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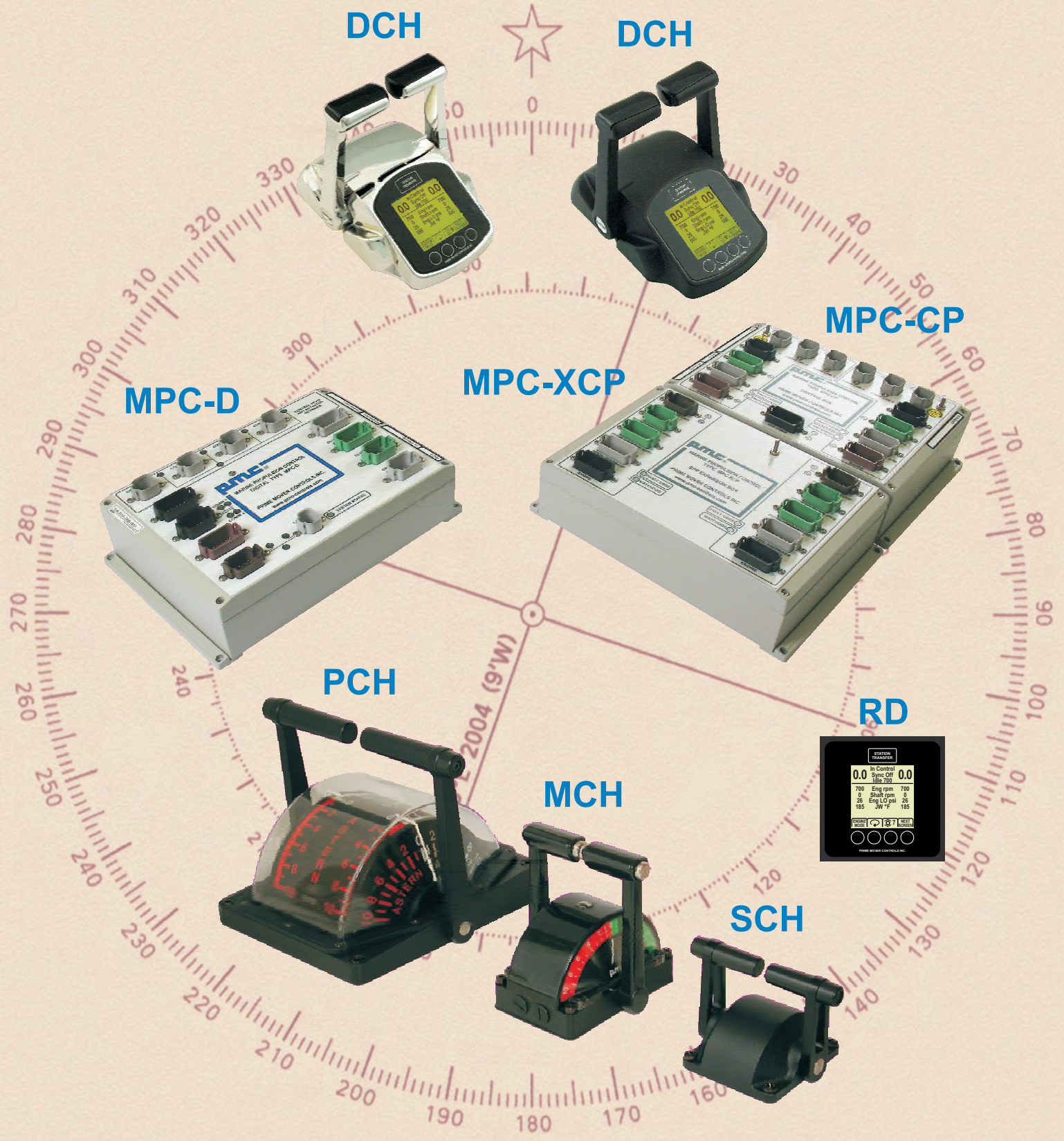

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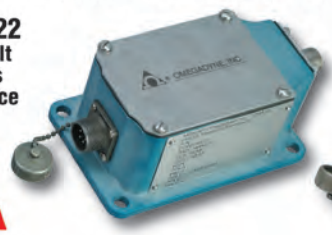

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contents

Pickin' 'em up & Puttin' 'em down

A new breed of fast, agile boats are helping the world's Navies and other maritime security forces to complete their missions more efficiently and safely. Pictured is a Willard Marine patrol Rigid Inflatable Boats (RIBs) being built for the Egyptian Navy. This boat is powered by a 170 HP inboard diesel engine, connected to an outdrive.

Full Coverage on this and other new entries in the sector starts on page 48.

(Photo: Willard Marine)

ON THE COVER

(Courtesy: DNV)

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The Arctic, The Environment, The Energy *& You*

The Arctic is receiving its fair share of ink of late as the world collectively evaluates the impact that a warming planet will have in "opening" the region to commercial shipping and offshore energy. Whether it be a shorter shipping route between Europe and Asia and the requisite savings of fuel and emissions; or the tapping its fertile submerged grounds for oil and gas to quench the world's seeming insatiable thirst for fossil fuels; the Arctic holds a seemingly infinite amount of promise, but equal amounts of peril.

As the cover photo of this month's edition as well as the image on page 34 can surely attest, despite a global warming trend the Arctic is still indeed a harsh climate fraught with challenges.

"I think it important to remind everyone that the place is ice-covered – fully or partially – eight to 10 months out of the year through the century and beyond. The ice cover is thinner, but it may be more dynamic, as it might be moving faster, meaning that it might not be an easier place to navigate," said Lawson W. Brigham, PhD, Distinguished Professor, Geography and Arctic Policy, University of Alaska – Fairbanks. He, and many other of the leading minds from government, academia and commerce on the topic of the Arctic, convened last month in New London, Connecticut, on the manicured grounds of the United States Coast Guard Academy (USCGA), where the USCGA and the Law of the Sea Institute from the University of California's Berkeley School of Law convened a high-level conference dubbed "Leadership for the Arctic."

But the Arctic is far more than a cold, harsh environ with a lot of oil & gas; it is a flashpoint for both matters environment and maritime, and the two go hand in hand. Make no mistake: while shorter shipping routes and the requisite savings of fuel and emissions is a nice opening act, the development of some of the largest oil and gas fields on the planet are today and will remain the chief driver for activity in the region, as developing worlds demand more fuel and oil majors run out of places to look.

As it stands now, though, there are far more questions surrounding the Arctic, and the ownership – of shipping routes, or resources, of responsibility for when something inevitably goes wrong – is a literal political powder keg that has no easy answers. But it is good to know at least the conversation has started and will continue.

"What we have is an ocean being used more than any time in history without any regulation," said Dr. Brigham. "There is a lot of work to be done in the future."

While there are many uncertainties, there is something that everyone in the maritime and offshore energy communities can count on: a collective vigilance to protect this fragile, dynamic ecosystem that will be tight if not uniform, and that any accident, large or small, is a potential gamechanger.

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Work Boats Exchange

New, Hosted Commercial Marine Buyer's Event a Success; Organizers now pre-qualifying participants for next year's version.

By Joe Keefe

The first annual Work Boats Exchange, this year held in April at the luxurious Ritz-Carlton Fort Lauderdale Hotel, has come and gone. For those savvy fleet owners and commercial marine suppliers who jumped on board and attended this first-ever event, the many dividends are only now being fully realized. That's because the Work Boats Exchange was about more than just sales. Three focused days of networking and meetings left highly respected fleet owners and their suppliers already looking forward to their next opportunity to do it again. In the meantime, first-time participants experienced direct, personal and cost-effective ways to connect, networking and, along the way, developed long-lasting business relationships.

How & Who?

The event, spanning 2-1/2 days and three nights, was limited in participation to ensure maximum return on investment for all participants. Both fleet buyers and suppliers could request and confirm up to 24 meeting during that period, with unlimited networking opportunities scheduled throughout the event. Beyond this, luxury Supplier accommodations were included in the cost of the appointment packages, while Fleet Owners attended free – all expenses paid including travel.

The Exchange brought together fully vetted and qualified fleet representatives from both coasts and inland waterways – representing the most diverse group of tug/tow/OSV/ferry companies in the United States – with national sales managers from many of the industry's most respected suppliers and manufacturers. Together, the venue allowed for the sourcing of new products and building of new, profitable relationships through appointments, networking and educational sessions. Beyond this, the unique opportunity allowed fleet owners to not only vet suppliers, but also to learn strategies for dealing with emissions technology, ballast water issues, and repair challenges. In turn, new product arrivals to the marketplace enjoyed expedited introduction to fleet owners – saving supplier businesses both time and money.

Knowledge

In between the scheduled, confirmed and structured appointments, all Exchange attendees were treated to informative talks highlighting the various regulatory burdens in play, some of which threaten to significantly impact the bottom line of all operators. Air emission standards, ballast water treatment regulations, EPA Vessel General Permits and subchapter M are a just a few of the regulations now impinging on the brown water industry.

Jon Stewart, President of International Maritime Technology Consultants, addressed the gathered fleet operators and marine equipment vendors in Fort Lauderdale, FL. In his talk, which spanned the gamut of coming BWT requirements and air emission standards for marine engines, he warned of the coming headache that involves compliance, and possible penalties for failure to come up to speed with emerging regulations. He also encouraged the gathered industry professionals to get involved with the regulatory process on the front end. On the second day, Dr. Mario Tamburri of the Maritime Environmental Resource Center at the University of Maryland addressed the issue of "Managing Ballast water to Stop Invasive Species."

Looking Back – Moving Ahead

Global Exchange Events, a rising star in the creation of industry-leading Hosted Buyer Events, is redefining commercial marine industry B2B events with Work Boats Exchange. According to Rob Ingraham, CEO of Exchange Events, "After participants have had a chance to really see what's out there at the shows, our events offer a second round of very focused one-on-one meetings between fleet owners and marine suppliers that are ready to discuss new business development and close deals. It just works." This year's participants, as it turned out, couldn't have agreed more.

Gene Morsom of Lufkin Industries characterized the three-day Exchange as "The best marine event I have attended with principal owners and decision makers from a supplier perspective I have ever been involved with. I will definitely recommend this exchange event with others in the marine industry." Gary Aucion of Wartsila added, "For a first time participant, the event met my expectations. My goals for next year will only be higher." From the Buyer side of the equation, Rhonda Echors of Echo Marine Ltd. told the organizers, "This was a great exchange not only with vendors having the latest and greatest equipment, but it was good to meet other users to get their opinions of products that are being sold that they have used." *Maritime Reporter & Engineering News* acted as the exclusive sponsoring publication of this year's Work Boats Exchange event. And Exchange Events is already planning next year's meetings, this time to be held at the Ritz-Carlton on Amelia Island, Florida. Scheduled for March 17-20 2013, and building on the success of this year's inaugural event, Work Boats Exchange promises to once again bring together representatives from the nation's most respected fleets for two days of networking with innovative marine industry product suppliers. Pre-qualification for the 2013 event is already underway.

On the WEB: **www.WorkBoatsExchange.com**

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Building Blocks

Bill Clifford has BAE Systems U.S. Ship Repair armada firing on all cylinders

By Greg Trauthwein, editor

How did you come to your current position?

Clifford I currently serve as the president of BAE Systems Ship Repair and have been in this position since 2008. In this role, I lead our six full service shipyards and our 5,000 highly skilled employees. Prior to assuming my current role, I was the vice president and general manager of BAE Systems Norfolk Ship Repair. Before joining BAE Systems, I spent more than 20 years in the private sector serving in senior management positions at several shipyards. From 2001 to 2005, I was a managing partner of Pacific Shipyards International, LLC, a Hawaii consortium of Honolulu Shipyard, Inc. and Honolulu Marine, Inc. I was also the vice president of new construction at Atlantic Marine in Jacksonville, Florida and Director of Ship Completion at Bath Iron Works.

Before I joined the private sector, I served on active duty in the U.S. Navy for 20 years, including tours on the USS Wallace L. Lind, the USS Ault, the USS Fairfax County and the USS Papago, where I was the commanding officer. My final tour on active duty was Commanding Officer of a 700 person Shore Intermediate Facility in Hawaii. I am a 1969 graduate of the U.S. Naval Academy and earned my master's degree in mechanical engineering from the Navy's Postgraduate School in Monterey, California.

Give to me the "Executive Overview" of BAE Systems' ship repair capabilities?

Clifford Headquartered in Norfolk, Virginia, BAE Systems Ship Repair is a leading non-nuclear ship repair, modernization, overhaul and new construction company in the United States. BAE Systems Ship Repair services the U.S. Navy and other defense agencies, such as Military Sealift Command, the Maritime Administration, the U.S Army and the U.S. Coast Guard. Ship Repair's commercial market includes tankers, cargo ships and cruise ships representing Disney, Carnival, Holland-America and Royal Caribbean cruise lines and highly capable small ship construction facilities in Jacksonville, Florida and Mobile, Alabama.

Our strategic acquisition, in 2008, of the Mobile and Jacksonville shipyards was the fulfillment of our plan to expand into the commercial maintenance and repair business. Additionally, this acquisition gives us significant new construction capabilities for the offshore oil and gas and Jones Act transportation markets, which help balance our business portfolio. We have more than 5,000 highly-skilled employees working at our full-service shipyards and worksites strategically located in Norfolk, VA; Jacksonville/Mayport, FL; Mobile, AL; San Diego and San Francisco, CA; and Pearl Harbor, Hawaii.

When you look at the expanse of your operations, what do you count as the primary strength of your company?

Clifford The primary strength of BAE Systems Ship Repair is without question our highly skilled workforce. Our employees and their commitment, energy and 'can do' attitude are what make us successful. In addition to our expert workforce, the "main batteries" of our business are the capital investment in piers, drydocks and cranes of our shipyards. You have to have these facilities, well maintained and safe to work on ships!

Please provide some insights on your business mix, specifically how much is commercial vs. military/government? Also, is the current ratios, in your mind, the optimal or desired mix, and how do you see this changing?

Clifford Our business mix is heavily weighted to the military/government sector but, as we move forward we want to continue to grow our commercial maintenance and repair, module fabrication and new construction portfolio.

Q How would you describe your management style?

My team would probably use one of my favorite quotes to describe my management style, ***"It's Friday and you know what that means; only two more work days!"*** I am a firm believer that hard work pays off. Shipyards are a 24/7 hands-on operation so it is definitely a come in early and stay late type of job; it is a full contact team sport!

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(All images courtesy BAE Systems)

BAE Systems Ship Repair

BAE Systems Norfolk Ship Repair
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Principal Drydocks: .....52,000 ton—950' x 160'
.....14,000 ton—570' x 100'
Piers: .....Four (3,015 ft.)
Crane capacity: .....to 95 tons

BAE Systems Hawaii Shipyard
Land Area: .....2.5 Acres
Principal Drydock: .....Pearl Harbor Naval Ship Yard
Graving Dock # .....1060' x 135'
Piers: .....Three (3,000 ft.)
Crane capacity: .....to 150 tons

BAE Systems San Francisco Ship Repair
Land Area: .....21.1 Acres
Principal Drydocks: .....56,690 ton—900' x 150'
.....14,000 ton—530' x 90'
Piers: .....Two (2,557 ft.)
Crane Capacity: .....to 60 tons

BAE Systems San Diego Ship Repair
Land Area: .....20 Acres
Principal Drydock: .....26,000 ton—530' x 106'
Piers: .....Five (2,800 ft.)
Crane capacity: .....to 150 tons

BAE Systems Southeast Shipyards Jacksonville/Mayport
Land Area: .....101 Acres
Principal Drydock: .....13,500 ton—608' x 93'
Piers/Wharf: .....Three/One (1,639 ft.)
Marine Railways: .....Three (1000-4000 ton)
Crane capacity: .....to 60 tons

BAE Systems Southeast Shipyards Mobile
Land Area: .....423 Acres
Principal Drydocks: .....46,400 ton—788' x 168'
.....12,000 ton— 388' x 90'
Heavy Lift Barge: .....14,000 ton—365' x 131'
Piers: .....Four (7,243 ft.)
Crane capacity: .....to 275 tons

(All images courtesy BAE Systems)

Work on the historic USS Missouri in 2009 at BAE's Hawaiian facility.

BAE Systems has been a prime driver in the consolidation of ship repair business in the U.S. What was the impetus for this expansion?

Clifford Our goal has always been to have capabilities and facilities wherever the customer is located. As we have grown, our customer base has grown as well. Our primary customer is the U.S. Navy and we are expanding to encompass the commercial market as well. Our current locations allow us the ability to share skilled workforce, lessons learned and efficiencies across the entire BAE Systems Ship Repair enterprise for both the military/government and commercial customer bases in the GoM.

These are some tough economic and budgetary times: How has the recent economic slump and budget cutting in Washington affected your business?

Clifford Budget cuts in Washington, especially those to the Navy, are always of great concern to our business. The U.S. Navy is our biggest customer and when their budget comes under fire, there is always the threat of decreased workload in our shipyards due to these budget cuts. The slowdown in permitting and drilling activity in the Gulf of Mexico has also impacted our business plans.

What do you consider the biggest challenge in running an efficient, profitable ship repair business today?

Clifford The biggest challenge is maintaining a stable volume of work to support your core skilled workforce and managing the surges through partners, subcontractors and reliable temporary labor. Additionally, the sluggish economy affects all business and ours is certainly no different. We have to remain vigilant and seek opportunities where ever they exist. We have some exciting business prospects that we hope come to fruition in the future.

In the face of cheaper overseas alternatives, what do you count as the biggest challenge to running a U.S.-based ship repair business today?

Clifford U.S. shipyards provide high quality repairs and service to our customers in a very competitive market. The U.S. operates in a free market global economy, which means that we have to compete with countries that have heavily subsidized their shipyards. In order to remain a player in our line of business, U.S. ship repair companies have to find innovative ways to remain competitive. The Jones Act is an important government regulation that is critical to the ship repair and construction industry as the GoM and off shore wind markets resurge.

Over your career, what do you consider to be the leading technologies or developments that have most positively impacted the business of repairing ships?

Clifford We have worked closely with the Navy to develop innovative and efficient processes to weld aluminum structures with extremely high quality. Also, computer aided design and fabrication tools that enable extremely accurate cutting, welding and the assembly of very complex steel and aluminum structures.

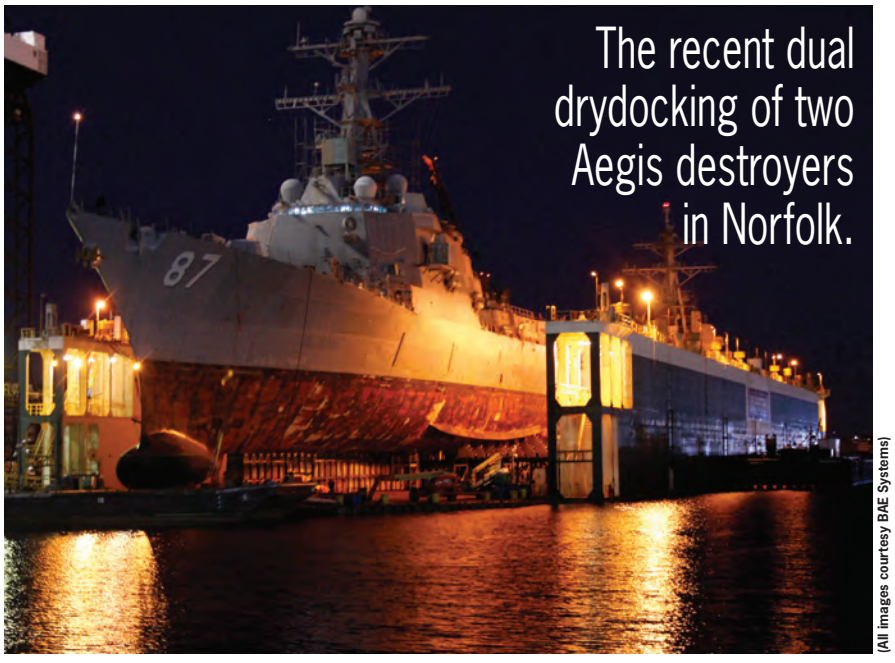
How is BAE Systems investing today?

Clifford We invest heavily in workforce development through several programs. Aside from safety, the next most important aspect of our business is the critical influx of young skilled workers who can learn the trades from our current, aging employees. When our craftspeople retire, they take decades of valuable experience with them. If we can continue to attract young people who are eager to learn, they can get unparalleled experience in the trade of their choice via the opportunity to work alongside some of the most qualified artisans in their trades.

What do you count as the most interesting or challenging ship repair job you or your company has ever been involved?

Clifford I think the first ever Aegis modernization of the guided missile cruiser USS BUNKER HILL (CG 52) in San Diego Ship Repair a few years back meets the standards of being both very interesting and very challenging. BUNKER HILL was essentially the test platform for the Navy's Aegis modernization program. It was our responsibility to get the job done right so that the program could continue — as it does to this day — on the remaining cruisers and now it has begun on the early hulls of the Arleigh Burke Aegis guided missile destroyers. Since this was the first job of this type that any of our shipyards had done, it came with countless unexpected twists during the year that it took to complete.

Fortunately, our employees did what they do best and they executed a highly successful availability, from which we still use the lessons learned today on modernization jobs to streamline the process that delivers a better product to our customers.



(All images courtesy BAE Systems)

Shipbuilding, Repair and Maritime Career Day

Lean Institute at Old Dominion University organized the 5th annual Shipbuilding, Repair and Maritime Career Day (SBRCD) Event at Ted Convocation Center, Old Dominion University earlier this year, attracting more than 850 students and 90 teachers. The event was funded by the National Science Foundation (NSF) under the Advanced Technical Education (ATE) program, and was sponsored by local shipyards and maritime organizations like Newport News Shipbuilding, Colonna's Shipyard Inc., BAE Systems, Norfolk Naval Shipyard, McAllister Towing, Virginia Port Authority and Navy Sup Ship.

The day-long event comprised of three main components, Hands-on Activities, Industry Expo and Shipyard Tour. In addition to these, students got an overview of the development and production of an Aircraft Carrier at the Rapid Prototyping Center, a 3D overview of a virtual ship at the Rapidly Operational Virtual Reality (ROVR) Center. **Dr. Alok Verma, Director, Lean Institute Old Dominion University, said, "The main goal of this event is to create awareness about the career opportunities in the shipbuilding industry specifically in the STEM (Science, Technology, Engineering and Mathematics) areas."**

Hands-on Activities: The hands-on activities included the various processes used in shipbuilding, maritime, ship repair and safety like drilling, pipe fitting, rigging, fabrication, welding etc.

Shipyard Tours: The shipyard tours by Colonna's Shipyard Inc. and BAE Systems gave some practical knowledge regarding the various aspects of shipyard and terminal operations to the students and teachers.

Key note speakers from diverse sectors of the shipbuilding and maritime industry, namely, Captain Ed Nanartowich from Mid Atlantic Maritime Association, Viki Rodriguez from Colonna's Shipyard Inc. Jennifer Ryan from Newport News Shipbuilding, Ronald Burkhart Jr. from Virginia Ship Repair Association and Maresa Driver from Norfolk Naval Shipyard. For information on future events, Email: averma@odu.edu.

BAE System's Shipyard Tour.

Farstad's

Chem Tanker Compliant Platform Supply Vessel

(Image Courtesy: Farstad Shipping)

The innovative chemical tanker compliant Platform Supply Vessel, Far Solitaire, will be delivered to Farstad Shipping in October 2012. The technologically advanced vessel is developed by Farstad in close cooperation with Rolls Royce Marine and is the first vessel of its kind ever built.

The offshore oil industry has over the years become more and more dependent on chemicals and noxious liquids in order to improve operational efficiency and maintain safety standards. At the same time, restrictions for offshore disposal of the same have become more stringent for environmental reasons.

In the next turn these liquids need to be transported to- and from the offshore installations, which means need of capable Platform Supply Vessels fit for this purpose. However, a conventional Offshore Supply Vessel defined by the rules as a Cargo Vessel is limited to carry maximum 800 cu. m. of these liquids on board at the time, which often is insufficient for the operator and do not use the vessels overall capacity.

A steel hull recently arrived from STX OSV in Tulcea, Romania, and Far Solitaire is currently under outfitting at STX OSV Langsten in Norway for delivery to Farstad Supply AS in October 2012. With this advanced vessel Farstad Shipping meets the strict requirements for carrying large quantities of noxious liquids in bulk. During late fall of 2010 Farstad Shipping announced the contracts for this series of PSV's, one of these being the innovative UT754WP design.

Farstad Shipping & Rolls-Royce

A few years ago Farstad Shipping embarked on the task of developing an IBC Chapter 2 compliant PSV for safe transportation and handling of large quantities of noxious liquids, meaning the carriage of more than 800 cu. m. at the time. The vessel was developed in close cooperation with Rolls Royce Marine Ship Technology Offshore and the project was supported by Det Norske Veritas.

The ground-breaking efforts resulted in the UT754WP design. The main vessel parameters are a length 91.6 m., a breadth of 22 m, with a cargo deck area of 1,020 sq. m. and deadweight of 5700 metric tons. In addition, the UT754WP is a modern, top of the line diesel electric PSV with all the recent versions of equipment installed. The UT754WP design has several new features in addition to being chemical tanker compliant, and some of these are briefly mentioned below. Special attention has been made to safe and efficient operations, low fuel consumption, low emissions and low impact on the environment.

The Rules

Under IMO, there are rules in place covering transportation of noxious liquids, named as the IBC Code (International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk) applicable for chemical tankers, also named the International Bulk Chemical Code (IBC Code).

(Image Courtesy: Rolls-Royce)

The IBC Chapter 2 compliant PSV design has a capacity of more than 1,600 cubic meters of noxious liquids. Great challenges with respect to current rules and regulations, among others with respect to damage stability, have been met. Consequently, layout, tank structure and configuration appear quite different from conventional PSV's. For safety reasons, all slop-/backload tanks are equipped with H2S detection and alarm.

Cargo Pumps & Piping Systems Segregated

Another challenge, as a consequence of an increased number of different chemicals on board at the same time, is the segregation of cargo pumps and piping systems to avoid mixing different products. Farstad Shipping has met this need by installing dedicated deep well pumps in all cargo tanks for noxious products rather than the conventional solution, with common cargo pumps placed in a pump room. The vessel is also arranged for convenient and safe shifting of pumps between different products via hatches in main deck, if needed by use of the vessels cargo rail crane described below.

"Wave Piercing" Bow Design

As the first vessel ever built, it was decided to implement the new Rolls Royce "Wave Piercing" bow design. The hull lines permit the vessel to pierce through the waves, which has several benefits, duly proven during model testing. Slamming is to a high degree eliminated and pitching is reduced.

The result is better comfort for the crew. Due to more steady speed under any weather condition, fuel consumption is reduced and propulsion machinery less exposed to variable load.

New Cargo Rail Crane Concept

Based on the experience from anchor handling vessels, it was decided to develop a new cargo rail crane concept for the PSV's. ***The UT754WP is therefore the first PSV having installed a dual draglink crane on SB side cargo rail, covering the full length of the cargo deck. The main advantages by a dual draglink crane are the increased work area and the stable horizontal movement.*** This wireless controlled crane may be used for tasks both offshore and alongside in port, easing the work for the deck crew and reducing risk of accidents.

Optimal Fuel Consumption

Three main engines in combination with diesel electric propulsion, main electric switchboard split in three sections and three separate thrusters forward has several advantages, such as transit at economic speed with one engine efficiently running at the time, using optimal specific fuel consumption and efficient operation of catalytic converters. Another benefit is redundancy during DP operation. Due to the configuration of three separate systems, ERN number 99.99.99.99 has been achieved.

Power Supply and Illumination

A new generation shore connection has been developed, where shore power of any voltage and frequency can be used independently or continuously in parallel with the diesel generators, port generator included. This will increase the utilization of renewable energy when the vessel is in port. Deck illumination is based on energy saving LED fixtures, which for safety reasons turns back on with full power immediately after an eventual power cut.

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Managing Risk

Going Above and Beyond the Minimum

A vessel owner who takes on paying passengers knows he or she has to meet U.S. Coast Guard requirements for safety. If corners are cut, a barge operator can develop a reputation for accidents and business could disappear. And marine companies, just like other businesses, know the value of protecting themselves against liability with insurance. Yet, in trying to cost-effectively manage risks, marine operators frequently question whether they should go beyond the minimum.

However, maintaining the status quo, spending as little money as possible, and hoping that luck doesn't run out is not advisable. A risk strategy that involves hope is not really a risk strategy. But there are cost-effective ways to manage risk. By working closely with their insurance agent and carrier's risk control advisors, marine operators can better understand their exposures, tap into knowledge about industry best practices, and arrive at a well-thought-out strategy for managing risk.

The Factors that Count

When insurance underwriters look at a business to determine if it is a good risk, there are a number of factors they take into account. Some are obvious. A marine operation that files numerous claims each year, often for the same type of accidents, is less attractive to an insurer than an operation that can put forward a clean loss record.

Both the underwriter and the risk control advisor look beyond the loss record, however. Just like a doctor who is performing an annual physical instead of treating a single infection, they want to understand the whole business operation and judge its overall health. There are three areas that should be examined:

1. The vessel

A ship that is well maintained and running properly is much less likely to have an accident or cause problems for a crew than a ship that has malfunctioning equipment. When the underwriter or risk control advisor looks at the vessel, he has a number of questions including, but not limited to: Does it meet the applicable minimum standards if it falls under the jurisdiction of the U.S. Coast Guard? Is it carrying the proper life-saving and fire-fighting equipment? Are all of the systems currently in working order? Is there a regular schedule for maintenance that is followed and documented?

Just as a newly licensed 16-year-old wouldn't typically be allowed to drive a stock car at a NASCAR event, the marine operator should have employees who are not only well trained in the tasks they are performing, but who also have a track record of working with the same type of equipment.

2. Business practices

A company that has a well-established business and performs the same functions repeatedly probably has a good handle on the proper way to get the work done. One that is growing rapidly or stretching in unfamiliar directions to take advantage of new business opportunities can be more risky. The insurer asks a number of questions that range from the simple: What waterways does the vessel navigate? Where is it berthed when not in use? To the more complex: Is the vessel properly equipped to perform the work it is being used for? What security practices are in place? Are there special risks in the operation, and if so, how is the business addressing those risks? By understanding how the marine operator runs the business, the underwriter and risk control advisor can assess what risks exist and how they are handled.

3. The employees

It is important to look at the crew and both their experience and training. Just as a newly licensed 16-year-old wouldn't typically be allowed to drive a stock car at a NASCAR event, the marine operator should have employees who are not only well trained in the tasks they are performing, but who also have a track record of working with the same type of equipment.

Does the marine owner have a plan in place for training employees, orienting new hires and providing refresher courses? Does the business make sure that all licenses are current and valid? Is there a mentoring program that pairs inexperienced workers with more veteran sailors who can show them the ropes?

Assessment into a Plan

By performing this three-dimensional assessment, an underwriter and a risk control advisor can help owners develop a risk profile for a marine business, identifying both strengths and weaknesses. They can then work with marine owners to help develop a plan that makes sense for their businesses.

For example, someone who runs a vessel that ferries people down a river for a dinner cruise has to worry about Coast Guard safety regulations and having adequate rescue equipment if the vessel runs into trouble and the people need to be offloaded.

But they may also have other concerns that would not affect a barge owner or tug boat operator. These might include the following:

- **If they serve alcohol, they must have a plan in place for handling customers who consume too much or become combative.**
- **If they offer a dance floor, they may need to worry about customer falls, especially if overspray can make it slippery.**
- **If they are serving food, they have to follow procedures for storing and serving food at the proper temperature and avoiding contamination.**

Another type of business might have entirely different risk concerns to address – such as navigation hazards, weather conditions, cargo sensitivity and more. An insurance agent and a carrier's risk control advisor(s) may present a cost effective means for marine operators to identify their hidden risks and arrive at a strategy for managing those risks.

Running a Tight Ship

In the end, what a marine business owner does to run a tight ship can make a great deal of difference in the risk profile for the company. By having a program in place for maintenance and taking advantage of regular Coast Guard inspections, a vessel owner can reduce the number of things that can go wrong unexpectedly. By having proper operating procedures documented, and enforcing them with drills and consequences when they are not followed, a marine business improves the chances that the crew will take appropriate action when something starts to go wrong. And by making sure people assigned work duties have the experience to handle them, the marine owner improves the chances for trouble-free operation.

While the U.S. Coast Guard plays an important role in setting standards for marine safety and holding operators accountable; when it comes to operating a successful business and being prepared for the unexpected, a marine operator should go beyond the Coast Guard's minimum standards. Going above and beyond the minimum, however, doesn't necessarily require unmanageable effort or expense. By working closely with an agent and their carrier's risk control advisors to manage risks in a cost-effective way, marine operators can help to ensure that the business will be operating profitably for years to come.

Kord Spielmann is Technical Director, Ocean Marine Risk Control, for Travelers' Ocean Marine Underwriting Division.

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The Useless TWIC

Fatally Flawed from the Beginning

(Port of Wilmington Photo)

Port workers in Wilmington, Delaware, become the first workers in the nation to enroll in the Transportation Workers Identity Credential (TWIC) program.

With visions of al Qaeda terrorists lurking on U.S. waterfronts and in the bowls of U.S.-flag vessels, Congress in 2002 included in the Maritime Transportation Security Act (MTSA) a requirement that unescorted access to secure areas in U.S. waterfront facilities and U.S.-flag vessels be limited to individuals who had been properly issued biometric transportation security cards. The laudable goals were to reduce not only the risk of a "transportation security incident", but also the level of crime on the waterfront. Experience has clearly shown that the concept that the issuance of high-tech biometric transportation security cards, called the Transportation Worker Identification Credential or TWIC, could achieve these goals was fatally flawed from the beginning.

Implementation of the TWIC program, which had been assigned to the Transportation Security Administration (TSA) within the Department of Homeland Security (DHS), was delayed for an excessive period. It took several years to decide on what biometric features to utilize in the TWIC and how those features should be encoded. It took another few years to develop the technology to produce the cards and gear up for production. This period included a dust-up regarding the location of the production facility. A contractor was hired to open and man offices nationwide to process applications by individuals seeking TWICs and to issue/activate the TWICs once they had been produced. A glitch occurred when the TSA facility collecting electronic information regarding TWIC applicants suffered a blackout before it had updated its records. Many individuals had to resubmit their applications as a result.

In November 2011, the TSA issued a notice stating that approximately 26,000 TWIC cards issued prior to April 5, 2011 were improperly encoded and may not work with TWIC card readers. Due to a card production system error, the number of characters in the Federal Agency Smart Credential Number (FASC-N) embedded in these defective cards was truncated. The cards will be replaced at no cost to the individual, according to the TSA notice. The TSA elected, though, to not directly notify the individuals with faulty cards. Rather, it posted a list of the affected TWICs and asked all the potentially affected individuals to access and check the list. The TSA also did not discuss the inconvenience and expense that will be incurred by these individuals in returning to the TWIC registration/distribution site to obtain and activate the new TWIC card.

An individual who has reported his or her TWIC as lost, damaged, or stolen is supposed to be provided a replacement card within seven days. Initial policy allowed owners and operators of MTSA-regulated vessels, facilities, and OCS facilities to authorize unescorted access to secure areas to individuals who had made the required report to TSA for up to seven days while awaiting the replacement card. In October 2010, the Coast Guard issued a policy statement to the effect that the owners and operators could authorize unescorted access to such individuals for an additional thirty (30) days because of a backlog at TSA in the issuance of replacement TWIC cards. That policy remains in effect.

Also in October 2010, the Coast Guard issued a Marine Safety Information Bulletin stating that it has received reports of malfunctioning internal antennas on some TWIC cards. The affected cards are functionally unrecognizable to contactless TWIC readers, but should still work with contact readers. The cards are also valid for access based on visual inspection. The bulletin recommended that the individual with such a TWIC card contact TSA for a replacement and noted that the cost of replacement is $60.00. No mention was made in the bulletin as to whether the cause of the defective internal antenna was due to the production process or due to rough handling by the individual card holder.

The card stock used for the TWIC was found to be insufficiently durable for the marine environment and typical maritime working conditions. As a result, an unexpectedly high number of cards malfunctioned electronically and could not be read by the electronic readers.

Rumor has it that counterfeit TWIC cards are available for purchase on the black market at a cost of approximately $100 each. In May 2010, the Coast Guard issued a Maritime Safety & Security Bulletin acknowledging the presence of fraudulent TWIC cards and advising security officers and individuals with security duties to be vigilant and to closely follow security procedures when granting unescorted access to MTSA-regulated secure areas. In 2009, an illegal alien was sentenced to eight months in prison after pleading guilty to unlawful transfer of two fraudulent TWIC cards. In 2011, undercover GAO investigators obtained fraudulent TWIC cards and were able to drive a vehicle containing simulated explosive material into a secure area at a waterfront facility. This led Representative John Mica (R-FL), Chairman of the House Committee on Transportation and Infrastructure, to state that the TWICs were "at best no more useful than library cards."

The TWIC, when issued, included a photograph of the individual and the embedded biometric information. Currently, the individual presents the TWIC card to a security guard. If the card looks legitimate and the individual looks like the photograph, entry to the secure area is generally accorded. Plans call for each entry point at facility and vessel secure areas eventually to be equipped with

electronic card readers, similar to the ubiquitous ATM card terminals. Individuals would swipe their TWICs (or hold it in close proximity, if a contactless reader was installed) and match the biometric information (fingerprints) to gain access. Fixed card readers are still being tested. Development of portable wireless card readers is several years away, at the earliest.

The Department of Homeland Security (DHS) recently completed a pilot program to evaluate electronic TWIC card readers. DHS concluded that the TWIC reader systems function properly when they are designed, installed, and operated in a manner consistent with the characteristics and business needs of the facility or vessel operation. Important caveats were attached to this declaration of success. A number of operational and technological difficulties were documented during the pilot program. Reader performance varied widely during the pilot. The time and effort required to install electronic readers and reader infrastructure varied widely among pilot participants. Extensive training was necessary for personnel operating the electronic reader system and some training was required for individual card holders. Some readers experienced difficulty scanning fingerprints of the individual, particularly during inclement weather. One of the findings of the pilot program, not surprisingly, was that the conditions under which TWIC readers had to perform were significantly more challenging than those commonly found at office locations.

In May 2011, the Government Accountability Office (GAO) issued a report stating, in pertinent part, that the DHS has not assessed the TWIC program's effectiveness at enhancing security or reducing risk for MTSA-regulated facilities and vessels. Further, DHS has not demonstrated that TWIC, as currently implemented and planned, is more effective than prior approaches used to limit access to ports and facilities. The DHS has not completed a risk-informed cost-benefit analysis that considers existing security risks and it has not completed a regulatory analysis for its upcoming regulation on using TWICs with card readers.

Issues regarding the TWIC program are numerous. The TWIC cards are not securely produced. Quality control during the production process is lacking. The cards are not substantial enough to stand up to normal handling. They are easy to counterfeit. The electronic card readers only work, if at all, after much time, expensive, and training of both the security staff and the card holders.

This litany of problems has eroded industry's faith in the TWIC program. The TWIC card, as things now stand, is little more than a glorified and very expensive flash pass. The process has made it difficult for individuals in the maritime industry to obtain a legitimate TWIC card, while unauthorized persons can obtain a fraudulent card for about $100. Under the current program, the biometric transportation security card decreed by Congress in the heat of the moment following the horrific terrorist attacks on September 11, 2001 – the TWIC card – is virtually useless.

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Weighing Good & Bad

ELearning is an Increasingly Invaluable — but Not a Perfect — Learning Tool

All signs point to an increased use of ELearning in the always-on, always-mobile maritime market.

Like it or not, eLearning is transforming maritime training. People may argue its merits and applications, but there is no arguing that it is here to stay. As eLearning continues to expand its presence, all of us involved in maritime training are going to be faced with critical decisions about whether and how we employ it in our organizations. But do we know enough to make informed decisions? Do we truly understand eLearning, its strengths, its limitations, and how it is best applied?

This is the second in a series of articles which examines eLearning in the maritime industry. The first article, on page 22 of April's *Maritime Reporter & Engineering News*, discussed blended learning (the combination of face-to-face and eLearning) and presented some research on its effectiveness. Next month's article will look at the practical benefits of blended learning.

But understanding eLearning and its benefits is only half the battle. It is equally important to examine its limitations, the topic we address here.

The Limitations of eLearning

Before presenting some of the benefits of eLearning in next month's article, it is important to understand its limitations when considering its use in maritime training. Like any powerful tool, eLearning can improve efficiency and effectiveness if it is applied to take advantage of its strengths. However, it may be of no help at all (and in fact may even be detrimental) if applied in a way for which it is not well suited. The cliché "the right tool for the right job" comes to mind here. So what is the "job" for which eLearning is not the "right tool"? What are the limitations of eLearning?

Not a Replacement for "Hands-On"

E-Learning is an excellent tool for teaching knowledge, including the fundamental knowledge on which skills are built. However, when a skill needs to be mastered, there is no substitute for hands-on learning.

Therefore, in maritime training where both skills and knowledge are required, it is important that we apply the correct technique for each. Practise, alone, cannot teach the required knowledge. eLearning, alone, cannot teach the required skills. This makes maritime training especially suited to a blended learning approach (combining eLearning with hands-on training). Not only are a wider variety of learning styles addressed, but the best technique can be employed for each of the knowledge and skills which must be assimilated. But the comment stands that eLearning can never be a complete replacement for hands-on learning.

E-Learning Cannot Replace an Instructor

Unfortunately, some organizations which employ eLearning believe that they can create a high-quality training experience without the use of a course instructor or an on-line course facilitator. This is generally not the case. Whether in-person or on-line, some person is still needed to guide, mentor, motivate, and answer questions. This person is also critical in accommodating trainees who have learning needs which are not anticipated by the learning materials. In this case, there is no substitute for a human at the front of the class or on the other end of the on-line communication forum to listen, reflect and suggest.It is especially important to keep this point in mind if you choose to employ CD-based training packages. While some web-based eLearning experiences provide tools for trainees to communicate with their peer or a course facilitator, CD-based training packages typically do not. Therefore, if you do use CD-based training, you may wish to consider supplementing it with either face-to-face meetings or on-line discussion tools to provide access to a course instructor or facilitator.

E-Learning is Not a Cure-All

There are many examples of poor on-line courses just as there are many examples of poor classroom-based courses. It is just as easy to create one as the other. Taking a poor face-to-face course and putting it on-line does not turn it into a good course. It is now just a bad course, on-line. Likewise for instructors. A poor instructor who becomes a facilitator of an on-line course is now simply a poor instructor, on-line.

Although this may seem like an obvious observation, I highlight it because many organizations, when they decide to employ eLearning, do so because they believe that changing the delivery model will improve the course. It doesn't. E-Learning can be an excellent way to improve access, learning outcomes and experiences. However, the same consideration for pedagogy must be devoted to the design of the course and needs of the trainees as if the course was to be delivered in class.

Cost Reduction

The prospect of cost savings was a primary early driver for eLearning. Since then, experience has taught us much about the cost of on-line courses. Simply said, a high-quality eLearning course (with a course facilitator or instructor) tends to be no less expensive to deliver than its classroom-based alternative. There are some caveats to this, however.

Those who claim that eLearning is far less expensive than classroom-based courses make that claim for one of the following reasons:

1. **Because the cost of travel** and accommodation is removed when using eLearning. This is often a legitimate, and possibly substantial, cost saving.

2. **Because the cost of building** and maintaining infrastructure (classrooms) is typically a lot less than the cost of maintaining eLearning infrastructure (LMS license costs, etc). This, too is usually a legitimate claim.

3. **Because they are comparing the cost of classroom-based instruction** against eLearning which is not supported by a course facilitator or instructor (for example, training via a CD-ROM). Removing the cost of an instructor will indeed result in a substantial cost savings, but the comparison is unfair. The experiences and outcomes delivered by any course done in the absence of an instructor are likely to be poorer than those done with.

So - there can be cost differences, but each implementation is different and therefore there is no single correct answer to this question. In general, the delivery of a good eLearning experience, once you exclude infrastructure and travel costs, is approximately the same as for classroom-based instruction.

Connectivity

Most eLearning environments rely on internet connectivity. In fact, most traditional learning management systems assume that trainees will always have web access. This can be a problem in maritime training where trainees are sometimes on-board without such connectivity.

Fortunately, this is less of a problem than it was in the past. First, there are learning management systems which do not assume full-time internet connectivity. For example, the LMS created by the company I work for makes all critical functionality available off-line or on-paper and in addition will soon support synchronized vessel-based servers. Secondly, there is an accelerating trend toward on-board broadband. We have already experienced growth in capabilities with the evolution from narrow-band L-Band services to VSAT C-band. New technologies and reduced costs mean that this trend will continue to accelerate. The implications for eLearning are obvious.

Having said that, there is no question that, for now, eLearning cannot truly be as “anywhere/anytime” as its potential implies for those who spend the majority of their time on vessels without internet connectivity.

But then again, it remains much more available “anywhere and anytime” than classroom-based courses.

Conclusion

Do any of these limitations prevent eLearning from being of benefit in maritime training? Absolutely not. However, it is important to understand these limits in order to make intelligent decisions about where it can be deployed, how it can be of benefit, and where it is best to stay with traditional models.

The third and final installment of this series will look at the practical advantages of eLearning in the maritime industry. Look for it in the June issue of *Maritime Reporter & Engineering News.*

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What Next?

Vidar Pederstad explains why NorShipping 2013 is Shaping Up to be the Best Ever

The maritime industry goes from cycle to cycle, living with and by uncertainty. You could even say that our industry embraces risk. This means that "What's next?" is always a relevant question – and one that gets some interesting responses.

During Nor-Shipping 2011, we discovered that the "what's next" question really resonates with the industry when we used it to support the theme "Next Generation Shipping" for the event week. The standing-room only audience at the Nor-Shipping Opening Conference listened attentively as industry heavyweights and rising stars shared their insights and visions for the future.

Highlights included Trond Giske, Norway's minister of trade and industry, suggesting that industry frontrunners going ahead of "slow politicians" with environmental solutions will be the winners. Teekay CEO Peter Evensen responded by emphasizing how voyage costs now steal 75% of revenues and suggested delegates must look to US aviation where fuel-efficient planes are replacing 737s and 747s.

Looking ahead, Siva Shipping COO Saravana Sivasankaran predicted Africa would become the 'BRIC of the next decade', while Frontline CEO Tor Olav Trøim said LNG "… might be the best business opportunity Norway has had since it discovered oil" and that it might save the industry from "the worst shipping market since the black death."

As you can see, the discussion was lively.

The Conversation Continues

With Nor-Shipping 2013, we will continue the "What's next" conversation, exploring the industry's future via our conferences and the other value-added events that complement the exhibition.

Without a doubt, there are continually new challenges for all players in the industry – designers, engineers, builders, financers, owners, operators, cargo owners and so on. At Nor-Shipping, we make it our mission to provide an important meeting place for companies from across the entire maritime value chain and from around the globe to share solutions to common challenges, make strategic deals and network.

Networking

Nor-Shipping's status as a high-level arena for peer-to-peer networking has been hard-won and requires constant effort. We are keen to enhance Nor-Shipping's networking potential and to create channels for sharing business insight so that our delegates have an unbeatable range of opportunities for professional networking and socializing.

We have seen how the exhibition and conference create a framework for invaluable meetings to take place, and we are determined to maximize this aspect of the Nor-Shipping week. Nor-Shipping wants to create the perfect conditions for vendors and suppliers to meet leading players from the whole maritime industry – and we recognize that the most important conversations don't always happen in a meeting room.

Professional networking in social settings such as the Nor-Shipping barbeque is invaluable.

These connections are made both face-to-face and online – we want no generation gaps at Nor-Shipping. Nor-Shipping is a "community event" and we want to build an online community on the web and use social media that strengthens the physical event and appeals to the younger "digital generation".

Attracting Young Talent

Attracting young talent – and keeping it – is crucial for the maritime industry's future. One way is to promote the genuine lifetime of opportunity that the shipping world can provide, with attractive salary and career advancement and the added bonus of global travel.

We have done this by establishing Nor-Shipping Campus, a city center-based offshoot of the main exhibition, with a mission to attract and engage young people to a career in shipping , as well as to promote the industry to the general public. The maritime industry needs to become more visible and increase its focus on long-term recruitment

During the first-ever Nor-Shipping Campus in 2011, nearly 10,000 people, from students and the media to key politicians and maritime heavyweights, visited the event. The pavilions for the Campus event housed exhibitions by more than 40 representatives of Norway's maritime cluster.

This was an important first step in enhancing the industry's image that connected with bright young minds and succeeded in bringing shipping to the people. We will build on this experience to present an even better Nor-Shipping Campus in 2013.

Staying Ahead

The necessity to stay ahead of the "what's next" curve is not just relevant for our stakeholders but also for Nor-Shipping itself.

During our 50-year history, we have developed from a niche shipbuilding exhibition into a weeklong industry-wide event filled with conferences, professional networking gatherings and countless other activities, with the exhibition at the center of it all. Our latest expansion is the strengthening of our conference program to include the offshore maritime segment.

The offshore shipping industry plays an increasing role in the global maritime industry, as demonstrated by the great interest in Nor-Shipping's first-ever Agenda Offshore conference in 2011 at which the then CEO of Brazilian oil giant Petrobras José Sergio Gabrielli was a headliner.

Norway, with the second largest offshore service vessel fleet in the world and expertise in deepwater, harsh environment oil drilling, is a natural location for such an event. In fact, at the conference, National Oilwell Varco CEO Pete Miller referred to Norway as "the poster child" for how Brazil will develop its offshore oil and gas.

A meeting place for oil companies, offshore shipowners and players on whom they are dependent, expect the Agenda Offshore conference again in 2013.

New Initiatives

Our aim is not only to repeat and improve on our successes from 2011 but to also raise the bar by broadening Nor-Shipping, making a world-class event even better. As part of our plan to expand our support of the maritime industry, Nor-Shipping has played a key role in establishing Oslo Maritime Week. A new event organized by the Norwegian maritime cluster for local and international peers, it focuses on diverse maritime services via hot-topic seminars. Social events that gather all participants and encourage cross-industry networking are an integral component.

Taking place every second year, Oslo Maritime Week will alternate with Nor-Shipping. The inaugural event is scheduled for May 30 – June 1, 2012.

Some other new initiatives are scheduled to take place during Nor-Shipping 2013. These include: "Innovation Park," where companies that have relevant solutions or products present themselves; "Venture Park", which allows start-up companies to present to investors and to have an affordable first-time entry as a Nor-Shipping exhibitor; and Nor-Shipping Finance Week, a high-level arena for companies and new ventures to present themselves to private and institutional investors.

Look to Norway

While our visitors come from around 80 countries, the Norwegian maritime cluster's strong presence at Nor-Shipping is a big attraction for many of our international delegates. Norway is home to the most complete maritime cluster in the world, with every part of the value chain represented – from shipowners to shipbuilders, from shipbrokers and classification societies to technology providers. The result is unique multi-party collaboration, innovation and competence – all of which are on display at Nor-Shipping.

As part of our work with Oslo Maritime Week, research was recently commissioned to clarify the role of Oslo as compared to other leading maritime cities in the world. Menon Business Economics benchmarked 12 cities in five categories – shipowners and shipping operation, maritime finance, maritime law and insurance and maritime technology and competence. The research confirms that Oslo is one of the top five global maritime capitals, shoulder-to-shoulder with Singapore, London, Hamburg and Hong Kong. In particular, Oslo is shown to be the leader in maritime finance and on the commercial side, in terms of shipowners and shipping operations.

The Future is Maritime

Our emphasis on the question "What's next?" makes it clear that Nor-Shipping is oriented towards the future. It may be true that predicting the future is "like peering through frosted glass", as then IMO Secretary-General Efthimious Mitropoulos said at the Nor-Shipping 2011 Opening Conference. But we know that bringing the right people together and providing them with a dynamic networking venue makes things happen.

Just ask Sevan Marine's Arne Smedal and Teekay Corporation's Peter Evensen who met each other during our 2011event week. They worked throughout the following summer on a business model that would help save Sevan Marine, which was struggling with high debt. That autumn, Sevan Marine announced an agreement for financial restructuring and industrial partnership with Teekay Corporation.

Vidar Pederstad is the Director of Nor-Shipping. Email: vp@messe.no

BWT Evolution

The evolution of the Ballast Water Treatment Technology Market

The development of systems for the onboard treatment of ballast water has been under way since the late 90's. By water treatment process equipment standards, the market may no longer be embryonic, but it is still in its infancy.

The initial offerings involved the obvious process migration from other high flow treatment applications in the industrial and municipal markets such as UV, electrochlorination, other chlorine compounds, and ozone. This was followed soon after with integrated process systems combining these and other techniques.

Due to the unique operating environment onboard, other methods soon evolved that utilized process equipment from other ship applications such as inert gas and oxygen stripping systems. All of this effort fits a typical pattern of new applications for equipment to meet new environmental and operational requirements.

As we move into the second decade of ballast water process systems engineering and development, we are seeing the introduction of systems that have been developed specifically for this application, rather than the result of "technology transfer."

This again is somewhat typical of application engineering for systems to meet a specific market niche and its unique circumstances and is often driven internally, from the end user's perspective.

There are several unique, and rather challenging, forces influencing the further development of systems for this application. At the heart of the issue is the regulatory scenario. Environmental regulation is the driving force behind the demand for systems for ballast water treatment. These systems provide little or no strategic operational advantages to the ships employing them and are purely a tool to achieve compliance.

That said, the rules, while clearly defined, are not yet being enforced and do not require, compliance through the use of systems. Quite to the contrary, nearly all jurisdictions worldwide do not currently accept the treated water from systems to meet the regulatory requirements. Ballast water exchange is still the required and accepted method of ballast water management.

At IMO, the situation regarding ratification of the Convention in the near future seems to have reached an impasse. The debate over the Guidelines for Sampling and Analysis for Compliance (G2) for use by Port State Control continues to raise doubts in the minds of major flag States like Panama and Bahamas.

Unfortunately most of the international and domestic requirements include compliance dates that do not take these circumstances into consideration. As a result, those ship owners installing systems to date, and for the foreseeable future, do not use the systems as part of normal ballast operations. This situation is cost prohibitive and inconvenient for the owners and operators. But it is an extremely problematic influence on the evolution of systems.

One of the most important inputs to enable the maturation of such technology is the experience and resulting data that comes from use in "normal practice." The conditions and all of the associated operational and environmental variables that systems will face on trading vessels cannot be adequately simulated in off ship testing. This real world experience is essential to enable further development of existing technologies and to reveal new opportunities and cultivate innovation.

This has already been observed in the conditions under which systems are tested for type approval. While rigorous, only a limited range of conditions can be practically imposed during these trials. Often these conditions do not adequately represent the operating and environmental conditions the ship will encounter. A case in point is evident in the experience of Transport Canada. Three vessels entering Canadian Great Lakes ports with ballast water treatment systems type approved according to IMO recognized procedures were sampled for compliance to the D2 standard. Each was found to be non-complaint. While many factors could have played a part, the environmental conditions in the Great Lakes are significantly different that those conditions encountered during the approvals testing and may have been the single most influential factor.

Further evidence of this challenging situation can be noted with the withdrawal from the market of the Unitor Ballast Water Treatment System by Wilhelmsen Technical Solutions. While the system was Type Approved, after rigorous evaluations and considerations from the perspective of a highly regarded marine equipment supplier a conclusion was reached that the type approval did not provide adequate assurance of compliance across the broad range of conditions, both environmental and operational that may be encountered by vessels in global trade. The preservation of the Wilhelmsen name and reputation and the responsibility to their clients made the very costly and difficult decision the only prudent option.

At IMO, the situation regarding ratification of the Convention in the near future seems to have reached an impasse. The debate over the Guidelines for Sampling and Analysis for Compliance (G2) for use by Port State Control continues to raise doubts in the minds of major flag States like Panama and Bahamas. The underlying science enabling the development of the methods for sampling and analysis continue to improve, but may take some time to be considered "universally applicable." Until consensus is reached on these methods, the Convention may continue to languish in its current state.

The issue of the disparity between the methods for testing for approval (G8 & G9) and those methods being considered for compliance evaluations is further complicating the issue. Earlier this year at MEPC 63, International Chamber of Shipping opened the topic of an overhaul of G8 due to this situation. Again this raises concerns about the potential non-compliance of Type Approved systems in use as part of routine ballast operations.

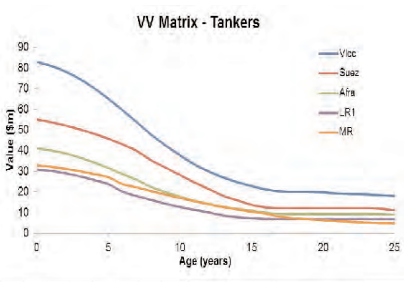
Perhaps a further comparison to the industrial and municipal markets is appropriate. In order to encourage the implementation of new technologies and practices and to gain the operational experience crucial to the refinement of those technologies compliance provisions are often established enabling "experimental use" or interim compliance provisions. This approach alleviates the industry concerns of non compliance resulting from the use of "early generation" systems, yet still provides a first level of environmental protection as a result of their implementation and use.

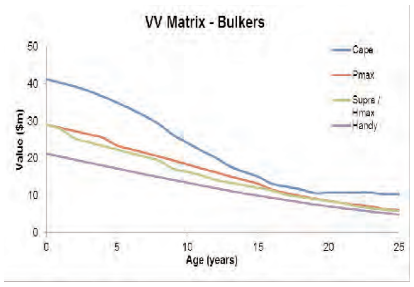
Like all industries responding to new environmental requirements and breaking new ground in sustainable operations, the shipping industry will endure a period of technology development and maturation. The good news is that with over 50 companies now engaged in the effort, among them global leaders in process systems development, the obstacles will be addressed and overcome. Technology developers must acknowledge their role as "solutions providers" not just equipment sellers in order to take the burden off the ship owners that make an early commitment to fitting their vessels with these new systems.

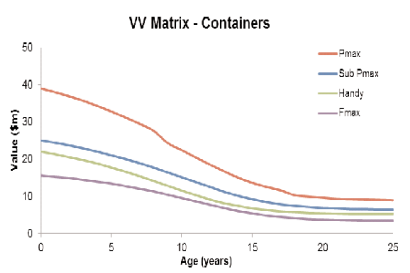
While in some ways more complex, this scenario has been played out before with ship's equipment in MSD's and oil water separators. And we must all accept that, with ever tightening environmental regulations, this will not be the last such situation. With air emissions restrictions already being adopted the next challenge is already on the horizon.

Mr. Stewart provides consulting services to government and industry in the areas of ballast water and air emissions. He is a member of the US delegation to IMO and a frequent Chair and speaker at international conferences on the subjects.

VesselsValue.com
VesselsValue.com provides data driven ship valuations for tankers, bulkers and containerships. These graphs show how vessel value depends on age for the major types. Vessels are assumed to have typical size and specification for age and high built quality at a top tier shipyard.







Apps Abound

The "apps" for use in personal and professional endeavors is ubiquitous. Here are a few of the more interesting releases for the maritime space.

Cummins Inc. unveiled its Smartphone app allowing job seekers the ability to interact with 3D versions of its latest engine technologies and search for career opportunities. Good timing, as the company recently announced plans to hire hundreds for its plant in Indiana. Available on the iPhone and Android operating system: ***http://cumminscareersapp.com***

Mariners along the U.S. east coast can download a new iPad and iPhone application that **warns them when they enter areas of high risk of collision with critically endangered North Atlantic right whales**. The free app provides one source for information, all overlaid on NOAA digital charts. A key feature: a display linking near real-time acoustic buoys that listen for right whale calls to an iPad or iPhone on a ship's bridge showing the whale's presence to captains transiting the shipping lanes. Downloaded from the iTunes App store.

A team of scientific and educational organizations led by Woods Hole Group developed a smart phone app to study fish deaths in Buzzards Bay. The **"Buzzards Bay Fish Mortality" app** utilizes mobile crowdsourcing to collect data from citizens who encounter dead fish on the beaches and waters of Buzzards Bay. The goal is to collect enough data to verify reports of large numbers of fish mortality in the area. It uses "mCrowd" - a crowdsourcing platform developed by the University of Massachusetts Amherst. It is available for free in the iTunes App Store.

It will soon be available for Android users.

Marin opens World's First

Depressurized Wave Basin

MARIN's unique Depressurised Wave Basin (DWB) was officially inaugurated on March 19 by Maxime Verhagen, the Dutch Minister of Economic Affairs, Agriculture and Innovation. Representing the combination of a depressurized towing tank with a wave maker, the DWB creates a world first. The Depressurized Wave Basin is a unique research facility for testing ships and offshore structures in the most realistic operational conditions. The basin is fitted with wave generators and the air pressure in the entire basin can be decreased to as low as 2,5% of the atmospheric pressure. This way many important aspects can be studied using a properly-scaled condition for both water and air.

The inauguration took place in the presence of representatives from various government ministries, the navy, maritime industry, reputed knowledge institutes and from "Topsector Water", (a government-backed process which brings together experts from industry and research institutes to promote the vast water-related knowledge and experience the Netherlands has).

The cooperation between government, knowledge institutes and the business community is at the heart of the DWB, symbolising the so-called "golden triangle". This is a unique collaboration: the government will contribute to research and knowledge development and MARIN will in turn, use the new facility to effectively develop this knowledge and then companies can use this knowledge for valuable input into their innovations. The "golden triangle" results in a unique cooperation able to bring creative, innovative solutions to the industry. When Minister Verhagen officially started up the new wave makers in the basin it was certainly an impressive sight. He said: "MARIN proves that even the most complex dreams can come true. What is happening here, is unique in the world. With the water basin, the waves and the ingenious vacuum technique, MARIN is working with and for companies carrying out top level research."

This huge project (representing an investment of E17m) started in February 2010. Dubbed "the Cathedral" at MARIN, the sheer scale is astounding. The DWB contains 35 million liters of water and took an extraordinary two weeks to fill.

It has never been possible before to test ships and offshore structures in such realistic operational conditions. The new research facility will make an important contribution to improving safety and the efficiency of propulsion and in reducing resistance, consequently improving energy efficiency and helping to reduce emissions.

By Ellen te Winkel, MARIN

(Images: MARIN)

MSC Accepts T-AKE Class Ship USNS Medgar Evers

Military Sealift Command accepted delivery of its newest dry cargo/ammunition ship, USNS Medgar Evers (T-AKE 13), during a short ceremony at the General Dynamics NASSCO Ship Yard San Diego.

The ship, which was christened Nov. 12, 2011 in San Diego, honors slain civil rights leader Medgar Wiley Evers, who is remembered for his efforts to end segregation at the University of Mississippi in the 1950s and for his opposition to Jim Crow laws in the 1960s. Since its launch, the ship has been undergoing a series of tests and trials in preparation for its delivery to MSC.

"As USNS Medgar Evers joins the MSC fleet of combat logistics ships today, the food, ordnance and fuel it will provide to the Navy's combatant ships at sea are critical mission enablers for our globally deployed naval forces," said Tim McCully, Military Sealift Command Pacific's deputy commander. "From supporting an aircraft carrier's 75-plus aircraft and 5,500 crew members, to transporting humanitarian assistance and disaster relief supplies, USNS Medgar Evers and more than 30 other MSC underway replenishment ships bring to life the motto: MSC delivers!"

The 689-foot long Evers, designated T-AKE 13, is the 13th of 14 new dry cargo/ammunition ships scheduled for delivery to the Navy by the end of this year.

The first 11 dry cargo/ ammunition ships are currently operating as part of MSC's Combat Logistics Force, delivering vital fuel, equipment and supplies to Navy warships at sea. The remaining 3 of the 14-ship T-AKE class are expected to be assigned to maritime prepositioning squadrons, which strategically place combat cargo at sea for rapid delivery to warfighters ashore.

Evers has a crew of 125 civil service mariners working for MSC and 11 Navy Sailors who provide operational support and supply coordination.

T-AKEs are the newest class of Combat Logistics Force ships being built for MSC. They are replacing some of MSC's aging, single-mission supply ships such as Kilauea-class ammunition ships and Mars- and Sirius-class combat stores ships as they reach the end of their service lives.

Wärtsilä on NASDAQ to "Ring the Bell"

Wärtsilä executives late last month visited NASDAQ MarketSite in Times Square, New York City, to officially "ring the bell" to open trading on April 26, 2012. In honor of the occasion, Bjorn Rosengren, CEO, Wärtsilä Corporation and Frank Donnelly, President, Wärtsilä North America will rang the Opening Bell.

In 2011, Wärtsilä's net sales totalled EUR 4.2 billion with approximately 18,000 employees. The company is listed on the NASDAQ OMX Helsinki.

(Photo Greg Trauthwein)

Impact of Sanctions

Unprecedented enforcement efforts over the past year have brought to 13 the number of companies in the maritime, petroleum and other sectors now subject to sanctions under the ISA.

Annual Update on U.S. Economic Sanctions and Export Controls and the impact on the maritime business.

By Barbara D. Linney and Kevin J. Miller

The primary focus of last year's annual update, which appeared in the April 2011 issue, was U.S. efforts to tighten economic sanctions against Iran. Over the past year, U.S. pressure on Iran has intensified. Syria also has been a target of new U.S. sanctions, while the sanctions against Libya imposed in early 2011 have been eliminated for all practical purposes by a series of general licenses. Our 2012 update concentrates on these key U.S. developments, but readers should be aware that these were not the only recent changes to U.S. and international sanctions programs. Keeping abreast of all applicable embargoes and sanctions remains a priority for international businesses.

Iran

Last year's update focused on amendments to the Iran Sanctions Act (ISA) which targeted the provision of services in support of various aspects of Iran's petroleum industry, including provision of ships or shipping services. Unprecedented enforcement efforts over the past year have brought to 13 the number of companies in the maritime, petroleum and other sectors now subject to sanctions under the ISA.

Effective November 21, 2011, the scope of sanctions against Iran's petroleum industry was expanded by Executive Order 13590, which imposed "ISA-like" sanctions against persons providing goods, services, technology or support for the development of Iran's petroleum resources or the maintenance or expansion of its petrochemical sector. As under the ISA, sanctionable activity is subject to certain value thresholds. In the case of provision of services in support of development of petroleum resources, sanctions are triggered by services with a fair market value of $250,000 or an aggregate fair market value of $1,000,000 or more during any twelve-month period. The corresponding thresholds for services in support of the petrochemical sector are $1,000,000 and $5,000,000. Sanctions that can be imposed are similar to those provided for under the ISA.

On December 31, 2011, the President signed into law the National Defense Authorization Act for Fiscal Year 2012 ("NDAA"). Section 1245 of this statute requires the President to block the property and interests in property subject to U.S. jurisdiction of all Iranian financial institutions, including the Central Bank of Iran ("CBI"). The required asset freeze was implemented on February 5, 2012 by Executive Order 13599, which also blocked all property and interests in property of the Government of Iran. Section 1245 also aims to reduce Iranian oil revenues and discourage transactions with the CBI by providing for sanctions on foreign financial institutions that knowingly conduct or facilitate certain significant financial transactions with the CBI. Although the sanctions on foreign financial institutions authorized by section 1245 are similar to the financial sanctions required to be imposed under the ISA (i.e., prohibiting and/or imposing strict conditions on opening or maintaining correspondent accounts or payable-through accounts in the United States), there are differences in the scope and operation of the two statutes. Currently, the sanctions apply to all significant financial transactions with the CBI except those relating to the sale of food, medicine, or medical devices to Iran, and transactions for the sale or purchase of petroleum or petroleum products to or from Iran. On March 30, 2012, the President took the expected step of determining that there is a sufficient supply of petroleum and petroleum products from countries other than Iran to permit a significant reduction in the volume of petroleum and petroleum products purchased from Iran by or through foreign financial institutions, thereby paving the way for the extension of the sanctions to petroleum-related transactions. On March 20, however, the

Secretary of State had determined that ten (10) E.U. countries and Japan had significantly reduced their volume of crude oil purchases from Iran and thus qualified for a renewable 180-day waiver of the sanctions. Following passage of the NDAA, the U.S. Congress has continued its efforts to isolate Iran by expanding both the scope of sanctionable activity and the types of sanctions that can be meted out by the U.S. Government. Many of the pending bills have particular focus on or consequences for the maritime industry and extend to both U.S. and non-U.S. persons.

There are two bills pending in the United States Congress which, if passed, would have implications for entry into the United States by vessels trading with Iran, North Korea or Syria. Both bills would implement an "enhanced vessel inspection provision" and effectively impose a 180 day ban on entry similar in effect to the long-standing ban imposed by the Cuban Assets Control Regulations. The pending legislation also would supplement existing conditions of entry enforced by the U.S. Coast Guard for vessels requesting entry into U.S. ports that have previously visited ports deemed to lack effective anti-terrorism measures. Iran, as well as certain other countries subject to OFAC sanctions, is on the list of countries whose ports are deemed to have failed to maintain effective anti-terrorism measures.

Each of the pending bills (S. 1048 and H.R. 2105) would amend the Iran, North Korea, and Syria Non-Proliferation Act to require vessels entering the United States to certify that the vessel did not enter a port in Iran, North Korea or Syria within the preceding 180 days. Penalties for false certification would include a two-year ban on entry of the vessel in question (both H.R. 2105 and S. 1048) as well as a two-year ban on entry of vessels owned or operated by any parent entity (H.R. 2105) or prosecution of the vessel's owner (S. 1048). In addition, both bills would require the U.S. Government to identify foreign ports at which vessels have landed during the preceding 12 month (H.R. 2105) or 180 day (S. 1048) period that have also landed at ports in Iran, North Korea or Syria during such period, and require enhanced inspection of all vessels arriving in the United States from such ports.

In addition to provisions relating to the 180 day ban discussed above, S. 1048 would require imposition of sanctions against persons providing shipping services with respect to the exportation of petroleum, oil or liquefied natural gas to be refined outside of Iran if the Islamic Revolutionary Guard Corps ("IRGC") or any of its affiliates are involved and certain value thresholds are met. Another pending bill (S. 2101 – introduced in the Senate on February 13, 2012) would require imposition of sanctions against any person who knowingly provides a vessel, insurance or reinsurance, or any other shipping service for the transportation to or from Iran of goods that could materially contribute to the activities of the Government of Iran with respect to the proliferation of weapons of mass destruction or support for acts of international terrorism. Yet another initiative, in the form of S. 2058, which was introduced in the Senate on February 1, 2012, would require reports to Congress on various matters related to trade with Iran in crude oil and refined petroleum products, including the identity and national origin of persons transporting such crude oil and refined petroleum products or providing shipping services and insurance services to Iran. At the time of publication, efforts were underway to move certain of the pending bills forward, but the likelihood of passage of any particular provision remains unclear.

Libya

A series of general licenses issued by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC") in late 2011 authorized virtually all transactions previously prohibited by the February 25, 2011 Executive Order imposing sanctions against the Qadhafi regime, including transactions with the General National Maritime Transport Company. However, it remains important to ensure that contemplated transactions fall within the scope of the general licenses and that all applicable conditions of the licenses are observed.

Syria

Just as OFAC began to loosen the Libyan embargo, Executive Order 13582 of August 17, 2011 ratcheted up the level of U.S. sanctions against Syria. Under the Executive Order, all property and interests in property of the Government of Syria that are or come within the United States or the possession or control of U.S. persons are blocked. The effect of these asset freezing provisions is that U.S. persons may not engage in any transactions with the Government of Syria, except exempt transactions (i.e., certain personal communications, export or import of information or informational materials, and travel-related transactions) or licensed transactions. For these purposes, the "Government of Syria" is defined to mean the Government of the Syrian Arab Republic, its agencies, instrumentalities, and controlled entities. The Executive Order also prohibited exportation, reexportation, sale, or supply of services to Syria, directly or indirectly, from the United States or by a U.S. person, wherever located, importation into the United States of petroleum or petroleum products of Syrian origin, and any transaction or dealing by a U.S. person, wherever located, including purchasing, selling, transporting, swapping, brokering, approving, financing, facilitating, or guaranteeing, in or related to petroleum or petroleum products of Syrian origin. These prohibitions now apply in addition to the previously existing ban on most exports from the United States to Syria.

*This article reflects developments through April 6, 2012, the date of submission for publication. The views expressed herein are those of the authors, do not necessarily reflect the opinion of the firm or other members of the firm, and should not be construed as legal advice or opinion or a substitute for the advice of counsel. Please contact Barbara Linney (Linney@BlankRome.com) at (202) 772-5935 if you have questions or desire assistance.

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Young Fleet for Heavy Loads

Shipowner Roelf Briese relies successfully on ongoing fleet rejuvenation

By Peter Pospiech, Germany

Leer, Germany, not to far from the river Ems entry into the North Sea, with its Institute of Maritime Studies, is the origin of a maritime trade association in the field of logistic, shipping companies, shipping, shipbuilding, carrying business and handling.

Thus the city of Leer has grown, after the city of Hamburg, into the largest concentration of shipping companies according to the managed numbers of ships, with around 16 shipping companies operating more than 400 seagoing vessels from here.

By its seaport, the city was characterized by trade for centuries. Traditionally only a few shipping companies were based in Leer, but this has changed in the mid-1980s when graduates from the Institute of Maritime Studies entered the business of shipping.

Further company foundation followed, and by the end of 2010, 16 shipping companies have been generated. Most owners and many of their leading employees are homegrown graduates from the Institute of Maritime Studies.

Additional drivers of change, which also have significantly influenced the area's maritime growth, have been the economic expansion of the global goods traffic as well as the close collaboration with banks and financial service provider in the investment sector.

Meanwhile, more than 400 vessels, with Leer as their homeport, are listed in the German Maritime Register. Also ashore a few hundred experienced staffs are employed, for example in shipping finance.

Briese Schiffahrt

A local shipowner with deep local roots is Briese Schiffahrt, and it is here in Leer, direct on the waterfront with a wide view of the water, where chief Dipl.-Ing. (naval architect) captain Roelf Briese has his "wheelhouse" on shore. It is from his wheelhouse that the 67-year-old navigates his worldwide maritime adventure, fittingly through calm but sometimes through heavy seas.

But after every storm comes again sunshine, and Roelf Briese would not be Roelf Briese if he didn't stick to his course, even in stormy weather.

His course is: Our Objective > Charterer's Happiness.

The Key to Briese Schiffahrt stability

In the past some 30 years — where many companies have risen and fallen, been born and died — Briese Schiffahrt has doubled its staff, generated an enormous increase in sales volume and at the same time enjoyed a substantial return of investment.

Above: Captain Briese's *wheel house*, direct on the Leer port waterfront with a wide view onto the water.

Far Left: The 67 year old ship owner Dipl.-Ing. Captain Roelf Briese would not be Roelf Briese if he didn't stick to his course, even in stormy weather.

In the picturesque fishing village Ditzum, with its little red brick houses on the westside of the river Ems, Roelf Briese was born in 1944. Very early he had only one target: to go to sea!

Already at age 23, Briese earned his captains license and was sailing onboard of commercial seagoing vessels.

On one of those trips, during a heavy storm that lasted several days, he took the decision to 'hit the books' again to study naval architecture. Later on, The Institute of Maritime Study in Leer appointed Briese as an academic for technical ship-management, navigation and mathematics for about 30 years.

In 1983 he established his own shipping company, the Briese Schiffahrts

"Our company concentrates on multipurpose heavy lift vessels – with this we can carry all kinds of goods, from potatoes to generators up to container terminals"

Roelf Briese

GmbH & Co. KG in Leer, which today is a significant German maritime presence. More than 320 highly skilled employees of different nationalities take care of a smooth workflow ashore, while more than 2,800 employees fulfill the transport assignments onboard his fleet of ships which operates worldwide.

"Very early we came to the result that we could not keep up with the international global carriers of the container shipping," said Briese. "That's why we concentrated ourself on special ships with our own freighting company BBC Chartering & Logistic and Briese Chartering – that makes us less dependent. Thanks to the CEO of BBC Chartering & Logistics and his crew it was possible to build up a worldwide network. Our company concentrates on multipurpose heavy lift vessels – with this we can carry all kinds of goods, from potatoes to generators up to container terminals. With more than 120 vessels in service we belong to the largest supplier worldwide. Our portfolio is aligned in such a way, that we go away from a pure carrier towards a single source company. That contains also, among others, that we offer not only stevedoring and ships design and own crewing, but also ships repair and little things which can be done on one's own."

Very important for this agile shipowner from Leer are flexibility and versatility, and a high quality standard for high safety standards, modern equipment and a very low average age of his vessels. In addition to this, Briese Schiffahrts GmbH & Co. KG is using its own worldwide network of partners for ideal transport solutions for its customers and, accordingly, being a single source contact person. With its own 100% daughter company - BBC Chartering & Logistic – around 140 ships are represented by 24 agencies worldwide.

The Fleet

The early 90s saw a phase of sustained fleet growth, accompanied by a drive to extend the companies portfolio of marine transport solutions and related logistics services.

Meanwhile 200 newbuildings and more than 100 second hand ships have been initiated. With sales of more than 140 seagoing ships, **Briese owns a permanent fleet of around 120 vessels with an average age of about 4.7 years.** The load capacity is between 2,500 and 37,300 tons.

"We always bought, built but also sold many ships in the past," said Briese. "The result is a modern, economical, ecologically and challenging state-of-the-art fleet, which are active in the heavy load business. Here, the intellectual requirements are simply higher. Ships strength and stability must be exactly calculated. The input, also what goes along with the logistic measures, is unlike higher than compared to the container shipping."

"Our preferential target is to have ships in our fleet which have a low fuel consumption and accordingly low exhaust emissions, with at the same time economically justifiable cruising speed. In this context, all our ships are tested again and again during the project phase as a model in towing tanks of the Hamburg Ship Model Basin, HSVA, till we find the optimal hull form with the most efficient drive power. Of course, also the diesel engine manufacturers must do their homework, which means: we are only interested in diesel engines who can guarantee us a long durability combined with a high reliability and the lowest fuel consumption."

Less Fluctuation but Nevertheless Skills Shortage

Captain Briese is not unlike many other executives in the maritime field, drivig companies large and small, in that the number one challenge for continued success is ensuring a viable pipeline of maritime talent.

"Ashore, we fortunately see a very low fluctuation, but in the ship operation engineering sector, it looks worse than in the nautical sector," said Captain Briese. "Particularly in the technical sector we see lack of appropriate qualification. Based on this in 2005 a resolution, together with the ship owner association "Ems-Achse," was passed to finance three endowed professorships and a university teaching position at the Institute of Maritime Studies in Leer for the duration of ten years."

"To supprt this we collected three million Euros. The result: in the last semester we had 400 nautical students and students of the ships and shipping company management, thus we believe that we can count on more young academics."

The 67-year-old company owner sees his own further art of living down-to-earth:

"I wish myself, when I hand over the company management to my sons, Wilke, hands one of these days, that I still start my day-to-day work with the same good mind and love and the Briese shipping company stays furthermo

The Arctic

Economic Promise or Environmental Peril?

The fervor to move shipping routes and energy business north of the Arctic Circle is palpable, as countries with physical connection and even 'non-Arctic' states are making moves and plans to stake claims to the vast potential that lies within.

By Greg Trauthwein, Editor

(Photo: DNV)

While the maritime and subsea technology allowing ops in the Arctic's harsh environs has moved forward fast, there are repeated and regular 'warning shots across the bow' of budding entrepreneurs large and small, as the Arctic environment is still largely undeveloped territory, representing risky operations for even the heartiest of souls. Last month in New London, Connecticut, at the United States Coast Guard Academy (USCGA), the USCGA and the Law of the Sea Institute from the University of California's Berkeley School of Law convened a conference dubbed "*Leadership for the Arctic*," a meeting which brought together government, academia and commerce to discuss the promise and peril north of the Arctic Circle. While discussions encompassed an array of technical, logistical and political matters, the overriding theme of the conference was 'leadership', or more specifically the vacuum of global leadership in matters governing the Arctic. "What we have is an ocean being used more than any time in history without any regulation," summarized Lawson W. Brigham, PhD, Distinguished Professor, Geography and Arctic Policy, University of Alaska – Fairbanks. "There is a lot of work to be done in the future."

Ice Cover: Shrinking but Viable

The Arctic ice cover is shrinking in tandem with the overall thickness of the ice. While a less ice-packed polar cap does offer opportunities, Dr. Brigham said: "I think it important to remind everyone that the place is ice-covered – fully or partially – eight to 10 months out of the year through the century and beyond. The ice cover is thinner, but it may be more dynamic, as it might be moving faster, meaning that it might not be an easier place to navigate."

"I believe that all ships in the future in the Arctic will be Polar Class Ships for most of the year, highly regulated," said Dr. Brigham. "So if you subscribe to this notion that there is going to be an ice-free shipping enterprise, climbing to the Arctic to create some sort of Panama or Suez Canal – think again."

While a shorter route from Europe to Asia is enticing on a number of fronts, least of not which is the ability for shipping companies to drastically reduce shipment time, coupled with drastic reductions in fuel use and emissions, the prime driver for development in north of the Arctic Circle remains the discovery, recovery and shipment of oil and gas.

While computer models repeatedly show the summer retreat as much bigger, the ice has shown the tendancy to bounce back in the winter, and in fact just this past winter was a record maximum ice coverage in the Bering Sea. According to Dr. John Walsh, Chief Scientis, Alaska Center for Climate Assessment, computer models show that winter ice will be a major factor in the Arctic through 2090.

The Perils

Any discussion regarding maritime and offshore operations in the Arctic must start and end with the harsh climate. But the cold and ice are only part of the story. As the ice recedes further, the obvious result is more area of open water, and the Bering Sea Straight, for example, has become a 'ground zero' for low pressure systems, resulting in more frequent and much larger storm activities, according to Dr. Walsh. "The increased storm activity is real, not projected," he said, and it will have serious impact on shipping and offshore activities, not to mention local shoreside communities.

Another challenge is the dearth of infrastructure and facilities to service a normal working maritime and offshore activities, in times normal and emergency. "Since there's not much maritime infrastructure in the Arctic, it's a huge issue. Only 6% of the Arctic Ocean is charted to international standards, and

"I think it important to remind everyone that the place is ice-covered — fully or partially — eight to 10 months out of the year through the century and beyond."

Lawson W. Brigham, PhD, University of Alaska–Fairbanks

"There are between 40-160B barrels of 'technically recoverable' conventional oil North of the Arctic Circle; most offshore & most in less than 500m of water."

Dr. Donald Gautier, U.S. Geological Survey

11% is mapped." In fact, there are only two areas in the reion – off the coast of Norway and the Northwest coast of Russia – that are considered to have world class maritime infrastructure.

The Promise

In assessing the risk versus reward for oil companies, Dr. Donald Gautier, Research Geologist, U.S. Geological Survey, puts it quite simply. "What matters is what can be technically recovered."

When looking at the potential for Oil & Gas activities in the region, Dr. Gautier said that from a petroleum geology point of view, the Arctic consists of three roughly equal parts:

- **Dry land:** Virtually 100% explored.
- **Deep Ocean Basins:** Geologically not conducive for petroleum.
- **Continental Shelves:** less than 500 m of water; 270 or 280 exploratory wells have been drilled in an area roughly 7 million sq. km. **Untested petroleum frontiers that are of intense interest.**

To date, about 400 O&G fields have been found north of the Arctic Circle, almost all of those onshore in west Siberia, Russia and North Slope of Alaska, with approximately 40 billion barrels of recoverable oil and about 1200 trillion cu. ft. of natural gas discovered. (To put the numbers in context, the world uses approximately 30 billion barrels of oil and 110 trillion cu. ft. of natural gas each year). Intrigue in the Arctic from an O&G perspective lies more in what we don't know, and according to Dr. Gautier, the lack of knowledge is vast.

"The Arctic is already rich in Russian gas, that we know. In respect to oil, most has been found in Northern Alaska near Prudhoe Bay , where 22 billion barrels have been produced or carried in reserves, and is more than half of all oil found and produced north of the Arctic Circle." In assessing what remains, he admits that it is "real uncertain stuff we're talking about here. But if you add it all up, and I give caution when you start to add up uncertain quantities, there are between 40 and 160 billion barrels of technically recoverable conventional oil North of the Arctic Circle, most of that offshore, most of that in less than 500 m. of water on the continental shelf. Size really matters in the Arctic; development will not be random, it will not be uniform, and it will be concentrated very heavily on those places where the geology says great big fields are most likely," Dr. Gautier said. "It's in the Barents basins (mostly in Russian territory); it's northeast Greenland; it's Baffin Bay. But for our money the single most prospective area in the entire Arctic is this narrow shelf of the Chukchi and the Beaufort sea offshore northwest Canada and north Alaska."

Natural gas is another story: "Russia is rich in gas in the Arctic," but at the current price (as press time) of about $15 for the energy equivalent of oil (more than $100/barrel), it is virtually undevelopable today.

The New Shipping Route?

Sending ships through the Arctic in order to reduce time at sea, fuel consumption and emissions is appealing on its face value, but it too is fraught with questions and logistical implications, as a lack of maritime infrastructure, a dearth of navigation charts, and the paucity of emergency response all conspire to make the route a risky one. Not to mention the effects of increased shipping and human activity on one of the more fragile ecosystems, which is home to a number of rare species and pristine environs.

While recently covering the *Maritime Spectrum 2012* in India, Maritime Reporter's Joseph Fonseca reported that the prospect of traversing the Arctic with commercial ships is a hot topic in all circles. He reports that Captain Binod Dubey, Claims Executive of SKULD, Hong Kong and author of 'Ice Navigation Managing Cold Climate Risks' described the new trade link between Europe and Asia: **"Taking the Northern Sea Route (NSR) can reduce the voyage time for ships from the estimated 40 days to just 22.5 days fetching a time saving of 17.5 days @ 28.2 MT of fuel,"** said Capt. Dubey. "Going by today's fuel cost this amounts to a saving of $300,000. If the tonnage is larger the cost works out much less. Environmentally this NSR turns out to be more beneficial as there is less NOx emitted which is around 50 tons, CO2 is down by 1557 tons and Sox by 35 tons."

However there are challenges, especially the harsh natural conditions resulting in ice damage, ice accretion and waiting for the ice free window period. Operationally the investment needed when it comes to building adequate ice-classified cargo vessel could pose a heavy burden. For example a VLCC having ice notation IA will have 16% extra steel weight compared to one without ice strengthening. Speaking also to Fonseca was Mik Stoustrup, M. D. of ID Wallem Shipmanagement Limited who discussed his two ice class vessels trading in the Baltic. His first ships Nordic Barents made a trip through the NSR from Norway to Qingdao last year carrying iron ore from Norway. It was escorted by two atomic ice breakers one in the front and one behind in compliance with the Russian regulations. The trip saved 14 days, and altough the cob st of the ice breakers was same as the cost of transiting through the Suez Canal, and the insurance is more the charterer still saved $200,000 on one trip alone.

Hapag-Lloyd: A Trailblazer for the New EEDI

Voluntary commitment for entire fleet; Up to 27% reduction in CO2 emissions

The German commitment to engineering quality is world renowned. Now, so too is its commitment to environmental matters, as earlier this year Hapag-Lloyd became the first shipping company in the world to have its entire own-managed fleet certified in accordance with the Internatioal Maritime Organization's (IMO) Energy Efficiency Design Index (EEDI).

Certification was carried out by Germanischer Lloyd, and the independent study shows that many vessels in the Hapag-Lloyd fleet have an EEDI that is between 20 and 27% better than the average figure for the active global fleet in their respective classes. Bottom line: these vessels emit significantly less CO2 than the average of the world fleet, and these results don't include the De-rating* that has been carried out on the majority of Hapag-Lloyd ships. (*De-Rating is a technical method of reducing the power of a ship's main engine in order to achieve optimal combustion at the slower cruising speeds implied by slow steaming as well as other fuel economies).

The EEDI is determined using a fixed formula and shows the CO2 emissions of a cargo vessel in grams per ton trans-

(Photo: Hapag-Lloyd)

One of Hapag-Lloyd's largest ships is Colombo Express, pictured here on the Elbe.

ported and sea mile travelled. EEDI was developed by IMO to establish a standard benchmark for the energy efficiency and environmental impact of cargo vessels. The aim – much as it is with common consumer products, from light bulbs to automobiles — is to help ships with reduced energy consumption and CO2 emissions to gain a greater market share. EEDI will be mandatory for newly built ships from 2013, and the energy efficiency standard, in terms of the allowable upper limit for EEDI, will then be tightened over time.

As Hapag-Lloyd has already invested in the development and implementation of the latest maritime technology, its more recent ships in particular are especially low in CO2 emissions. In 2010, the Vienna Express was the very first ship in the world to receive an EEDI certificate, according to the shipping company. The 8,750 TEU ship is equipped with the latest technology and electronic control systems, which result in a 25% smaller CO2 footprint compared with the world fleet average for container vessels.

"The voluntary EEDI certification of our existing fleet means we have had the CO2 emissions of our vessel's design examined by an independent third party. The results are extremely gratifying, but the EEDI figures also show us where we can do even better. And that is what we are always looking for when it comes to conserving natural resources," said Michael Behrendt, Chairman of the Executive Board of Hapag-Lloyd AG.

In 2011, Hapag-Lloyd transported more than 5.2 million TEU and generated revenue of around $9.7b (preliminary figures). It has around 6,900 employees at 300 sites in 114 countries. It operates more than 82 of its own liner services and has an extensive feeder network, linking over 430 ports around the world. The total fleet (including charters) consists of some 150 vessels with a total capacity of nearly 680,000 TEU.

"The voluntary EEDI certification of our existing fleet means we have had the CO2 emissions of our vessel's design examined by an independent third party," said Michael Behrendt, Chairman of the Executive Board of Hapag-Lloyd AG.

What's on the Road Ahead?

An environmental roadmap for better energy management in the shipping industry

Environmental regulation never stands still. From NOx and SOx to EEDI and SEEMP, it's easy to get lost in a maze of acronyms when discussing the latest regulatory developments but I would encourage the industry to look beyond compliance and grab opportunities to better manage ship and fleet energy use.

Although there is not enough room in this column to discuss each environmental issue affecting the industry, I hope to offer clarity on the most recent legislation affecting owners, designers and builders; and give some insight on developing a holistic energy management approach to meet the environmental and regulatory demands of the future. I have included an environmental roadmap that outlines the key existing and forthcoming legislation from the International Maritime Organization (IMO) up to the end of 2017, identifying future compliance dates and emerging regulations as well as concluding thoughts on the bigger picture of energy management.

Let's start with EEDI and SEEMP - the two major instruments that form IMO's package of technical and operational measures for regulating greenhouse gas (GHG) emissions from shipping.

Energy Efficiency Design Index (EEDI)

First, the details . . . the EEDI is a mechanism to proactively manage energy efficiency through improvements in ship design. It is a simple, yet robust, index that encompasses the majority of merchant and demonstrates the industry's commitment. Shipping is the only industry to have developed a technical measure to address this as yet. It will become mandatory on January 1, 2013 under MARPOL Annex VI. The Index will apply to all new ships above 400 gt which:

- Have a building contract placed on or after January 1, 2013, or
- In the absence of a contract, have their keels laid, or are at a similar stage of construction, on or after July 1, 2013 or
- Are delivered on or after July 1, 2015.

The EEDI will regulate energy efficiency in much the same way that MARPOL Annex VI has regulated nitrogen oxide (NOx) and sulfur oxide (SOx) emissions – through phased reductions in limits. Each ship type will have a baseline EEDI and will have to reduce its EEDI relative to this baseline by up to 10 percent by 2024; and up to 30 percent from 2025 onwards. Technical work is still ongoing to establish the baseline and phased reductions for Passenger ships and ro-ro ships therefore they will not initially be subject tothe regulation..

EEDI verification will require input from the shipyard, shipowner and a recognized organization (RO). Pre-verification will occur at the design stage, whereas final verification will be conducted after sea trials and upon commissioning.

When it comes to the EEDI, one thing to remember is that it is non-prescriptive. The IMO leaves the method of compliance to owners, designers and builders. This is good in theory, but it is important to understand that different ships will require different solutions, and speed reduction will not always be the answer. Solutions can range from design optimization of hull and propulsion, optimized engines and machinery and energy-efficient devices and appendages to more innovative technologies such as wind-assisted propulsion, air lubrication and many more.

It is vital that technology providers, shipyards and owners work together to help establish the optimum solutions for each ship. A proactive, collaborative approach will not only benefit the parties involved but the knowledge gained will benefit the industry as a whole.

It is clear that although the EEDI is a regulatory requirement and as it only applies to new vessels it will take time for the existing fleet to be replaced by EEDI compliant ships.

It is really the industry that will drive this to become a 'beyond compliance' mechanism that will facilitate commercial vetting for charterers as well as a competitive platform for industry. It is for this reason that the industry is also keen to see someway of indexing the global fleet on a comparative basis. The EEDI, by definition, is a new ship index, however it poses an interesting question as to whether the same technical methods and challenges can be overcome to apply something similar. This is a current topic for debate within the industry.

Ship Energy Efficiency Management Plan (SEEMP)

The SEEMP is a management manual containing ship-specific energy efficiency measures to assist operators in reducing energy consumption. Along with the EEDI, the SEEMP will become mandatory on January 1, 2013 under MARPOL Annex VI, and will apply to new and existing ships of 400 gt or more.

While the EEDI is more of a technical measure targeted at the design of future generations of ships to control GHG emissions, the SEEMP is intended to control GHG emissions from the existing fleet. IMO's intention is that all ships should keep onboard a SEEMP, which is a living document containing a ship-specific plan of actions, targets and responsibilities for managing (and improving) the operational energy efficiency of the ship.

Measures that could be included are: voyage optimization, energy conservation projects and trim optimization, to hull/propeller maintenance schedules and performance monitoring.

But SEEMP is more than just a list of actions. Measuring the operational energy efficiency of the ship, setting targets and monitoring the performance against them, is also required.

Each SEEMP should be structured using a simple 'plan; do; check; act' approach, as follows:

Plan: Identify each energy improvement measure.

Do: Define tasks for implementation with delegated responsibilities.

Check: Monitor the progress of each measure and put in place appropriate benchmarks and reporting processes.

Act: Each measure should be evaluated periodically to assess its effectiveness.

The process should be continuous and evolving, and include goals where appropriate.

Will these regulations be effective?

Currently, the shipping industry accounts for about 3% of global CO2 emissions, around the same amount of emissions as Germany. A recent study, commissioned by the IMO and led by DNV and Lloyd's Register, found that the EEDI and SEEMP will lead to significant emission reductions. By 2020, an average annual reduction of 151.5 million tonnes of CO2 is estimated and by 2030 this will increase to an average of 330 million tonnes annually.

These estimated reductions translate in to a significant annual fuel cost saving of about $50 billion in 2020 and about $200 billion by 2030, using fuel price scenarios that take into account the switch to low-sulphur fuel in 2020.

The study also showed that emission reduction is initially likely to be achieved more rapidly through SEEMP uptake while reductions due to EEDI will come into effect later, as older, less efficient, tonnage is replaced by new, more efficient tonnage.

Look at the bigger picture

At a time when the industry is facing low freight rates, oversupply of tonnage, a lack of skilled officers and crew, and complex regulations; the current and impending IMO regulations should be more than an exercise in compliance.

I encourage companies to use these regulatory measures as part of a larger, holistic energy management program that enhances operational standards, drives continuous improvement and reduces costs. SEEMP and EEDI should simply be pieces of a company's overall energy management program that consists of understanding baseline consumption, identifying efficiency opportunities, implementing improvement measures, and monitoring/verifying results.

One thing is clear to me; no matter the size of your ship, the number in your fleet, or the type of product, it is only through vigorous energy management that the world's leading shipowners will be able to face the challenges and the rapid pace of change in the global shipping industry of the future.

Katharine Palmer is Environmental Manager for the Lloyd's Register Group. She is responsible for the management and development of the organization's Environmental Products and Services.

The Energy Dashboard

Helping the U.S. Navy Fleet Reduce Fuel Consumption

When talk turns to the U.S. Navy and its operations, perhaps not the first thought that comes to mind is energy concservation.

Perhaps it should.

The Naval Sea Systems Command (NAVSEA) installed the Energy Dashboard proof-of-concept system in USS Kidd (DDG 100), April 2, 2012, and Energy Dashboard is just one – but a very significant one – of several shipboard energy efficiency initiatives that provides U.S. Navy sailors with a real-time assessment of energy usage and recommended actions to reduce fuel and electrical power consumption.

"Energy Dashboard is similar to the systems in today's newer vehicles that show drivers their instantaneous miles per gallon, allowing drivers to modify their driving behaviors to maximize fuel efficiency," said Glen Sturtevant, Team Ships director for Science and Technology. "Energy Dashboard ties into other shipboard computer software systems to tell sailors the same thing about their ship."

In addition to Kidd, NAVSEA has installed the Energy Dashboard on USS Truxtun (DDG 103), USS Sampson (DDG 102) and USS James E. Williams (DDG 95). USS Wayne E. Meyer (DDG 108) will receive the system by August.

The new Dashboard uses the existing Integrated Condition Assessment System to collect data from shipboard equipment, calculate and display instantaneous and daily energy consumption rates.

"Energy Dashboard will raise shipboard situational awareness of how certain engineering plant line-ups and equipment affect fuel consumption rates, and will build ownership in energy conservation efforts by showing how the actions instantly and dramatically affect consumption rates," said Bob Steele, director, Fleet Readiness Engineering Office. Energy Dashboard is anticipated to be fielded in all surface ships by 2017.

SVPDA Displays Alternate Course

Simultaneously, the Navy is developing a computer software application that will be used by Fleet weather centers to push optimized routes to Navy ships for safety and a fuel savings of more than 370,000 barrels annually, another major plank in the push to reduce fuel use and environmental impact.

Naval Sea Systems Command and Space and Naval Warfare Systems Command awarded a $1.4 million contract, April 5, to DRS Training and Control Systems for the Smart Voyage Planning Decision Aid, or SVPDA, proof-of-concept.

"This type of capability is used extensively in commercial shipping to identify fuel-efficient routing for cost savings," said Sturtevant, Team Ships Science and Technology director. "SVPDA will provide real-time information to avoid inclement weather where excess fuel would be consumed to maintain a prescribed course and stabilize the ship, while taking advantage of wind, waves and currents where fuel usage can be reduced."

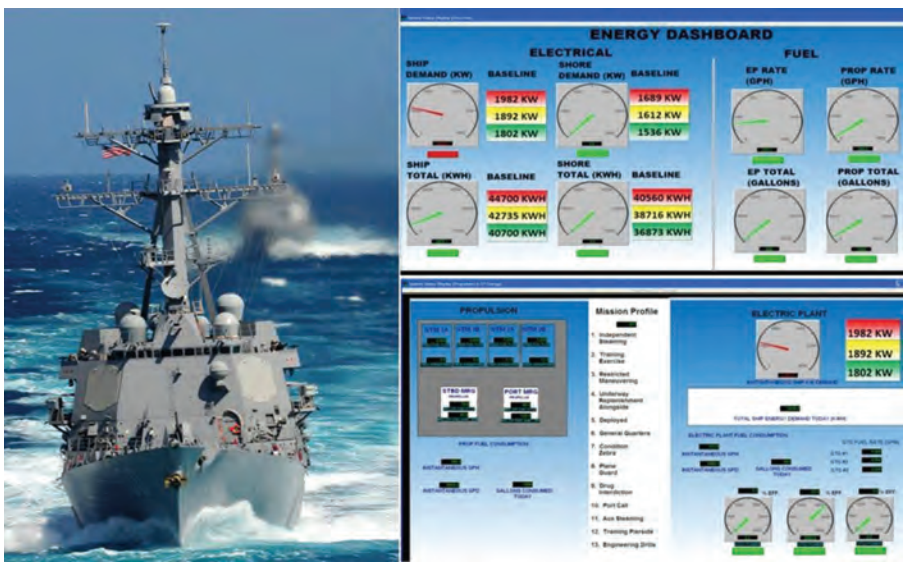
SVPDA also uses ship-specific hydrodynamic and propulsion data to create the most fuel-efficient route for that hull form. "The Fleet still has the option of selecting a non-fuel efficient course to ensure operational security, but SVPDA allows them to choose this fuel-optimized route when operations permit," said Tom Martin, NAVSEA Energy Office technical director.

Once implemented throughout the Fleet, SVPDA is anticipated to reduce fuel consumption by a minimum of four percent, or 373,000 barrels per year. SVPDA is one of several shipboard energy efficiency initiatives the Navy is exploring to reduce Fleet fuel consumption and ensure energy security.

Nine New Shipbuilding Efficiency Items

Collaboration between the Navy, U.S. Coast Guard and industry have identified potential savings in the shipbuilding process and support a pilot project to prioritize efficiency efforts that could be implemented this year. Rear Adm. Thomas Eccles, Naval Sea Systems Command chief engineer and deputy commander for Naval Systems Engineering, issued a letter to shipbuilders, April 2, approving nine potential cost-saving efficiencies.

"Based upon the work of the four 'Specification Cost Reduction' working



Energy Dashboard is one of several shipboard energy efficiency initiatives that provides sailors with a real-time assessment of energy usage and recommended actions to reduce fuel and electrical power consumption.

The Arleigh Burke-class destroyer USS Kidd (DDG 100) is underway with the John C. Stennis Carier Strike Group. John C. Stennis is returning to homeport in Bremerton, Wash., after completing a seven-month deployment.

(U.S. Navy photo by Mass Communication Specialist 3rd Class Benjamin Crossley/Released)

groups, I have approved a number of quick-win cost-saving items," Eccles wrote. Targeted working groups established at an industry day in February identified and evaluated the potential cost saving requirement changes in the four highest priority functional areas: Hull and structure, electrical systems, piping systems and paint and coatings.

The nine approved cost-reduction initiatives are applying powder coating directly to metal on interior components such as electrical boxes; applying interior liquid coatings on interior components without requiring a primer; applying underwater hull coatings over moderate rust; reducing surface preparation on deck tie-downs; using galvanized fasteners instead of painting bare steel fasteners in ventilation ducting; not painting areas covered by docking blocks during final coating application; applying high-solid, rapid-cure tank coatings that are tinted to bilge colors in new construction submarine bilges; and raising the allowed relative humidity in buildings in which tank coatings are applied.

Of the remaining 248 potential cost-saving recommendations, 85 are hull and structure items, 75 are paint and coating items, 44 are piping system items, and 44 are electrical system items.

Beyond Compliance

Proactive Risk Management Pays Dividends for Vela International

Operating margins for most marine operators are getting thinner. It really doesn't matter what trade segment that you are in. Faced with the task of increasing operational efficiencies, marginal players can perhaps be forgiven if, at the same time, they fail to apply new technologies and respond to increased environmental regulations, while also maintaining the latest operational risk management practices. That risky practice is usually driven by financial pressures and rarely ends well. Not everyone, however, is willing to cut corners on the way to financial success.

***One such operator, Vela International Marine Limited, the tanker owner and operator subsidiary of Saudi Aramco**, talked with Maritime Reporter about the collective challenges and of its philosophy of "going beyond compliance" that has kept them ahead of the curve in terms of operating a safe and innovative fleet. In April, Mohammed S. Gusaier, President & CEO, Vela International Marine Limited weighed in on six risk management practices that someday may bear fruit on the financial side of the equation, as well.*

Environmental Compliance:

According to Gusaier, Vela takes its environmental stewardship seriously. He explains, "As an organization we take an active role within industry to help guide and shape future legislation rather than feel new regulations are being placed upon us. Vela takes pride in partnering with industry as legislation is being considered and developed."

Gusaier goes on to describe Vela's involvement with the EU Low-Sulphur Directive (Directive 1999/32/EC as amended by Directive 2005/33/EC) which came into force on 01 January 2010. "Vela was able to make timely, detailed plans to meet this directive by investing time and effort to understand the scope, to explore the implications on our business model and to investigate the impact on the people and equipment on board our vessels," he added. Specific action plans were developed and tested in good time and Vela achieved compliance without difficulty.

Operational Innovation

As MR went to press, Vela was actively evaluating a full range of measures to improve operational efficiency. These measures, centered on the reduction of fuel consumption and the reduction of greenhouse gases included main engine optimization, low friction hull coatings, air lubrication systems, propeller inflow modifications, and dynamic trim systems. Beyond this, Gusaier reported that the use of advanced mathematical algorithms for converting raw vessel performance data into normalized and baselined data for the detailed investigation of vessel and fleet performance was also being used.

New Regulations/ Applying New Technology:

Gusaier told MR, "We currently operate vessels with IMO Tier II compliant engines and for any newbuild projects, we will work with engine manufacturers to achieve IMO Tier III compliance whereby NOx performance will be improved by 80%." He explained further, "Our SOx emissions are governed by the current fuel sulfur legislation and we have invested a great deal of effort to ensure that we comply with both the letter and the spirit of this legislation. Vela uses accredited bunker suppliers as well as third party bunker surveyors and independent bunker sample analyzes to see that the fuel logistics chain is well managed and optimized. Looking to the future we are assessing the suitability of a range of abatement technologies to further reduce SOx emissions."

Addressing the impending ballast water legislation, both from Europe and the United States, Vela developed a roadmap to facilitate implementation once the Ballast Water Convention is ratified. Vela's CEO also pointed to BWT requirements that will kick off starting December 2013. "We share the industry's concern over sampling issues (detailed in G2 of the Convention) and trust that these will be addressed at the forthcoming IMO Marine Environmental Protection Committee (MEPC) meetings." At Vela, the pre-engineering phase of ballast water treatment is already underway.

Energy Efficiency Design Index (EEDI): managing greenhouse gases

The IMO Energy Efficiency Design Index (EEDI) is a benchmarking scheme and an indication of a merchant ship's CO_2 output in relation to its value for society. This is one of the first steps of IMO's technical measures to reduce CO_2 emissions from shipping. The EEDI compares theoretical CO_2 emissions and transport work of a vessel and will eventually be benchmarked against an IMO-set requirement. While EEDI is still a work in progress, says Vela's Gusaier, his group is actively participating in industry work groups and forums. He adds, "When new (Vela) vessels are planned, the EEDI formula will be applied along with the incremental improvement targets."

Ship Energy Efficiency Management Plan (SEEMP): Vela's Version

Gusaier eagerly addressed this aspect of Vela's operational structure. "Our ship specific Ship Energy Efficiency Management Plan (SEEMP) is an integral part of our environmental management plan and incorporates the principles of ISO 14001 and ISO 50001. More specifically, it has been developed using IMO circular MEPC.1/Circ.683 and MEPC 62/INF.10 8 as guidance."

He went to explain that the operational procedures which go along with the

One of Vela's double hull VLCCs built in 2002 at Hyundai Heavy Industries Shipyard in Korea

SEEMP are based on a range of industry publications which include:

- **IMO Guidance for the development of a SEEMP**
- **INTERTANKO's Guide for Tanker Energy Efficiency Management Plan**
- **OCIMF Guide for Energy Efficiency and Fuel Management**
- **best practices from industry; and**
- **Vela's "lessons learned."**

Vela has benefitted from a wide range of performance improvers for many years and these operational improvements eventually become embedded as standard practice and are reflected in the Vela energy efficiency operational indicators (EEOI).

Operational Risk:

According to Gusaier, Vela takes a holistic approach toward identifying and reviewing operational risks and places this within their Enterprise Risk Management framework. The approach, he insists, goes deeper than simply identifying risks based on a regulatory compliance or focusing on the immediate cost associated with a hazard.

A common glossary for Enterprise risk has been developed and a risk inventory and risk database is in place for all risk owners with control measures in place to mitigate these risks. The tools developed within Vela are aimed at helping managers and supervisors in their decision making and resource allocation based on risk evaluation. Gusaier adds, "Really, our processes have become engrained in Vela's culture and enhanced risk awareness is simply a way of life for us."

For extraordinary tasks or operations including those that affect the whole fleet, a risk assessment is carried out in the office in order to ensure that all significant identified hazards are adequately controlled. This is supported by a system of reporting and investigating incidents and near misses using methodologies that help to define the root causes, and appropriate remedial actions that minimize the chance of similar accident from reoccurring. Going beyond the requirements of STCW95 to have competent crew on board the vessels, Vela has additional training requirements. Gusaier describes the process as "a behavioral based safety program, sustained by having facilitators carrying out onboard refresher training on an annual basis. Safety training is also carried out at annual conferences for both officers and ratings. Under development is a competency management system to map out and address the future training needs of our officers."

Lastly, he said, "A Management of Change Policy is in place to see that any significant change in work practices are assessed and any significant risk mitigated prior to implementation. This makes sure that all stakeholders, whether ashore or onboard, are able to adapt to the new circumstances in a controlled and safe manner. These risk mitigation practices are a natural outgrowth to our safety culture and our mission to provide, safe, reliable and high quality energy transportation."

Mohammed S. Gusaier, President & CEO, Vela International Marine Limited

Below
Vela staff members meet on a regular basis to discuss ways to continuously improve operational efficiency

Rewarding Risk Management

The Vela approach to risk management is not one that comes easily, nor is it necessarily inexpensive on the front end. Complicating that effort is the uncertain quantification of downstream benefits that would confound even the most experienced actuarial professionals. If managing risk does pay – and Vela President & CEO Mohammed S. Gusaier clearly thinks it does – you also get the feeling that making more money for Vela isn't his only motivation. That's because, beyond compliance, proactive risk management is simply the right thing to do.

ASRY Turns a Profitable Q1

Bahrain shipyard bustling with business from U.S.-based shipowners

The Kingdom of Bahrain's Arab Shipbuilding & Repair Yard Co. (ASRY) has turned in a profitable first quarter of 2012 despite the continued shipping recession and increased competition in the region.

As of the beginning of May ASRY was running at close to capacity and had work in hand for the next 12 weeks. This, says CEO Chris Potter, is quite some achievement in a region which already has plenty of repair capacity, even before two major new repair facilities opened for business recently in Qatar and Oman.

As a result of increased competition in the region, sizeable discounts are par for the course and a necessary part of shiprepair life for the moment, said Potter. Most owners, he says, are opting only for repairs essential for minimum class compliance. There may be some improvement over the balance of the year, but Potter and his colleagues are under no illusions and are bracing themselves for another tough year in 2012.

The fact that owners are putting off non-essential repairs is a concern because it is delaying the massive task of preparing for new water ballast and emissions regulations. Potter believes that the implications of the increasingly tough regulatory environment in ship operations will generate large volumes of work for yards with the necessary preparations in hand. ASRY is already looking at developing strategic alliances with several ballast water treatment manufacturers.

Both sets of new IMO regulations (water ballast treatment and emissions) will require hefty expenditure from shipowners who are already under serious pressure and who will enjoy no direct benefit as a result of their capital investment. Laboring in fiercely tough markets, they are facing over-tonnaged markets awash with tonnage, poor rates, very low enquiry levels and ever increasing bunker prices.

One saving grace for ASRY of late has been its decision to establish a dedicated offshore division – ASRY Offshore Services (AOS). Today, rig servicing, repair, stacking and other offshore-related work are making an increasingly important contribution to ASRY's bottom line. Representing around 40% of the company's turnover in 2011, offshore activity could soon outstrip ASRY's core business, commercial shiprepair, as a revenue stream.

Another potentially exciting new income stream may also bear fruit sometime soon. Last year saw ASRY move into the Power Barge market, with a joint venture company with UK-based power generation specialist Centrax. The new company, ASRY-Centrax Ltd is in detailed negotiations with a number of parties for the construction and commissioning of power barges in Nigeria and the Philippines.

U.S. owners, operators and managers continue to support ASRY in a big way. In 2011 21 vessels from the US market repaired at ASRY, vessels such as containerships, PCTCs, and jack-up rigs. This business came from the fleets of Crowley Technical Management Inc, Great Lakes Dredge & Dock, Ensco International, Maersk Line Ltd, Pride International and Rowan Companies Ltd.

U.S. owners have also been highly visible at the Bahrain yard during the first quarter of 2012. After drydocking nine vessels in 2011; Maersk Line Ltd. has already confirmed the further drydocking of four more 60,000dwt containerships in the first half of 2012 – Maersk Carolina, Maersk Missouri, Maersk Wyoming and Maersk Georgia as well as repairing PCTC Alliance Norfolk in April. The latter is managed by Maersk Line Ltd. and operated by Farrell Lines. Crowley Technical Management has already repaired a further PCTC this year, Patriot, while the US Navy's Cyclone-class patrol boat USS Whirlwind has just completed major repairs on ASRY's large slipways.

One interesting repair job undertaken by ASRY this year on a U.S.-owned vessels involved the 8,034dwt heavy lift vessel Ocean Charger, owned by New Orleans-based Pacific Gulf Marine, which drydocked at ASRY in mid-January 2012 for emergency stern seal repairs. The interesting fact about this vessel was that she was carrying a deck cargo of two 35m patrol vessels built by US yard Swiftships for the new Iraqi Navy. Due to high winds at the time of drydocking, Ocean Charger had to enter one of ASRY's two large floating docks with her deck cargo still aboard!

2012 so far has also seen the return of the large tankers to ASRY, especially those vessels from the fleet of the National Shipping Co of Saudi Arabia (NSCSA), which are managed by Dubai's Mid-East Shipmanagement. NSCSA has now been re-branded and now trades as Bahri. This means that all of the company's large tankers have to be re-painted in Bahri's new color scheme, using the latest foul-release coating from Hempels. So far this year three vessels have drydocked at ASRY: the 317,788 dwt Wafrah, the 302,977 dwt Marjan and the 303,138 dwt Safwah.

Ocean Charger, owned by New Orleans based Pacific Gulf Marine, in dock at ASRY this January for emergency stern seal repairs. The interesting fact about this job: she was carrying a deck cargo of two 35m patrol vessels built by Swiftships for the new Iraqi Navy. Due to high winds at the time of drydocking, Ocean Charger had to enter one of ASRY's two large floating docks with her deck cargo still aboard!

MARITIME REPORTER AND ENGINEERING NEWS

NEW WAVE MEDIA

Second Annual
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Maritime Photo Contest

See your image on the cover of the world's largest maritime magazine

Your photo could be on the cover or in the pages of the most widely read publication in the global maritime industry. Enter as many photos as you like, in each of the five categories. Entries can be submitted at:

www.maritimephotographs.com

All images must be entered by May 11, 2012. Winning photos will be published in the June 2012 Maritime Reporter and Engineering News, with the Grand Prize Winner featured on the front cover of the magazine.

This contest was established to honor the memory of the late Donald S. Sutherland, renowned maritime photographer and writer, who passed away suddenly in 2010.

Categories:

Ships and Boats
Offshore Structures
People
Maritime Scenes
Weather Systems

Contest runs until
May 11, 2012

Sponsored By:

Photo by Frank van Hoorn

Photo by William Rigby

Photo by Pim Van Hemmen

For complete contest rules go to http://www.maritimephotographs.com/rules-and-terms.asp

Eastern Delivers Second "Tiger Shark Class" Vessel

Harvey Gulf Receives Boat Ahead of Schedule

Eastern Shipbuilding Group, Inc. announced the early delivery of the SISUAQ, the second of three 292 ft. Tiger Shark Class Offshore Support Vessels to Harvey Gulf International Marine, LLC of New Orleans, LA.

Launched in October, the SISUAQ is a DP II, SOLAS approved, FIFI 1 Classed, AC diesel-electric powered, twin Z-drive propelled OSV measuring 292 x 64 x 24.5 ft. This high-tech vessel features four Cummins QSK60-DM 16-cylinder turbo-charged Tier II diesel generator engines that are rated 1825 kW at 1,800 rpm. Main propulsion is provided by two Converteam/GE furnished Hyundai 2500 kW 690v AC motors driving two Schottel SRP 2020 FP Z-drives with nozzles rated at 2,500 kW at 1,025 rpm each for a total of 6,704 Hp. Schottel also provided two STT 4 fixed pitch tunnel thrusters rated at 1,180 kW at 1,170 rpm each with direct coupled Hyundai 690v AC electric motors. Converteam/GE provided the complete integrated diesel electric package including drives, motors, switchboards, motor control centers, automation and navigation and communication electronics. The vessel is capable of a maximum speed of 14 knots with a cruising speed of 12 knots.

Total below-deck capacities of the OSV include 241,408 gallons of fuel, 602,297 gallons of water ballast, 19,480 BBL of liquid mud, 14,350 cu. ft. of bulk mud, 1,700 BBL of methanol and 16,728 gallons of potable water.

STX Canada Marine out of Vancouver, Canada provided the design based on two earlier vessels built at Eastern for Aries Marine. With the addition of several enhancements, these vessels have stepped up the technology level with capability for world-wide operations. The integrated pilothouse is arranged for increased visibility and features the latest technology in navigation and communication equipment. All three (3) vessels are ABS classed, A1, AMS, ACCU, Circle E, Enviro +, Offshore Support Vessel and certified under SOLAS. ABS class is to include DPS-2 notation and FIFI 1.

The SISUAQ immediately started a long term contract in Alaska. Several upgrades to specific systems were accomplished to facilitate operations in Alaskan's cold weather conditions including heating enhancements, window heaters, added steel plating to the hull for operation in ice conditions and hardened electronics for harsh weather operations with temperatures down to -20 degrees Fahrenheit.

These vessels are built to the highest class, environmental and safety standards. Crew comfort is paramount and Eastern hired Noise Control Engineering to provide recommendations for reduction of noise and vibration to meet the latest IMO standards. Harvey Gulf has also ordered a 302 ft. construction vessel/offshore supply vessel from Eastern, the Harvey Deep Sea, which will be ABS Classed similar to the Sisauq but with FIFI 2. It will be equipped with an active heave-compensated 165-ton knuckle boom crane capable of lifting/setting 100 tons at depths up to 10,000 ft. The Harvey Deep Sea is scheduled for delivery in May 2013.

Austal: Final Assembly of JHSV 3 Commences

The third Joint High Speed Vessel (JHSV) is taking shape on the waterfront. The first of 43 modules for JHSV 3 have been successfully transported from the Module Manufacturing Facility (MMF) and erected in the final assembly bay on the waterfront. The most recent module transported, at just under 90 percent complete, is 20,400mm long with a max width of 8,300mm and is 9,400mm high from keel to main deck. The module weighed just under 46MT at time of erection JHSV 3 is one of five Navy vessels currently under construction at Austal's Mobile, Alabama shipyard. Construction on JHSV 3 began in October 2011 and this module is one of the first that will be erected for the JHSV 3 Keel Laying Ceremony scheduled for May 3, 2012.

Austal was selected as prime contractor in November 2008 to design and build the first JHSV, with options for nine additional vessels expected to be exercised between FY09 and FY13 as part of a program potentially worth over $1.6 billion. Austal has received construction contracts from the Navy for nine of the ten vessels.

Great Lakes Shipyard Delivers

Great Lakes Shipyard was awarded a contract in June 2011 to construct a work boat for the Port of Milwaukee. Construction was completed and the vessel was delivered in early January 2012. A Jensen Maritime Consultants design, the vessel has general harbor work, icebreaking, fire fighting support, and salvage capabilities. It is equipped with a DMW Telescopic Boom Marine crane; it has specialized lighting and equipment for harbor security work. It was built with an extended deck house with a changing room and diver's well for dive support operations.

DIMENSIONS	
Length	60 ft.
Beam	20 ft.
Depth	8 ft.
Max Loaded Draft	6.5 ft.
CAPACITIES	
Fuel	2,400 Gallons
Sewage	35 Gallons
Potable Water	150 Gallons
Maximum Speed	10 Knots
MACHINERY	
Main Engine	Cummins Marine QSM11 Diesel Engine
Power	405 HP @ 2100 RPM
Propulsion Gears	Twin Disc MG5114
Propellers	42" workboat 4 blade Ice Class Propeller
Generator	27.5 Onan 27.5MDKBT Marine Diesel Generator

Sietas Starts on Van Oord Offshore Wind Jack-Up

A start has been made on a German premiere in the shipbuilding hall of the Sietas shipyard in Hamburg: the first sections and blocks of the offshore wind power jack-up vessel for the Dutch marine engineering company Van Oord. In the presence of Peter de Ridder, COO of Van Oord, engineers from the specialist in complex offshore projects and the Sietas team, receiver Berthold Brinkmann and Rüdiger Fuchs, agent for the receiver, gave the go-ahead for the German premiere. Sietas is the first German shipyard to build the special-purpose vessel. Delivery is scheduled for the spring of 2013.

Berthold Brinkmann, receiver, Peter de Ridder, COO of Van Oord and Rüdiger Fuchs, agent for the receiver (from left) gave the go-ahead for the production start of the jack-up vessel at the Sietas shipyard in Hamburg.

Below
Steel sections for the jack-up vessel in the Sietas shipbuilding hall.

"We are delighted to be starting on the construction of this vessel. It is the first of a new generation for us," said Peter de Ridder, COO of Van Oord. "The offshore market and the wind farms are getting more and more challenging. In future the foundations for more and more of these wind farms will be laid in water depths of up to 50m, instead of the current 30m. The turbines to drive the generators will in future require a power output of five to six megawatts, so they have become bigger and heavier. That is why we need this new type of vessel." A team comprised of around 10 project managers, engineers and electricians from Van Oord will be at the Sietas shipyard throughout the construction period. **Together with Van Oord, Sietas also developed the special-purpose vessel in 12 months.** Operating as architect and integrator, the Sietas shipyard in collaboration with its subsidiary Neuenfelder Maschinenfabrik (NMF) is providing the development and construction of the installation ship and the offshore crane from a single source.

Van Oord first placed the order in December 2010 with the Sietas shipyard, which was only able to execute the order in the context of the insolvency proceedings with a new agreement. This new order was then placed in February 2012.

"The offshore wind power jack-up vessel is groundbreaking for us and for German shipbuilding. At the same time I would also like to thank the Sietas employees: they all worked together as a team to reinstate the order," said receiver Berthold Brinkmann.

About the Vessel

The Sietas jack-up vessel was developed for use far from the coast in offshore wind fields. It has a transport capacity of up to 6,500 tons (tdw) and can work safely in water depths of up to 45 metres. Thanks to its self-loading capacity and jacking system, which keeps it stable even in choppy seas, it can work fast and reliably. The type 187 special ship is 139m long and 38m wide. It has a draft of 5.7m and a speed of 12 knots. The Neuenfelder Maschinenfabrik (NMF) will equip the ship with an offshore special crane which can lift a 900-ton load with a reach of 30 metres and work at a height of about 120 metres above the water. The jack-up vessel will accommodate 74.

RIBS & Patrol Craft

BCGP: 1200 Impact

Brunswick Commercial and Government Products (BCGP) delivered a 39-ft. rigid hull inflatable boat (RHIB): the 1200 Impact to be stationed in South Florida where it will be used for patrolling offshore and Intracoastal areas and performing general law enforcement activities. It features a climate controlled aluminum cabin with room for up to four crew. Its heavy-duty fiberglass hull is surrounded by an air-filled collar to reduce the risk of damage to the boat and property during routine boat checks and maneuvering. This delivery included triple 300 hp Mercury Marine Verado engines although there is a twin or triple outboard engine option offering up to a total of 1000 hp. The boat carries 288 gallons of fuel.

www.brunswickcgp.com

Damen: FiFi /Police Patrol Vessel

The 23.9m Damen Fire Fighting/Police Patrol boat dubbed Bremen 1 was delivered to the Free Hanseatic City of Bremen, to be used jointly by Police and Fire departments in Bremen, Germany, hence its red and blue paint scheme. The boat can top 40 km/hr with its triple Caterpillar engines driving triple UltraJet High Thrust Waterjets via ZF500 gearboxes. The aluminum hull structure is built to ZSUK - zone 2 regulations and features an aft compact wheelhouse with accommodation for crew and passengers and enough room on the bow and stern for two hydraulic cranes and winches. The helm is equipped with a JRC JMA-609-7 and Alphatron navigation systems and FiFi equipment includes 2 x Cat CO4.4 TA gensets and two FiFi pumps.

www.damen.nl

Kvichak: RB-M

Kvichak Marine continues to deliver 45-ft. Response Boat – Medium (RB-M) vessels to the USCG. Measuring 45-ft. with a top speed exceeding 40 knots, the all-aluminum vessel is the primary asset for the USCG for inshore maritime security and search-and-rescue operations. Kvichak is currently building and delivering four commercial versions known as the RBM-C. Three of these vessels are for the New York Police Harbor unit and one for the Seattle Police Harbor unit. Configured to satisfy a mission profile requiring longer duration patrols and surveillance duties, a greater emphasis is placed on crew accommodations, crew comfort and quiet power generation to support command and control functions.

www.kvichak.com

Metal Shark: RB-S

Metal Shark's 28-ft. Response Boat-Small (RB-S) platform is suited for port and waterway enforcement, S&R ops, drug and migrant interdiction, environmental and other law enforcement missions. Up to 470 boats will be delivered across the USCG, with an additional 20 boats available to U.S. Customs and Border Protection, and another 10 for the U.S. Navy. Powered by twin 225-hp Honda outboards, RB-S reaches speeds exceeding 40 knots with a minimum range of 150 miles. The boat is road transportable and may be transported via C130 with a specialized trailer. RB-S includes a full complement of navcom gear, as well as shock-mitigating seats. The crew is protected by a fully-enclosed cabin enhanced with ballistic materials.

www.metalsharkboats.com

Moose Boats: M3-34

Moose Boats delivered a M3-34 Mono-hull to the Los Angeles Police Department. The M3 all aluminum mono-hull is a new hull platform for Moose Boats and is powered by twin 300hp Yamaha outboard engines. The boat features a fully enclosed cabin with two shock-mitigating seats, bench seating for four additional personnel and a standing height head enclosure. The cockpit and foredeck are outfitted with weapons foundations and ammunition storage. The M3 will also assist in Port Dive Operations Group (PDOG) missions within the Ports of Los Angeles and Long Beach. The Los Angeles Police Department utilized a Fiscal Year 2010 Port Security Grant Program award to purchase the Moose Boat M3-34.

www.mooseboats.com

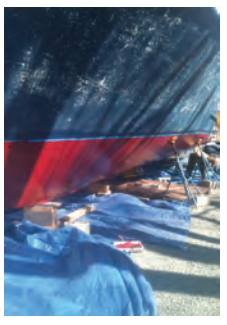
North River Boats: Hybrid RAIV

ALMAR by North River Boats built a 33-ft. Hybrid R.A.I.V. Force Protection/Patrol vessel. It is designed as a Law Enforcement, Force Protection, Anti-terrorism, Patrol and Search & Rescue boat and for the San Mateo County Sheriff's Department. Powered by twin Yamaha 300 hp outboard motors, it has a cruising speed of approximately 24 knots and a maximum speed of more than 39 knots. A 250 gallon fuel capacity provides for over 250 NM Range. The Wing Hybrid foam / air fender provides for a great boarding platform, increased stability and additional flotation. It also features: 9-ft. Force Protection style cabin with Diamond Seaglaze windows and doors; Fully self bailing deck with oversized scupper drains; and an Aft towing post

www.northriverboats.com
www.almarboats.com

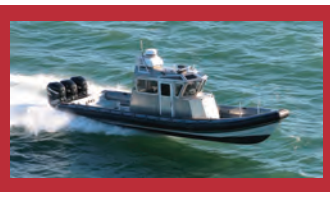
NY Naval Militia Launches PB 400 Coated with Hull-Speed.us 3000

NY Naval Militia, under Commander Don McKnight launched its PB 400 marine patrol boat which had been out of the water since June undergoing repairs. The 40 ft. boat made by MetalCraft Marine was coated with HullSpeed.us 3000-Series bottom coating in August. The new bottom coating, which is designed to improve speed, fuel economy and ease of hull cleaning was applied by roller over traditional epoxy barrier coat during the repairs. HullSpeed.us technology creates a hard and durable, slick foul release surface.

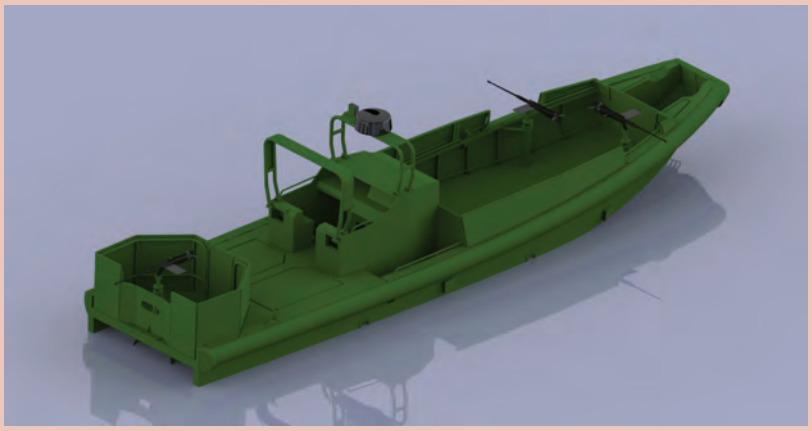


www.hullspeed.us

RIBS & Patrol Craft



SilverShips: Riverine Patrol Boats



Silver Ships won a contract to build six Riverine Patrol Boats (RPB) by the U.S. Navy Foreign Military Sales Agency (FMS) which includes the design, construction, delivery, reactivation and training for maintainers and operators. The RPB is 40 feet LOA and is powered by twin Yanmar diesels coupled to Hamilton waterjets. The RPB draws less than 24-in. of water and has a cruising speed in excess of 30 knots when fully loaded with a range greater than 250 NM. Ballistic protection for crew, troops and machinery spaces are incorporated into the design and the RPB has the capability of firing multiple weapons systems.. The RPB's command and control (C4SIR) systems allow the craft to operate independently at night in an undetected mode.

www.silverships.com

Tampa Yacht Manufacturing: Tempest 35 SPC (Swat Patrol Craft)

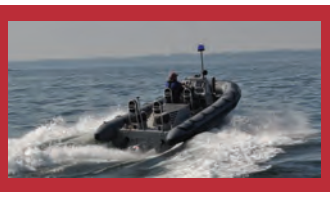
The 35-SPC is a purpose-built craft for special weapons and tactics (SWAT) teams. The Tempest 35 SPC is designed and constructed to IACS standards and is fully Classed to RINA-MIL High Speed Military Patrol Craft certification. The 35-SPC is powered by a pair of YANMAR 6LPTA-STP2, 315 HP inboard diesel engines with ZF Marine Transmissions mounted to a pair of high performance UltraJet UJ305 water-jets. The Yanmar/ZF-UltraJet propulsion package is capable of powering the 35 SPC to a maximum speed of 40 knots (WOT) with a minimum sustained cruising speed of 35 knots.

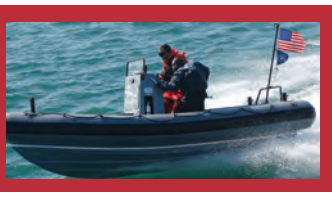
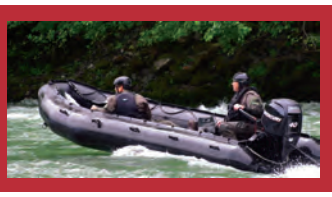
http://www.tampa-yacht.com

RIBCRAFT: 5.7

RIBCRAFT introduces the RIBCRAFT 5.7. Designed for shipboard operation, it is easily deployed for rescue responses, marine interdictions, security, personnel transfers, and search and seizure operations. Measuring 19-ft., the boat's compact size allows for the vessel to meet the tightest of shipboard stowage constraints while still meeting operational requirements. It is available with a variety of I/O diesel engine options capable of operating on JP5 or JP8 with the choice of stern drives or water jets. The 5.7 features a deep V hull, full length lifting strakes, heavy duty multi chambered Hypalon tubes with pressure relief valves, and high profile rub-strake.

www.ribcraftusa.com



Willard Marine: SEAFORCE 540

Willard Marine delivered the first of four patrol Rigid Inflatable Boats (RIBs) to a U.S. Navy project in Pascagoula, MS. The boats are being built for the Egyptian Navy. The boats supplied are the Willard Marine Sea Force 540 inboard RIB. Willard Marine was chosen to supply this military quality RIB because of their expertise, best value and ability to build high quality, durable, military platforms that operate from larger vessels. This boat is powered by a 170 HP inboard diesel engine, connected to an outdrive. This light weight boat achieves speeds in excess of 38 knots and is highly maneuverable and durable for military service. Willard Marine currently provides the 7 Meter Standard Navy RIBs on all U.S. Navy Combatant ships, as well as a large number of support vessels in the U.S. Naval fleet.

www.willardmarine.com

Wing's P-4.7 CRRC

Wing P-4.7 CRRC is a fully inflatable polyurethane boat capable of carrying big loads in mere inches of water. It can be easily transported to remote areas otherwise inaccessible to bigger craft. It also features thermo-welded air holding seams for superior air retention and longevity. But it is the unique design of the P-4.7 that gives it superior performance with a full load of people and gear. The P-4.7 does not have lower buoyancy tubes (speed tubes) so it has less form drag. Form drag increases as displacement increases, creating more resistance as the boat load increases. Lower buoyancy tubes also negatively impact high speed turns by adding resistance, slowing down the speed of the turn and reducing operator response. This is a definite disadvantage if a situation calls for precise and quick evasive maneuvers.

http://www.wing.com

HMS Queen Elizabeth Hangs Out on the Clyde

Construction of HMS Queen Elizabeth, the first of two new aircraft carriers being built for the UK Royal Navy, took a significant step forward as the two giant sections of Lower Block 04 (LB04) were brought together for the first time in a precision move at BAE Systems' Govan shipyard. The structure and largest section of hull under construction is so large that it stretches beyond the doors of the ship build hall in which it sits. Using a fleet of 132 remote controlled transporters, a huge section, weighing over 4,000 tons, was carefully maneuvered 100m across specially reinforced concrete.

MAN Dual-Fuel Engines to Drive

Russian Gas Business

Graphical rendering of one of the Sovcomflot newbuilding LNG carriers.

Sovcomflot selected the dual-fuel MAN 51/60DF engine for an LNG carrier newbuilding program comprising of two confirmed vessels with an option for two more vessels. The dual-fuel diesel electric propulsion system and the MAN 51/60DF engine have been selected to provide the vessel with a high efficient and low emission propulsion system, especially when running in gas mode.

The vessels are being built at STX Offshore & Shipbuilding in South Korea and will each be driven by sets of two 8L and two 9L51/60DF engines. The engines will be built at MAN Diesel & Turbo's Augsburg plant in Germany with delivery to the Korean yard due in the fourth quarter of 2012. The first vessel is subsequently expected to commence commercial operation in the fourth quarter of 2013.

The new 51/60DF orders mark another major milestone in MAN Diesel & Turbo's strategy of expanding its environmentally friendly dual-fuel-engine technology into the marine sector.

Rolls-Royce to Power Subsea Construction Vessels

Rolls-Royce was selected by Island Offshore to design, power and equip an advanced subsea construction vessel. The UT 737 CD vessel will support the most demanding subsea projects, including constructing and servicing oil and gas wells on the sea bed, up to 3,000m below sea level. In order to support such challenging missions the vessel will include special features, including two independent systems for launching and recovering Remotely Operated Vehicles (ROV), a 125 ton offshore crane that compensates for wave movements and an advanced offshore tower which handles subsea equipment through a large opening in the hull of the vessel, called a moon pool. The design and fit out of the vessel enables it to perform almost any duty in a deepwater oil field. In addition to supporting subsea operations it can transport cargo to and from offshore oil and gas platforms and act as a rescue and oil spill response vessel.

The vessel will also include a diesel electric propulsion system incorporating four Bergen engines. These will drive two Azipull thrusters and two side thrusters, which will work in unison with a dynamic positioning system to enable the vessel to maintain position when undertaking subsea activities. A diesel electric propulsion system will significantly improve fuel efficiency and lower the vessel's emissions. The Rolls-Royce designed UT 737 CD will be built at STX OSV's shipyard in Brevik, Norway and is scheduled for delivery in early 2014.

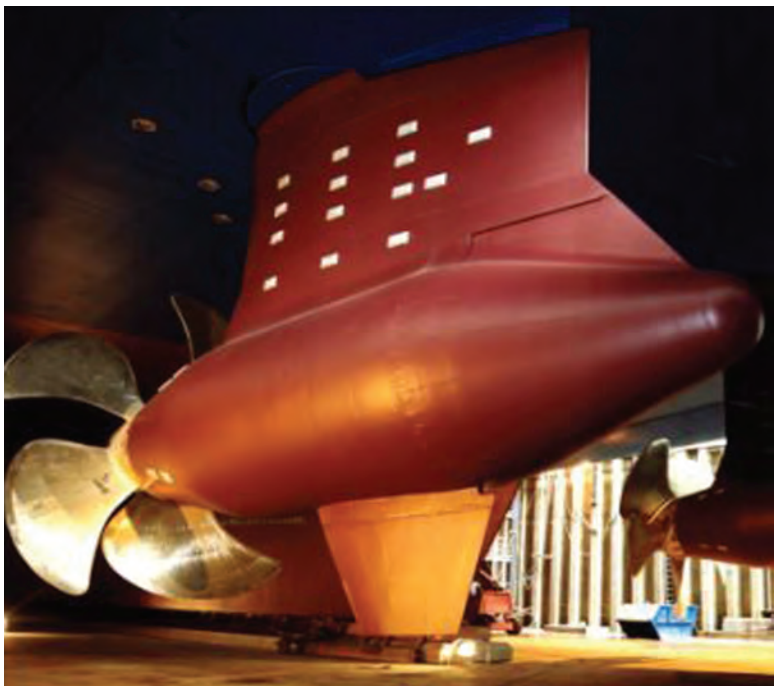
ABB Wins $60m Order

Azipod propulsion and electrical systems for two new 4,100 passenger cruise ships

ABB won orders worth more than $60m to provide complete power and Azipod propulsion systems for two new cruise ships to be built by Meyer Werft at its shipyard in Papenburg, Germany for Royal Caribbean Cruises Ltd (RCL). The ABB order for the first ship was booked in 2011 and for the second vessel in the first quarter of 2012.

The new ships are the first vessels in Royal Caribbean's new class of cruise ships, currently named "Project Sunshine." The 158,000-gt ships will have a capacity of more than 4,100 passengers; in addition to redesigned spaces to optimize capacity and fuel use while maintaining passenger comfort, RCL and Meyer Werft will incorporate the latest energy efficiency and environmental technologies on the ship. The vessels are scheduled for delivery to RCL in fall 2014 and spring 2015.

www.abb.com



IBS for Polar Research Vessel delivered

Raytheon Anschütz completed the supply of their latest generation of Integrated Bridge System (IBS) to the "SA Agulhas II", a new polar research ship owned by the Republic of South Africa's Department of Environmental Affairs (DEA). Sea trials including ice trial tests in the Gulf of Bothnia were passed during March 2012. The 134-m vessel was designed and built by the STX Finland shipyard of Rauma. The ship is intended to conduct research activities and expeditions in the polar region, but is also designed to serve as an icebreaker, a passenger ship and a supply ship for the South African research centers in Antarctica.

Raytheon Anschütz delivered an Integrated Bridge and Navigation System consisting of six wide-screen workstations for Radar, Chart Radar, ECDIS and Conning, as well as the top-of-the-range NautoPilot, a redundant gyro compass system Standard 22, a full package of navigation sensors, the navigation data management and the complete radio station according to GMDSS A4 for operation in the polar region. The navigation system complies with DNV's demanding NAUT-AW notation.

www.raytheon-anschuetz.com

Solberg Crankcase Ventilation Systems

Solberg's Crankcase Ventilation Systems (CV) is designed to capture hazardous oil mist and particulate emissions (blow-by) vented from the crankcases of reciprocating engines and gensets, helping to promote environmental compliance by safeguarding the surrounding environment. CV's control crankcase pressure and prevent seal leaks via manual or automatic controls. Additionally, these are designed to protect an engine's turbocharger, intercooler and exhaust catalyst from contamination. Safety, uptime and minimizing maintenance are primary objectives for marine engine operators. Critical maritime applications include propulsion and electric power for military ships, tugs and cruise ships.

Given the confined nature of the crew and passengers, emissions control is paramount. Crankcase emissions primarily consist of oil mist and become breathing and slipping hazards on ship decks. Once on the deck or ship structure, the oil can cause environmental damage by washing into the surrounding waterways.

Solberg developed an enhanced version of its standard vacuum assisted open crankcase ventilation system to address the specific challenges of marine applications.

Marine engine brands prevalent in U.S. Navy applications typically employ open crankcase ventilation systems and ideally operate under slight crankcase pressure of 1-2" H2O (2.5-5 mbar). Excess crankcase pressure results in oil leaks and contamination of the surrounding area. Solberg's recirculation piping configuration maintains an engine's natural crankcase pressure and eliminates the need for adjustments via a control valve.

www.solbergmfg.com

Furuno Launches New ECDIS FMD-3200/FMD-3300

Furuno said that the new ECDIS (model names FMD-3200 and FMD-3300) will be ready for launch shortly. The FMD-3200 (with 19-in. LCD) and FMD-3300 (with 23.1-in. LCD) deliver great enhancement in terms of user interface as well as functionality. Fully complying with the performance standard of ECDIS stipulated in IMO resolution MSC.232(82), the new ECDIS is going to be a suitable candidate designated for new installation as well as retrofit to fulfill new ECDIS rules. Also, the new ECDIS is compatible with Jeppesen Dynamic Licensing and it supports the Admiralty Information Overlay (AIO).

The new ECDIS FMD-3200 and FMD-3300 are designed to provide the operator with quick access to the tasks and functions to be performed in the midst of vessel operation. The new ECDIS employs intelligently arranged Graphic User Interface elements: Status Bar and Instant Access Bar that deliver task-based operation scheme to give the operator direct access to necessary operational procedure. The Status Bar at the top of the screen provides operating status, including modes of operation and presentation. The Instant Access Bar on the left edge of the screen provides quick access to functions available in each of the ECDIS operating modes. The contents of the Instant Access Bar change according to the operating modes selected on the Status Bar. This combination of the Status Bar and Instant Access Bar covers virtually the entire operation, hence providing easy and quick access to the tasks to be performed. Subsequently, their need for digging into intricate menu tree to reach the necessary tasks has become a thing of the past.

www.furunousa.com

Becker Mewis Duct: Largest Ever Built ... For Now

Becker Marine Systems delivered the largest Becker Mewis Duct ever made, a unit with a diameter of 8.1 m for the construction of Very Large Crude Oil Carriers (VLCC) at Hyundai Samho Heavy Industries for Samco Shipholding, Singapore. Initial sea trials of the new 319-m VLCC have reportedly proven outstanding power savings, in part due to the Becker Mewis Duct. Fuel savings of about 5% were measured, significantly lowering lifetime operating costs of the ship, particularly as bunker rates rapidly increase. These fuel savings also help to reduce CO2 emissions by 2,800 t per year for each VLCC. These numbers convinced Samco to equip all four VLCC of this series constructed at Hyundai Samho with the Becker Mewis Duct.

The Becker Mewis Duct combines three principles of ESD's in a non-linear interaction: wake field equalization, reduction of hub vortex and contra-rotating swirl. Hyundai Mipo Dockyard has thus ordered four Becker Mewis Duct for an Italian owner, and two more for an owner from Monaco. Also STX has ordered the first three Becker Mewis Duct for the newbuilding of 50,000 dwt bulkers for a Danish owner and an addition order of four for a Greece owner already followed. Significantly, in 1Q 2-2012 Becker received orders for nearly 100 Becker Mewis Duct, matching sales for the entirety of 2011.

www.becker-marine-systems.com
Email: info@becker-marine-systems.com

Fathom, LR Launch Guide to ECAs

Fathom and Lloyd's Register recently launched "Emission Control Areas: THE GUIDE." Emission Control Areas, or ECAs in Europe and North America are set to have a profound effect on how vessels are operated, including hugely impactful implications on the cost of fuels when operating within ECAs.

The more than 100-page guide, which is accompanied by an onboard ECA manual, details the full scope of challenges of operating within an ECA - from analysis of compliance options to the practical steps of implementing ECA measures onboard, and capturing and recording data for Port State Control requirements.

The 0.10% 2015 ECA sulfur emission requirements are approaching and the August 2012 1.00% North American ECA is only months away, and yet in some cases ship owners and operators are still unsure of the operational practices required to meet the legislation and currently crews, when required to do so, are implementing these practices sporadically and without strategy. With the imminent North American ECA and the clock counting down to the more stringent requirements of 2015, Fathom and Lloyd's Register have worked to compile one comprehensive reference manual for what owners, operators and their crews need to know to run an ECA compliant vessel.

The publication is split into two parts, a decision support reference guide on the accepted methods to ensure ECA compliance, and a thorough onboard guide to ECA zones, fuel switching, as well as reporting compliance. The Guide also includes an updated 2012 edition of the bestselling Lloyd's Register Sulphur Record Book. Part 1 of the guide is a comprehensive outline of what ECA legislation details and the ramifications of operating within them at a corporate level. It also provides the benefits and challenges of each of the three currently available methods that will be used to achieve compliancy; switching to lower sulphur fuel, exhaust gas cleaning systems, and the use of LNG. The Guide provides an independent and unbiased perspective on each of these methods and provides a strategic evaluation to support individual decision-making.

Part 2 of the Guide for use on-board vessels, and available as a standalone publication, is a complete analysis of ECA areas and the challenges of fuel switching from an on-board perspective. Designed to provide a durable and comprehensive reference manual for ECA-coordinates, switchover considerations and procedures, statutory sampling, and record keeping, this publication has the added benefit of a Lloyd's Register Sulphur Record Book 2012 included.

Emission Control Areas: THE GUIDE, written by Pete Lockley, Editor at Fathom supported by Lloyd's Register FOBAS team is published by Fathom. Available, as a full set of all publications for the package price of £150 or a standalone sulfur record book for £40, from http://fathomshipping.com/the-guides.

VIRLI Plate Bending Roll Installed

A VIRLI Model 4RS-10-620 4-Roll Hydraulic Plate Bending Roll with a capacity of 10 x 2.75-in. was installed recently at the Siemens Industry, Inc. plant in Milan, Ohio. Due to its size and weight, after assembly and testing at the factory of Sahinler Metal Makina the manufacturer, the machine was partially disassembled and shipped in two containers and one flat rack to Siemens, where it was re-assembled by a team of factory technicians. Siemens says that with the capabilities of this new machine it will expand its services to the steel industry and potentially to other industries. Also performing this work internally at the Siemens, Milan, Ohio facility will improve lead times to its customers and allow it a more hands-on control of product quality.

E-mail: info@coletuve.com
www.coletuve.com

Permanent Magnet for Temporary Anchor Points

Miko Marine offers a new lightweight and compact addition to its range of permanent magnets. The MAM Light is designed to possess exceptional magnetic strength relative to its size and this enables it to bring new benefits to divers, boat crews, ROV (remotely operated vehicle) and salvage operators. The MAM-Light is a powerful permanent magnet that weighs just 1.5 kg yet has a holding force of up to 150 kg. This means that it is easily handled manually or by ROV manipulator and can provide an instant anchorage against any steel structure such as a ship's hull, a wind turbine tower, drilling template or platform jacket. The magnet's eye creates a secure fastening for a wide range of functions such as providing a temporary mooring alongside a ship for boarding parties or excursion boats, a fixing point for instrumentation, oil containment booms or guide and anchor lines for divers.

www.miko.no

FuelTrax Provides Activity Logging

Nautical Control Solutions, LP (NCS) said that its FuelTrax system now provides the ability to enter activity codes for automatically coupling fuel usage numbers to location, date, and time. Wind and sea states are included. "This effort started with our offshore support vessel customers, who have to log various activities each day as part of their charter requirements with petroleum companies," said Anthony George, CEO of NCS. "The process is manual and can involve different paper-based forms created in house or provided by the oil company. It is not a difficult task but can be tedious, particularly at the end of a shift. Day-to-day work can interfere with the process and the very nature of manual entry can introduce errors that can be compounded when these forms are sent to shore for manual entry into another system."

"FuelTrax activity logging improves the process by providing drop-down menus and pre-defined information for easy coding of time slices," continued Mr. George. "The vessel's captain or chief quickly apply the preloaded activity codes using a mouse -- no keyboard entry required. Data is entered accurately and is automatically offloaded each day during a normal FuelTrax data transmission.

www.fueltrax.com

ClearSpan Fabric Structures

ClearSpan Fabric Structures are a fast, economical solution for port and equipment storage, ship repair facilities and more. ClearSpan buildings feature exceptional height and wide-open spaces with ample clearance for access and ease of movement. Constructed in the USA from the highest quality steel and fabric, these buildings can be built to any length and up to 300-ft. wide. Every ClearSpan building is custom engineered to fit the requirements of the specific location, such as snow load or foundation type. The structures can be permanent or temporary, and are easy to relocate.

www.ClearSpan.com/ADMR


Taylor


Platt


Gorski


Sparre


Senner


Liodden

Tidewater CEO Taylor to Retire

Tidewater Inc. said that **Dean Taylor**, its President and CEO since March 2002, will retire as an executive officer of the company effective May 31, 2012. **Jeffrey M. Platt** will become Tidewater's new President and CEO effective June 1, 2012. Platt has been Tidewater's COO, overseeing Tidewater's domestic and international marine operations, since July **Jeffrey A. Gorski** will succeed Mr. Platt as Tidewater's Executive Vice President and COO.

Sparre Retires from Bollinger

Bollinger Texas City, L.P., (BTC) a Bollinger Shipyards, Inc. facility, announced the upcoming retirement of its Vice President and General Manager, **Max Sparre**. Sparre's retirement was announced by Bollinger Executive Vice President, Ben **Bordelon, giving an overview of Sparre's 51 years of service** to the shipyard industry and the Bollinger group of shipyards. In addition to the announcement of Sparre's upcoming retirement early next year, Bordelon also announced that Monty Bludworth, Assistant General Manager at Bollinger's Texas City facility, will move into the position of General Manager immediately.

Mike Senner Retires

Mike Senner retired from New Orleans, La.-based Karl Senner Inc. effective April 30, 2012, the company announced.

Lockheed Martin's Stevens to Retire

Lockheed Martin said that Chairman and CEO Bob Stevens, 60, informed the board of his plans to retire as CEO after 25 years of service with the company. President and COO Chris Kubasik, 51, will succeed Stevens as CEO effective January 1, 2013. Stevens will remain chairman through January 2014.

ABS Strengthens Management Team

ABS strengthened its executive leadership team with the election of Tony Nassif as Executive Vice President and COO of the society. Nassif moves to ABS from his position as President and CEO of the society's wholly owned affiliate, ABS Group of Companies Inc.

Current ABS President, CEO and COO Christopher J. Wiernicki relinquishes the COO responsibilities to Nassif.

Palermo: HAL's Director, Ship Refurb

Joe Palermo has been appointed to the newly created position of director, ship refurbishments for Holland America Line and Seabourn.

Liodden Receives WISTA Award

WISTA Norway said that President of YoungShip International, **Birgit Liodden**, is the winner of the WISTA LeaderShip Award 2012. Today, she runs her own company and holds key positions in among others Oslo Maritime Network, YoungShip International, Nor-Shipping, Maritime Career and Oslo Region Maritime Council.

New Leadership Named at Heidmar

The Board of Directors of Heidmar Holdings LLC selected its new Executive team to lead the Company. Marc La Monte has been appointed President and CEO of Heidmar Inc. and Per Heilmann has been appointed Executive Vice President and Chief Risk Officer.

Jaya Welcomes New President to Offshore Division

Max Hartvigsen was appointed by Jaya Holdings as the organization's new President of the Offshore Division. He is responsible for business development, profit and loss for the fleet of owned and chartered vessels and operational excellence of the fleet, including technical management, operational requirements and client management.

Seaspan Signs Contract with STX Offshore & Shipbuilding

Seaspan Marine entered into a technology support agreement with STX Offshore and Shipbuilding Company Ltd. This partnership will optimize Vancouver Shipyard's planned facilities upgrades for the Federal Government's recently awarded $8 billion Non-Combat National Shipbuilding Procurement Strategy

GAC Bunker Fuels Appoints US Manager

GAC Bunker Fuels appointed Maurice Lara as its Bunker Manager for East Coast USA. He is based in Norwalk, Connecticut and accountable to Nicholas Browne, Global Director of GAC Bunker Fuels, and Bob Bandos, Managing Director of GAC USA.

OW Bunker: New Global Lube Division

OW Bunker launched a global Marine Lubricants Division. The company has started cooperation with leading brands in Marine Lubricants to provide a full range of lubricant grades to customers, and will look to target further sales to specific target prospects on a worldwide basis. The Marine Lubricants Division will be headquartered in Piraeus, and lead by Stathis Grafakos

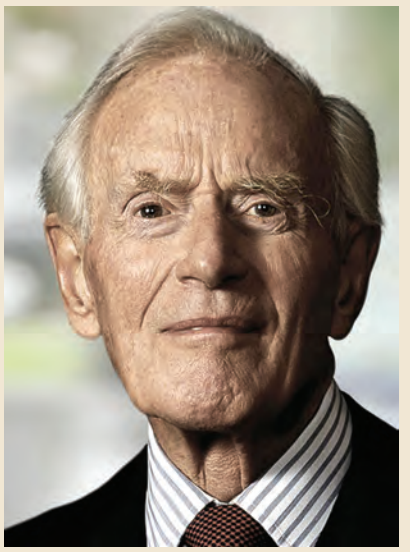
First Order for Damen Shiprepair Brest

On April 11, 2012, Director André Hollander and Sales Manager Theo Kloosterman announced the first ship repair order of Damen Shiprepair Brest (France) by sounding the bell in the traditional way. It is the first vessel is booked under the new management and comes in the second week after the acquisition of the former Sobrena Yard in Brest by the Damen Shipyards Group. The order was granted by the French offshore and subsea service provider Bourbon Offshore Surf, specialized in Subsea Umbilicals Risers Flowlines (SURF) services and concerns the docking of the Alcyon, one of Bourbon's Anchor Handling Tug Supply vessels. The docking consists of the 30-years survey, including all normal items, a complete external paint program, repairs of tank coatings and major steel renewal in fore peak area.

GEA Westfalia Separator Signs With Separator Spares & Equipment, LLC

Separator Spares & Equipment, LLC announced an authorized distributor agreement with GEA Mechanical Equipment US, Inc. (GEA Westfalia Separator Division) for the Gulf Coast region. Effective immediately, Separator Spares & Equipment, LLC will be providing GEA Westfalia high-speed separator equipment, spare parts, and support throughout the Gulf Coast region. This strategic alliance will provide GEA Westfalia Separator's customers a local representative on the Gulf Coast.

www.separatorequipment.com



Obituary

Mærsk Mc-Kinney Møller

Shipowner Mærsk Mc-Kinney Møller passed away on April 16, 2012. Ane Mærsk Mc-Kinney Uggla states: "On behalf of the entire family, I wish to express our deep sorrow at the loss of our father, grandfather and great grandfather, Mærsk Mc-Kinney Møller. My sisters and I have lost a father who never failed neither his family nor his business.

Mærsk Mc-Kinney Møller became joint owner of the company "Firmaet A.P. Møller" in 1940. Since his father's death in 1965, he was director and chairman of the most important companies in the A.P. Moller - Maersk Group. Mærsk Mc-Kinney Møller undertook the daily management until 1993 and became chairman of A.P. Møller – Mærsk A/S until 2003.

With the death of Mærsk Mc-Kinney Møller, the A.P. Moller - Maersk Group has lost a businessman of international format and the man who, if any, can take credit for the Group being among the world's leading and Denmark's undisputed largest business with activities in a number of areas such as shipping, oil and retail. Will and energy characterised Mærsk Mc-Kinney Møller's endeavours. Foresight, careful preparation and a never failing commitment created the significant international business that the A.P. Moller - Maersk Group is today.

At the time of his death, Mærsk Mc-Kinney Møller was Chairman of the Board of the A.P. Møller and Chastine Mc-Kinney Møller Foundation, the A.P. Møller Relief Foundation, and the Maersk Employee Foundation, all of which are significant shareholders of A.P. Møller - Mærsk A/S.

MARITIME REPORTER AND ENGINEERING NEWS

2012 Editorial Calendar

The worldwide source for essential maritime news - since 1939

January	Ad Close: Dec 22	February	Ad Close: Jan 26	March	Ad Close: Feb 23
US Navy Report		**Cruise Shipping Annual**		**The Ship Repair Edition**	
Market: Floating Production Systems		Market: Ports & Logistics		Market:Training & Education: Facilities & Systems	
Technical: Ballast Water Treatment Systems		**ROUNDTABLE:** Satellite Communications		Technical: Software Solutions	
Directory: Marine Propulsion Equipment		Directory: Marine Electronics Buyer's Guide		Directory: Coatings & Corrosion Control	
		Special Report: Germany			
ASNE Day Feb 9-10		**Seatrade** Mar 12-15		**CMA** Mar 19-21 **CIMPS-Europort** April 25-27	
April	**Ad Close: Mar 22**	**May**	**Ad Close: April 26**	**June**	**Ad Close: May 24**
Offshore Deepwater Annual		**The Green Ship Edition**		**Annual World Yearbook**	
Market: Offshore Wind & Renewable Energy		Market: Patrol, Escort Craft & RIBs		Market: Military Might: Innovative Designs	
Technical: Offshore Service Vessels		Technical: The Integrated Bridge: Modern Bridge Technology & Technique		**ROUNDTABLE:** Information Technology & Software Solutions	
Directory: Deck Machinery, Winches & Ropes		Directory: Posidonia 2012 Preview: New Technology Guide		Directory: Maritime Fuels, Lubricants & Additives	
Special Report: The Netherlands		Special Report: Middle East Maritime Cluster			
OTC April 30 - May 3		**RoRo** May 22-24 **MACC** June **Posidonia** June 4-8		**Don Sutherland Photo Contest**	
July	**Ad Close: June 2**	**August**	**Ad Close: July 26**	**September**	**Ad Close: Aug 23**
Arctic Operations		**The Shipyard Edition**		**Marine Propulsion Annual**	
Market: Oil Spill Response & Recovery		Market: Maritime Communications		**ROUNDTABLE:** Diesel Engine Manufacturers	
ROUNDTABLE: Coatings & Corrosion		Technical: Maritime & Shipbuilding Tools		Technical: Marine Salvage & Recovery	
Directory: Training & Education – Facilities & Systems		Directory: SMM 2012 Preview: New Products & Technologies		Directory: Insulation, Pipes, Pumps & Valves	
Special Report: Brazil		Special Report: Singapore Maritime Cluster			
		SMM Sept 4-7		**Rio Oil & Gas** Sept 17-20	
October	**Ad Close: Sept 20**	**November**	**Ad Close: Oct 25**	**December**	**Ad Close: Nov 22**
Marine Design & Construction		**Workboat Annual**		**Great Ships of 2012**	
Market: Maritime, Port & Harbor Security		Market: Offshore Service Vessels (OSVs)		Market: Port & Harbor Dredging Annual	
Technical: Deepwater Floating Production Systems		**ROUNDTABLE:** Workboat Academy: Training & Education		Technical: Maritime Fire & Safety Products & Systems	
Directory:CAD/CAM & Other Software		Directory:Heavy Lifting: Deck Machinery & Cranes		Directory: World Shipyards: Newbuild, Repair & Conversion	
		Special Report:Turkey			
SNAME Oct 24-26 **MAST Americas** Nov 14-16 **Inmex China** Nov 21-23		**Int'l Workboat Show** Dec 5-7		* Please note that the publisher reserves the right to alter this editorial calendar. All planned features are subject to change in light of changing industry trends and developments.	

BUYER'S DIRECTORY

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER. A quick-reference readers' guide, it includes the names and addresses of the world's leading manufacturers and suppliers of all types of marine machinery, equipment, supplies and services. A listing is provided, at no cost for one year in all issues, only to companies with continuing advertising programs in this publication, whether an advertisement appears in every issue or not. Because it is an editorial service, unpaid and not part of the advertisers contract, MR assumes no responsibility for errors. If you are interested in having your company listed in this Buyer's Directory Section, contact Mark O'Malley at momalley@marinelink.com

AUCTIONEERS

Blackmon Auctions, Inc., PO Box 7464 Little Rock, Arkansas

AUTOPILOT SYSTEMS

AG Marine, 5711 34th Ave NW 2nd floor, Gig Harbor, WA , tel:253 851-0862, fax:253 851-0865

AZIMUTH CONTROLS

Prime Mover Controls, 3600 Gilmore Way, Burnaby, BC V5G 4R8, Canada

BOW AND STERN THRUSTERS

Omnithruster Inc., 2201 Pinnacle Parkway Twinsburg, Ohio 44087, Cleveland, OH 44139, USA , tel:330 963-6310, fax:330 963-6325, widmer@omnithruster.com contact: Kurt Widmer, www.omnithruster.com

CAPSTANS

Coastal Marine Equipment, 20995 Coastal Parkway, Gulfport, MS 39503-9517, USA , tel:228-832-7655, fax:228-832-7675, sales@coastalmarineequipment.com , www.coastalmarineequipment.com

CARGO MONITORING & CONTROL SYSTEM

Buffers USA, 10180 New Berlin Rd, Jacksonville, FL 32226 , tel:904-696-0010, fax:904-696-0019, ken@buffersusa.com

COATINGS/ CORROSION CONTROL/ PAINT

Jotun Paints, 9203 Highway 23, Belle Chass, LA

PPG Protective & Marine Coatings, One PPG Place, 38N Pittsburgh, PA 15272 USA

Rustibus, 2901 WEST SAM HOUSTON PKWY, N. SUITE E-325 HOUSTON, TX 77043 , tel:(832) 203-7170, fax:(832) 203-7171, djj@rustibus.com contact: Dominic Jordan

COMMUNICATIONS

Jepessen Marine, Hovlandsveien 52 PO Box 212, Egersund , tel:011 47 51 46 4700, info.marine@jeppesen.com , www.jeppesen.com/marine

COMMUNICATIONS SERVICE

David Clark, PO Box 15054, Worcester, MA 01615, USA , tel:1-800-298-6235, Sales@davidclark.com

COMPUTER/ COMPUTER SOFTWARE

EDoc Systems Group. Ltd, 306 - 1208 Wharf Street, Victoria

CONTROL SYSTEM-MONITORING/STEERING

Omega Engineering, One Omega Dr., Stamford, CT 06907, USA , tel:203 359-1660, fax:203 968-7192, kkwait@omega.com contact: Kathy Kwait, www.omega.com

DECK FITTINGS

Nabrico Marine Products, 1050 Trinity Road, Ashland City, TN 37016, USA

DECK MACHINERY- CARGO HANDLING EQUIPMENT

Liebherr nenzing Crane Co., 7075 Bennington Street, Houston, TX

Nabrico Marine Products, 1050 Trinity Road, Ashland City, TN 37016, USA

DIVING & SALVAGE

Hydrex Headquarters, Haven 29 – Noorderlaan 9 Antwerp 2030, Belgium , tel:32-3-213-5300 (24/7), fax:32-3-213-5321, hydrex@hydrex.be contact: Dave Bleyenberg, www.hydrex.be

Hydrex US, 604 Druid Rd E; Clearwater, FL, USA , tel:727-443-3900 (24/7), fax:727-443-3990, info@hydrex.us contact: Dave Lamon, www.hydrex.us

ELECTRONICS/NAVIGATION COMMUNICATIONS SERVICE AND

Jeppesen Marine, Hovlandsveien 52 PO Box 212, Egersund , tel:011 47 51 46 4700, info.marine@jeppesen.com , www.jeppesen.com/marine

ENGINES

GE Energy, 3993 West Sam Houston Parkway North, Houston, TX , tel:713 895-0068, fax:713 895-0072, Keith.Wyatt@ge.com contact: Keith Wyatt, www.ge-energy.com/electrifyingchange

FUEL ADDITIVES

Nano Fossil Fuels Technology, LLC, 561 Keystone Avenue, STE. 322, Reno, NV

Nano Fossil Fuels Technology, LLC, 561 Keystone Avenue, STE. 322, Reno, NV

GALLEY EQUIPMENT

Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd. Ave. Boca Raton, FL 33431 , tel:561-994-3900 #3112, fax:561-994-3969, allen.powell@jamestownmetal.com

LOIPART AB, P.O.Box 694/Metallgatan 2-4, ALINGSAS , tel:+46 322 668 360, fax:+46 322 637 747, loipart@loipart.se

GROUNDING & EARTHING BRUSHES

Sohre Turbomachinery, 128 Main Street, Monson, MA 01082-0889, USA , tel:(413) 267-0590, fax:(413) 267-0592, tsohre@sohreturbo.com contact: Thomas Sohre, www.sohreturbo.com

GYROCOMPASS

AG Marine, 5711 34th Ave NW 2nd floor, Gig Harbor, WA

HOISTS

Coastal Marine Equipment, 20995 Coastal Parkway, Gulfport, MS 39503-9517, USA , tel:228-832-7655, fax:228-832-7675, sales@coastalmarineequipment.com , www.coastalmarineequipment.com

HVAC

Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd. Ave. Boca Raton, FL 33431

INTERIORS

Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd. Ave. Boca Raton, FL 33431

Thermax Marine-Panel Specialists, Inc., 3115 Range Rd., Temple, TX 76501, USA , tel:813 340-3940, fax:813 264-2507, thermax@panelspec.com contact: John Hutchinson, www.thermaxmarine.com

JOINER- WATERTIGHT DOOR-PANELING-CEILING SYSTEM

Thermax Marine-Panel Specialists, Inc., 3115 Range Rd., Temple, TX 76501, USA

LIFESAVING EQUIPMENT

CM HAMMAR AB, C.M. Hammar AB August Barks Gatan 15 421 32 Västra, Frölunda, Sweden , tel:+46 31 709 65 50, fax:+46 31 49 70 23, info@cmhammar.com , www.cmhammar.com

LIFT EQUIPMENT

Imenco AS, 271 Kingsdale Toronto, Canada M2N 3X6 , tel:(713) 480-7777, al.cohen@imenco.com

Liebherr nenzing Crane Co., 7075 Bennington Street, Houston, TX

MARINE ENGINEERING

Imenco AS, 271 Kingsdale Toronto, Canada M2N 3X6 , tel:(713) 480-7777, al.cohen@imenco.com

METEOROLOGICAL INSTRUMENTS

R.M. Young Company, 2801 Aero Park Dr., Traverse City, MI , tel:231-946-3980, fax:231-946-4772, vsherman@youngusa.com

MONITORING SYSTEMS

SPM Instrument Inc., 780 Bailey Hill Rd. Suite 3 Eugene, OR 97402, Eugene, OR

MOORING PRODUCTS AND SYSTEMS

PSI/Tideslide, 3075 Shattuck, Ste 801, Saginaw, MI , tel:989-695-2646, fax:989-695-2648, mbaluha@tideslide.com

NAV/COMM EQUIPMENT

Marlink, Offices in: Oslo, London, Hamburg, Brussels, Athens, Dubai, Mumbai, Singapore, Tokyo, Washington DC and Houston , tel:+32 70 233 220, fax:+32 2 332 3327, customer.service@marlink.com

NAVAL ARCHITECTS, MARINE ENGINEERS

MCA Engineers, Inc., 1100 Quail Street, Suite 218,, Newport Beach, CA 92626, USA

NAVIGATION

AG Marine, 5711 34th Ave NW 2nd floor, Gig Harbor, WA

Jepessen Marine, Hovlandsveien 52 PO Box 212 N-4379, Egersund , tel:011 47 51 46 4700, info.marine@jeppesen.com , www.jeppesen.com/marine

OFFSHORE SERVICES

Hydrex US, 604 Druid Rd E; Clearwater, FL, USA , tel:727-443-3900 (24/7), fax:727-443-3990, info@hydrex.us contact: Dave Lamon, www.hydrex.us

Imenco, 16111 Park Entry Dr., Ste 100, Houston, TX , USA , tel:(713) 480-7777, fax:909-626-8326, al.cohen@imenco.com contact: Al Cohen, www.imenco.com

Jambon Marine Service, 20804 Highway 1 South, Golden Meadow, LA , tel:(985) 475-5402, dani@jambonboats.com

Jambon Marine Service, 20804 Highway 1 South, Golden Meadow, LA , tel:(985) 475-5402, dani@jambonboats.com

PADLOCKS/LOCKS

Lockmaster USA, Inc., P.O. Box 2532 Panama City, FL 32402 USA

Lockmasters USA, Inc., P.O. Box 2532, Panama City, FL , tel:800-461-0620, fax:850-914-9754, sales@lockmastersusa.com

PROPULSION CONTROL SYSTEMS

Prime Mover Controls, 3600 Gilmore Way, Burnaby, BC V5G 4R8, Canada

PROPULSION EQUIPMENT

VOLVO PENTA OF THE AMERICAS INC, 1300 Volvo Penta Drive, Chesapeake, VA , tel:+1 757 3824010, lindsy.shrewsberry@volvo.com

Wartsila, Puotikuja 1, Vaasa , tel:011 35 8107090000 contact: Jessica Akerberg, www.wartsila.com

PUMPS

Varna Products, 4305 Business Dr. Cameron Park, CA 95682

RIGID INFLATABLE BOATS

Pennel & Flipo USA, P.O. BOX 1695 MOUNT PLEASANT, SC 29465 , tel:843-881-9026, fax:843-881-9026, lcourcoux@pennelusa.com

Pennel & Flipo Inc., P.O. Box 1695 Mount Pleasant, SC 29465 , tel:843-270-4191, fax:843-883-3000, orca@pennelusa.com

RUST AND PAINT REMOVAL

Rustibus, 2901 WEST SAM HOUSTON PKWY, N. SUITE E-325 HOUSTON, TX 77043 , tel:(832) 203-7170, fax:(832) 203-7171, djj@rustibus.com contact: Dominic Jordan

SAFETY PRODUCTS

Landfall Navigation, 151 Harvard Avenue, Stamford, CT , tel:203 487-0775

SATELLITE COMMUNICATIONS

Boatracs, 9155 Brown Deer Rd. Ste 8, San Diego, CA , tel:858 458-8107, fax:858 458-8116

Delta Wave Communications, Inc., 8001 Hwy 182 E. Morgan City, LA 70380 , tel:(985) 384-4100, fax:(504) 617-6393, tom.clark@deltawavecomm.com contact: Tom Clark

Delta Wave Communications, Inc., 8001 Hwy 182 E. Morgan City, LA 70380 , tel:(985) 384-4100, fax:(504) 617-6393, tom.clark@deltawavecomm.com contact: Tom Clark

SEATING

H.O. Bostrom, 818 Progress Ave., Waukesha, WI 53186, USA , tel:262.542.0222, fax:262.542.3784, sales@hobostrom.com contact: Mike Oemichen, www.hobostrom.com

SEPARATORS

Westfalia Separator, 100 Fairway Court, Northvale, NJ

SOFTWARE

EDoc Systems Group. Ltd, 306 - 1208 Wharf Street, Victoria

STORAGE BUILDINGS

ClearSpan Fabric Structures, 1395 John Fitch Blvd. South Windsor, CT 06074 , tel:860-528-1119, fax:860-289-4711, damende@farmtek.com

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WINCH MANUFACTURER

Measurement Technology NW, 4211 24th Avenue West, Seattle, WA , tel:206 634-1308, LCI@mtnw-usa.com contact: Matt Mostad, www.mtnw-usa.com

WINCHES & FAIRLEADS

Nabrico Marine Products, 1050 Trinity Road, Ashland City, TN 37016, USA

GUNDERSON MARINE

Marine Design Engineer

Provide engineering analysis and drafting services to support Marine Production for the construction of steel hull barge. Proficiency in AutoCAD is required; experience with ShipConstructor software is desired. Have good verbal and writing communication skills. Four-year college graduate with a bachelor degree in naval architecture, marine engineering, or mechanical engineering. Minimum of 3 years experience in shipbuilding industry is required. Please send cover letter and resume to: hrgund@gbrx.com

Equal Opportunity Employer

Marine Drafter I

Assist Engineers to design vessel structure, piping, machinery, and outfitting details. Develop 2D/3D AutoCAD detail drawings. Assist in providing part details, nesting plans, and CNC coding for the burning alley. Two years of technical training in manual and AutoCAD drafting. A minimum of two years AutoCAD drafting experience. Knowledge of using ShipConstructor or other 3D modeling software will be a plus. Marine industry experience is not required but will be considered a plus. Have good verbal and writing communication skills. Please send cover letter and resume to: hrgund@gbrx.com

Equal Opportunity Employer

Port Engineer
Job Location: USA, Everett, WA

The U.S. Navy is currently seeking qualified marine engineers to serve as Port Engineers for ships in their Surface Fleet. Navy Port Engineers act as the owner's representative and serve as the subject matter expert on ship's systems/equipment and are intimately familiar with the operational and maintenance requirements of their assigned ships to ensure their mission readiness. They are active participants on a Maintenance Team responsible for one or two ships and serve as the Commanding Officer's primary representative for all off ship maintenance and modernization. As their assigned ship's life cycle manager, the Port Engineer is expected to be the most knowledgeable person on the material condition of their ships and are responsible for ensuring their ships safely meet their expected service life. Port Engineers engage with senior Navy leadership, government program offices, sailors in the fleet, and shipyard contractors so effective communication and interpersonal skills are essential. Travel is minimal and all shipyard availabilities are conducted in the home port. All Port Engineers are encouraged to visit their ships during deployment in order to plan work packages and to get underway with them as their schedule permits. Candidates must have the following qualifications: possess and maintain SECRET government clearance, bachelor's degree in Engineering, minimum USCG Third Assistant Engineer License, and at least 5 years of sailing experience in the merchant marine or Navy. Prior Port Engineer experience, involvement with ship repair industry, and knowledge of the Navy's current maintenance practices is desirable. Candidates must be physically able to enter confined space (i.e. tanks and voids), climb ladders, and masts aboard their assigned ships while in port or at sea in order to validate maintenance requirements.
Tamela Mickens
Camber Corporation
6992 Columbia Gateway Dr.
Suite 150
Columbia MD 21046 USA
Phone: 443-896-0219
Fax: 410-872-1029
Email: tmickens@camber.com

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51	ClearSpan Fabric Structures	www.ClearSpan.com	(866) 643-1010
15	Damen Shipyards Group	www.damen.nl	31 (0) 183 63 9174
45	Donald Sutherland Photo Contest	www.maritimephotographs.com	Please visit our website
C3	EPD Electronic Power Design	www.EPDLTD.com	(713) 923-1191
37	Floscan	www.floscan.com	(206) 524-6625
4	Governor Control Systems	www.mshs.com	(800) 622-6747
13	Hamburg Messe	www.smm-hamburg.com	Please visit our website
51	HO Bostrom	www.hobostrom.com	(262) 542-0222
29	Infosat Communications	www.infosat.com/marine	(888) 524-3038
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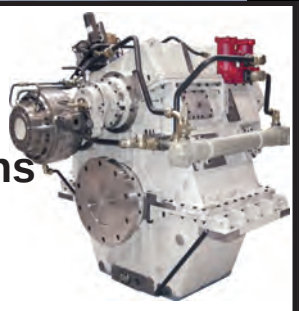

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