappuccino performance

The 'cappuccino effect' is widely debated across the industry and is given as a primary drive to move to direct and continuous measurement of bunkers. But air entrainment to date causes measurement errors in all mass flowmeters. Why and how does this occur?

The cappuccino effect is gas in the fuel oil, or what is known as two-phase flow. The percentage of gas is called the Gas Volume Fraction or GVF for short. But this is only one measure of the gas in the fuel oil. Unfortunately mass flowmeters are not only affected by the percentage of gas but also the operation and performance of the meter is affected by the morphology (size, shape, distribution) of the gas in the fuel, the viscosity of the continuous phase, the operating pressure and the surface tension of the fuel. No Bunkering measurement system corrects for all these issues and each meter type and size from each manufacturer is affected differently so correction modeling is very complex. Most mass flowmeters provide a two-phase flow alarm signal but none of these actually provide a real GVF.

The reason for this complex issue comes back to the question of damping. Mass flowmeters are a vibrating system, the fundamental expectation is that the system vibrates and the fluid within the tube acts as a single body. However when gas





is present it is compressible and this, combined with a high viscosity fluid, which takes more energy input to drive the measurement compared to water, results in the meter operating on the limits of its capability and causes measurement errors in both mass and density. The air also causes "noise" as the air hits the walls of the measuring tube, which depending on the morphology causes huge variation in the measurement error. As the system cannot measure density accurately or repeatably, the gas volume fraction cannot be determined.

#### The Bunkering System Approval

So how is an approved system possible? The only way is as stated before, by restrictions of operation. We may bunker for eight to 20 hours, if air is only present for a limited period during this time the total error caused by the air should be small in comparison and the overall accuracy of the bunker is maintained within the OIML R117 Class 0.5. When air is present in the system, manual intervention is required to increase the back pressure on the meter to reduce the impact on the performance of the meter. This requires personnel to be present and trained to react to maintain the bunker system measurement accuracy.

Going forward this is not the right way. To date so much effort has been expended in correction models, which can, if the bunker process conditions are not as expected, result in unidentified and un-quantified measurement errors.

This is why in Singapore, SPRING and the MPA have put so much effort into developing an approval process for mass flowmeters starting with a meter which is fully traceable when calibrated on water. The second phase ensuring the meter is not too viscosity sensitive and then thirdly conducting trails of the complete system and correction models on a bunker barge. This process is in place to ensure that the flow measurement system performs within the Class 0.5 guidelines of OIML R117 when operated with the stated operating limits of the measuring system.

#### A Change of Mindset

KROHNE is looking at the problems from a different perspective. Two-phase flow with gas is common in many process applications of mass flowmeters and is, in our experience, a common cause of measurement inaccuracy, so surely the Coriolis mass flowmeter can be designed to be more accurate and repeatable when gas is present in a fluid? Can we reduce the complexity of the correction models and measure "direct" and "accurate" with fewer limitations which stop "continuous" measurement? By starting from the beginning and looking at how a meter fundamentally measures and operates, KROHNE has used its experience of complex and difficult process applications and 30 years of research to redefine the mass flowmeter. When KROHNE first launched its mass flowmeters in 1986 it was with digital sensor signal analysis, others followed but not for many years. Until now the drive control system has remained analogue, but this results in the "noise" caused by air only being amplified, resulting in loss of meter control, poor density measurement and unreliable mass flow readings. The selection of operating frequency is also critical, too low and the system is sensitive to noise from the operating environment, too high and any air present results in almost instantaneous loss of measurement control from which it cannot recover.

KROHNE has now launched Coriolis mass flowmeters with synthesized digital drive control along with its proven high resolution digital signal processing: the oscillation is produced using a digitally generated and therefore known drive frequency. The measuring tube oscillation occurs due to this driver, so the frequency of the measuring tube is also known precisely. This connection does not change, even with gas bubble disturbance or viscosity effects. The measuring instruments internal control loop remains "clean" and is not disturbed by interspersed and amplified "noise". In this way, the meter can accurately measure amplitudes and phases, even in disturbed two-phase flow conditions. The device remains in continuous controlled measuring operation, even if there is gas content or slugs of gas from 0 to 100% by volume in the fuel oil.

KROHNE has also pioneered bulk transfer mass flowmeters with twin straight tubes suitable for bunkering applications which are far more compact than the traditional and cumbersome twin bent tube meters. This ease of installation and small installation envelope combined with the natural viscosity insensitivity of the innovative straight tube design coupled with the synthesized drive will deliver mass flowmeters for bunkering which provide the operator with "continuous" "direct" and "accurate" measurement of the bunker stem.

KROHNE continues to work with customers to enhance this portfolio of products in bunkering and allied sectors such as fuel consumption measurement and lube oil monitoring. KROHNE's marine systems division, KROHNE Skarpenord, has developed in parallel EcoMATE®, a portfolio including fuel consumption and bunkering monitoring.

> For further information, please contact Colin Cheeseman Product Manager – Mass Flow Tel: +44 1933 408 528 c.cheeseman@krohne.com



# LIVEWIRES

### WÄRTSILÄ SIGNS LONG-TERM SERVICE AGREEMENTS FOR WORLD'S LARGEST TRI-FUEL POWER PLANT



Wärtsilä, a leading global supplier of flexible and efficient power plant solutions and services, has signed two important long-term service agreements covering Amman Asia Electric Power's power plant in Al Manakher, Jordan.

The agreements comprise a 15 year Parts Supply Agreement, as well as a 5 year Technical Service Agreement with KEPCO Plant Service & Engineering Co.,Ltd, the operations and maintenance contractor for the power plant. The contract was signed in October 2012.

The facility is under construction and will have a net electrical output of 573 MW. When completed, it will be the world's largest tri-fuel power plant with combustion engines capable of using natural gas, heavy fuel oil and light fuel oil. A consortium headed by Wärtsilä was awarded the turnkey contract in October 2012 to build the power plant, which will supply electricity to the Jordanian national grid.

The plant is to be powered by a total of 38 Wärtsilä 50DF multi-fuel engines running initially on heavy fuel oil. However, once the natural gas infrastructure is in place, the flexibility of the Wärtsilä engine technology will enable a seamless switch to gas fuel. The first phase of the power plant project is expected to be operational by February 2014. The entire plant is scheduled to be in operation by September of that same year.

"With its broad experience in this field, together with the fact that Wärtsilä is the original equipment supplier for this installation, it was an obvious choice to select the company's parts and service support to ensure the reliability and availability of the equipment," comments Mr. Choi Jung-ho, Vice President, KEPCO Plant Service & Engineering Co., Ltd.

"Wärtsilä provides customers with service solutions that optimise the operational efficiency of their installations throughout the full lifecycle. This of course has many benefits, but being aware that Wärtsilä can be relied on to rapidly respond to technical service and spare part needs, is perhaps the most important benefit of all," says Loganathan Venkatachalapathi, Area General Manager, Contract Support, Wärtsilä Arab Emirates.

Globally, approximately 17 GW of generating capacity in both marine and land based installations - a total of 544 installations - is covered by Wärtsilä's asset management and other service agreements.

Wärtsilä's Services & Support solutions range from basic support, installation and commissioning, performance optimisation, upgrades, conversions and environmental solutions, to service projects and agreements focusing on overall equipment performance and asset management. These services are delivered by some 11,000 professionals working from the company's 160 service stations, workshops and repair centres that form a service network covering 70 countries worldwide.

#### **INTERMANAGER PLANS TO TACKLE INDUSTRY CHALLENGES**

Low freight rates and a challenging market are concerns for ship managers as they begin 2013.

A survey of members of InterManager, the international trade association for the ship and crew management industry, has identified the main concerns affecting the industry as it begins the New Year.

In addition to fears about how challenging market conditions impact on operating budgets, ship and crew managers are also concerned at the difficulties of finding and retaining quality staff - both at sea and on shore. Responding to members' worries InterManager plans to introduce a number of new initiatives this year to address training and recruitment matters, including a Young Executives group to encourage and support the industry's rising stars.

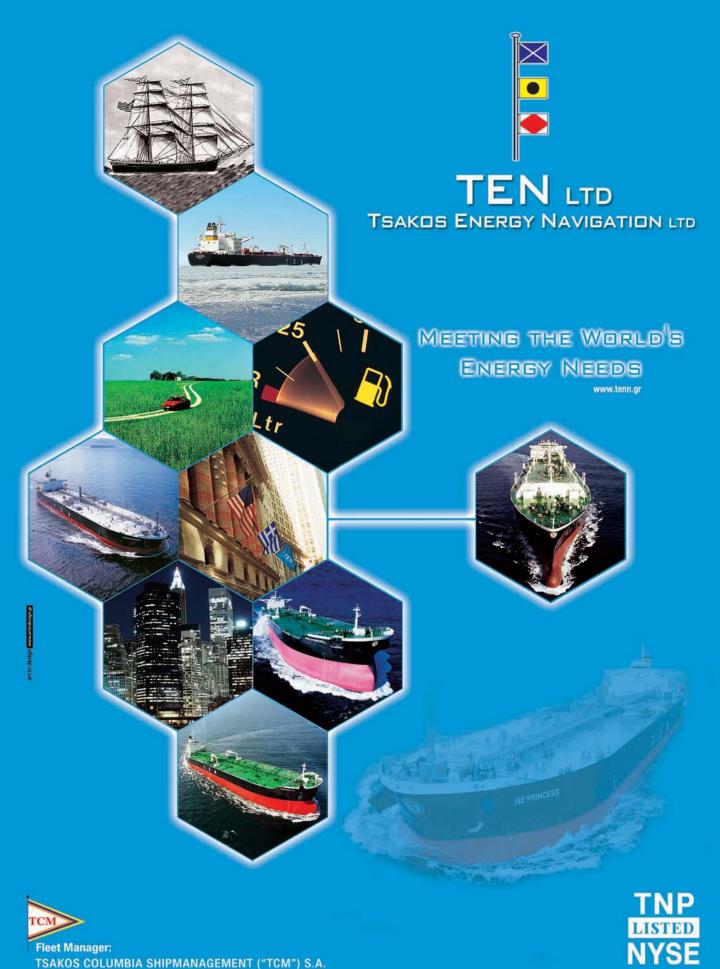
Bureaucracy remains a problem for the ship management sector, particularly the burdens it places on time and resources. InterManager is supporting a number of projects to help, such as crew payment by 'plastic money', as well as continuing to develop its industry-leading KPI system to streamline and share best practices and improve efficiency - particularly important when budgets are stretched.

InterManager will also focus its efforts this year on crew management matters - with a cadet scheme, a worldwide seafarers' survey and training and education initiatives in the pipeline.

Mr Borromeo said: "The human element is key to successful ship management and we must ensure we work together as an industry to raise standards and to encourage good staff - the best and the brightest - to enter and stay in shipping."

The InterManager survey of ship and crew managers (see chart attached) also demonstrated that piracy and the smooth and successful introduction of the Maritime Labour Convention (MLC) are also concerns for ship managers.

# 20 YEARS OF CONTINUOUS GROWTH



Fleet Manager: TSAKOS COLUMBIA SHIPMANAGEMENT ("TCM") S.A.

## **V.SHIPS**

Ships has a long history of focusing on compliance issues. In the early nineties the company was one of the first to adopt voluntarily DNV's Safety and Environmental Protection (SEP) standard.

Over the two decades, this has continued with many initiatives focussing on compliance and environmental compliance in particular. These ranged from fitting seals to engine room valves and pipework to prevent by-pass pipes (magic pipes) and video's from the Chief Executive focusing on MARPOL compliance.

The V.Ships mission statement is very much in line with this.

#### The V.Group Ship Management Companies aim to be recognised as the first choice global supplier of the highest quality services to the shipping industry with absolute regard for safety and the environment

Company policy requires that all risks to the environment associated with the global operation of the Company offices and vessels are identified and controls put in place in order to ensure that the adverse effects of all emissions and discharges are minimised.

We all of course want a greener planet and it is difficult to understand why some seafarers continue to pollute. There is now also the ever increasing threat of criminal action being taken against seafarers, owners and managers. The USA is the highest risk and a recent statistic from the U.S. Dept. of Justice (DOJ) indicated total fines approaching US\$500 million with numerous ships working to environmental compliance plans imposed on them. Almost every case involved 'falsification of records' in Oil Record Books (ORB's). Cases have also involved false records in Garbage Record Books, Ballast Exchange Records, Official Logbooks and VGP Records.

In view of this it was recognised by the head of V.Ships Ship Management, Matt Dunlop that it was necessary to 'up the stakes' even further in the aim for total compliance.



V.Ships manages a number of vessels operating to a U.S. Dept. of Justice imposed environmental compliance programme (ECP). This was imposed on the owner under the previous manager.

The ECP focuses on environmental compliance and takes this to an advanced level with one of the requirements being an Environmental Management System (EMS).

The EMS requires commitment to

- A cleaner marine environment,
- Continuous improvement in environmental performance,
- Pollution prevention that emphasizes source reduction through effective maintenance,

And above all, absolute commitment to continuous reduction of environmental risks.

As part of the upgrade, many parts of this EMS have already been incorporated in the V.Ships Management System (VMS). A recent development has been setting up a group wide 'whistleblowing' or 'Open Reporting' facility. Crewmembers are given a copy of the open reporting policy procedures prejoining in the crew manning office. Reports can be by email, voice and SMS text and there is also a 'lockbox' on board that can be used

A number of other environmental compliance measures are being embarked on over in the short and long term, including an environmental module for ShipSure, V.Ships world leading integrated management platform. This will monitor all discharges and provide detailed analysis of trends and patterns and assist with the aim of 'reduction at source'

The recently appointed head of Ship Management has just completed filming a message to all staff focusing on the importance of compliance and this will be circulated to all employees (shore and sea staff) in the near future.

One of V.Ships shared values is

**Safe Operation** - We will not take unacceptable risks, risk management is key and compliance is instinctive

The ultimate goal 'Compliance is Instinctive' is our collective day job.....

Matt Dunlop Group Director, V.Ships



# **NEVER BOW OUT** THE SVITZER COMMITMENT

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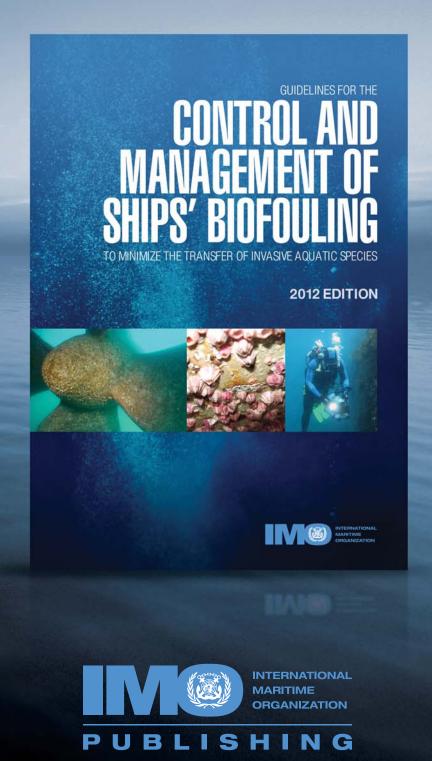
As global salvage specialists, we work hard to help you anticipate and avoid the risk of incidents. But if an emergency occurs, we are even more determined to help you out. That is our commitment as a salvor. Don't bow out if the inevitable occurs. That's why we are on standby around the world, to act quickly and effectively and provide safety and support at sea.



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#### Elkem Chartering AS (EC) was established in 1991.

EC is responsible for transportation of Elkem's bulk raw materials and finished products. In addition we operate as a commercial ship operator, having several short and long-term Contracts of Affreightment with several major industrial companies.

EC operates vessels in two segments of the dry bulk market. The major activity is within the handysize segment, from 20,000 tdw to 38,000 tdw. Within this segment EC has specialized in transportation of, inter alia, alumina, cement, cement clinker, grain and sugar, primarily within the Atlantic Basin. The other segment is super handymax vessels, 50-52,000 tdw, where the company now operates three modern ships, built from 2001 and onwards.

Through Elkem Chartering Inc., New Orleans – a subsidiary of EC, we offer port captain assistance and cleaning operations in the US Gulf and Caribbean.

Since October 2002 EC has been owned 50/50 by Elkem ASA and Belships ASA.



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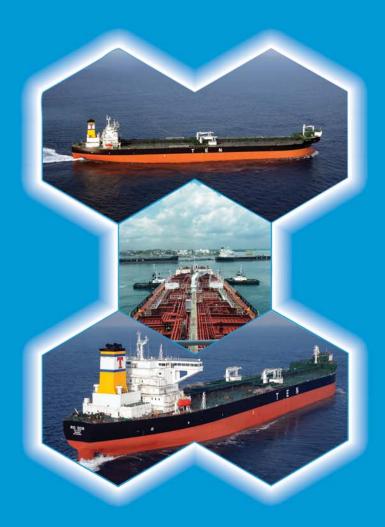
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