The World's Largest Circulation Marine Industry Publication • The Information Authority for the Global Marine Industry since 1939

MARITIME REPORTER AND ENGINEERING NEWS

May 2011

www.marinelink.com

Training & Education

Preparing the New Generation

Deepwater Horizon

Lessons Not Learned

Natural & Nuclear Crisis

Japan Battles Back

Danish Shipowners

Back on Growth Track

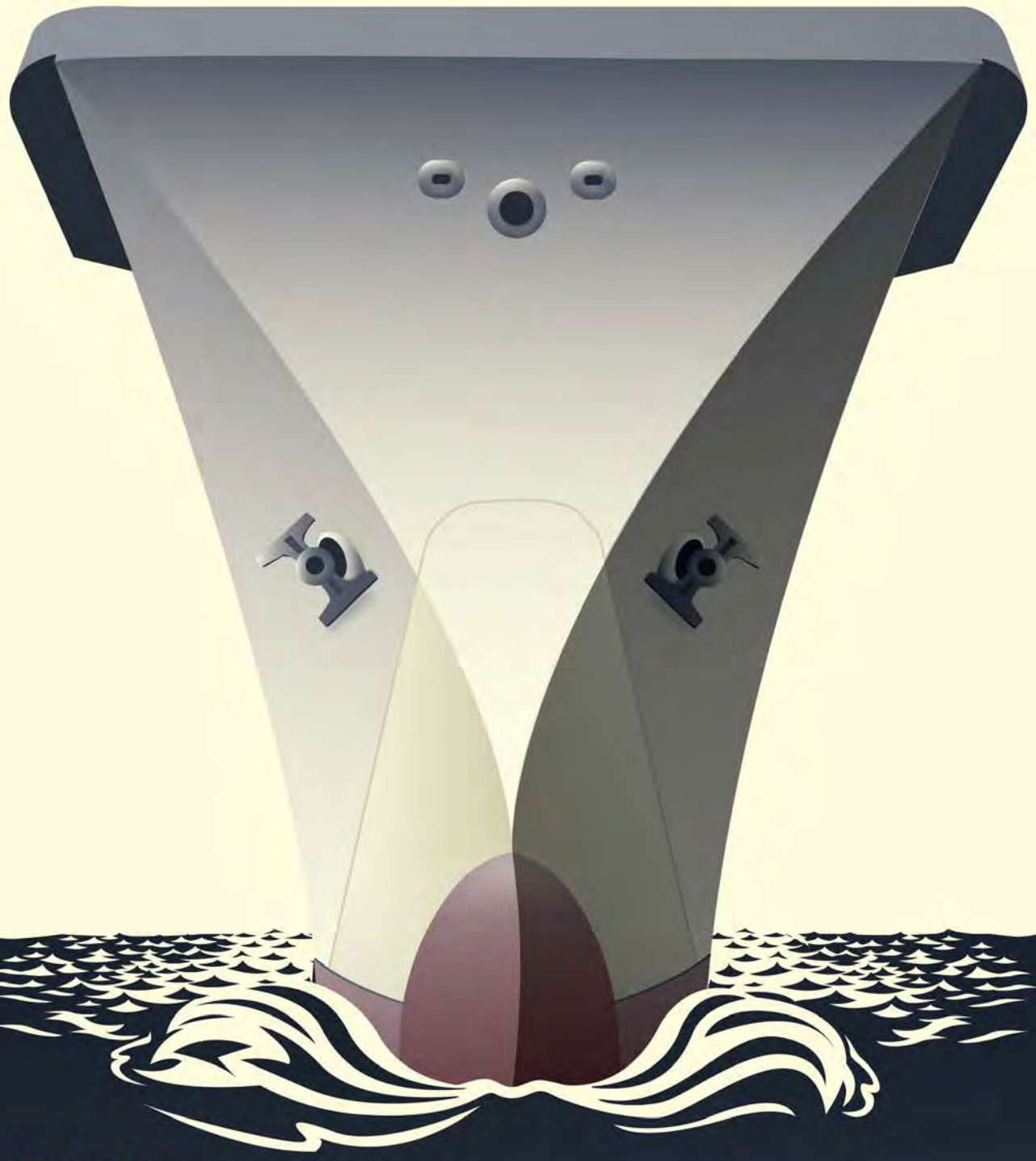
Bilge, Ballast, Wastewater

Clean Water Tech

Market Review

RIBS & Patrol Craft

A LEGEND. REBORN.



INTRODUCING

HUNTINGTON INGALLS

Legends aren't just a part of history, they create it. With the introduction of Huntington Ingalls Industries (NYSE: HII), a 125-year legacy in shipbuilding is reborn. Newport News Shipbuilding and Ingalls Shipbuilding are world-renowned for building some of the best military ships ever put to sea, including USS Enterprise, USS Los Angeles, USS America, USS Spruance, USS Kearsarge and USS Cole. Huntington Ingalls represents the unparalleled technology, innovation and expertise of these two legends in a force 38,000 strong to create the future of military shipbuilding. No one else does what Huntington Ingalls Industries does. Because no one else can.

Huntington Ingalls Industries

TO FIND OUT MORE VISIT **HUNTINGTONINGALLS.COM** TODAY. NYSE: HII

Where Do I Go for Marine Pressure Transducers?
omegadyne.com, of Course!

Pressure Transducers for Surface and Sub-Surface Vessels


Photo courtesy of the U.S. Navy - Mate 3rd Class Heather Hess

Pressure Transducers Qualified to MIL-T-24742(SH)

PX2471A

Consult Sales for Price

Custom Ranges Available!

Visit omegadyne.com/px2471a

Base Mount Compression Load Cells

LC414 Series

- High Accuracy
- 5-Point NIST Traceable Calibration Included
- Built-In Mechanical Overload Stops

Starts at $859

Visit omegadyne.com/lc414

Pressure Transducers for Marine or Naval Applications 115 Vac Powered Qualified to MIL-P-24212C(SH)

PX2421

Consult Sales For Price

Visit omegadyne.com/px2421_pgt

Solid State Isolated Transducer in a T08 Transistor Case

PX4600 Series

Starts at $242

Cover removed to show detail

Visit omegadyne.com/px4600

FREE!

Introducing Made in USA Strain Gages
Visit omegadyne.com/literature to receive your FREE copy of NEW HORIZONS IN STRAIN GAGES®

Pressure Transducers for Marine or Naval Applications DC Loop Powered

PX2422

Consult Sales For Price

Qualified to MIL-P-24212C(SH)

Visit omegadyne.com/px2422_pgt

USB Output Pressure Transducer

PX409-USB

Starts at $545

Visit omegadyne.com/px409-usb

Hydrostatically Compensated Load Cells for Underwater Applications

LCUW/LCMUW Series

Starts at $1175

Standard and Metric Models Available
All Stainless Steel

Visit omegadyne.com/lcuw

OMEGADYNE Offers Custom Strain Gages and Strain Gaging Services

- Strain Gage Bonding Services
- Strain Gage Wiring Services
- Strain Gage Wiring and Bonding

For Sales and Service, Call TOLL FREE

1-800-872-3963℠
1-800-USA-DYNE

Omega Engineering is a Proud Sponsor of the Rube Goldberg 2011 Machine Contest Hosted by Discovery Museum, Bridgeport, CT to be held on May 21, 2011
www.discoverymuseum.org/rubegoldberg2011

All Products Shown Proudly MANUFACTURED BY OMEGADYNE® IN THE USA

omegadyne.com®
OMEGADYNE®

Dilbert © United Feature Syndicate, Inc.

CONTRIBUTORS

Bryant

Dennis L. Bryant, Maritime Regulatory Consulting, Gainesville. dennis.l.bryant@gmail.com
See story page 16

DeSimone

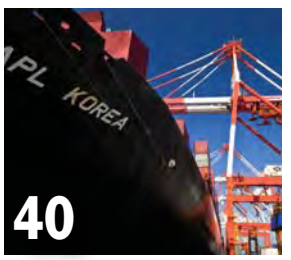
Rich DeSimone is president of Travelers Ocean Marine. He can be reached at rich.desimone@travelers.com
See story page 20

Paschoa

Claudio Paschoa is a Rio de Janeiro based writer for *Maritime Reporter & Engineering News.*
See story page 26

Segercrantz

Henrik Segercrantz is a Finnish Naval Architect with 30 years experience from the shipbuilding industry.
See story page 50



POWER

Kvichak Marine Industries

Scania engines - 12 or 16 liter with ratings from 300 to 800 hp

Power to propel both vessels and business.

Since 1902, commercial mariners around the world have relied on Scania engines to power their fishing boats, patrol boats, tug boats and ferries. No matter the application, Scania marine engines have earned a reputation for their robust performance, legendary durability and outstanding fuel economy.

Read more at www.scaniausa.com

SCANIA
Scania U.S.A. Inc.

Scania U.S.A., Inc.• San Antonio, TX • Phone 210.403.0007 • Fax 210.403.0211
E-mail: contact@scaniausainc.com • Web site: www.scaniausa.com

DISTRIBUTORS

Northeast/Great Lakes	Northwest	Southeast/Gulf Coast	Southwest	Central/Eastern Canada
Mack Boring & Parts Co.	Cascade Engine Center	Certified Diesel	Boatswain's Locker	ADF Diesel
908-964-0700	206-764-3850	954-583-4465	949-642-6800	800-517-1489

MARITIME REPORTER AND ENGINEERING NEWS

NEW YORK
118 E. 25th St., New York, NY 10010
Tel: (212) 477-6700; Fax: (212) 254-6271
e-mail: mren@marinelink.com • Internet: www.marinelink.com

FLORIDA • 215 NW 3rd St., Boynton Beach, FL 33435
Tel: (561) 732-4368; Fax: (561) 732-6984

SUBSCRIPTION INFORMATION
One full year (12 issues)
• in U.S.: $69.00; two years (24 issues) $98.00 • in Canada: $73.00; two years (24 issues) $105.00
• Rest of the World: $98.00; two years $152.00 including postage and handling. For subscription information:
Email: mrcirc@marinelink.com • www.marinelink.com
Tel: (212) 477-6700 • Fax: (212) 254-6271

POSTMASTER: Send address changes to: **Maritime Reporter** 118 East 25th Street, New York, N.Y. 10160-1062.
Maritime Reporter is published monthly by Maritime Activity Reports Inc. Periodicals Postage paid at New York, NY and additional mailing offices.

NACE International: The Source for Marine Corrosion Solutions

NACE offers the most recognized and widely accepted corrosion training certification programs.

Coatings Inspector Program— CIP Level 2, Maritime Emphasis

This course highlights the skills and knowledge required to correctly perform a thorough coatings inspection aboard commercial ships in keeping with IMO and IACS rules.

Cathodic Protection – CP 2, Marine

With the focus on shipboard cathodic protection, students will learn both theoretical knowledge and practical techniques for testing and evaluating the effectiveness of CP systems on U.S. Navy Surface Vessels.

Offshore Corrosion Assessment Training (O-CAT)

This course addresses the elements of in-service inspection and maintenance planning for fixed offshore structures and focuses on the BOEMRE A-B-C facility evaluation grading system requirements.

Shipboard Corrosion Assessment Training (S-CAT)

Learn practical guidelines for surveying and evaluating the condition of the protective coating system on U.S. Navy Surface Vessels.

Register today for an upcoming course at **www.nace.org/education.**

NACE® INTERNATIONAL

THE CORROSION SOCIETY

MARITIME REPORTER AND ENGINEERING NEWS

www.marinelink.com

ISSN-0025-3448
USPS-016-750

No. 5 *Vol. 73*

118 East 25th Street, New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271

Founder: *John J. O'Malley 1905 - 1980*
Charles P. O'Malley 1928 - 2000

Maritime Reporter/Engineering News is published monthly by Maritime Activity Reports, Inc. Mailed at Periodicals Postage Rates at New York, NY 10199 and additional mailing offices.

Postmaster send notification (Form 3579) regarding undeliverable magazines to Maritime Reporter/Engineering News, 118 East 25th Street, New York, NY 10010.

Member
BPA WORLDWIDE BUSINESS
Business Publications Audit of Circulation, Inc.

A common lament from U.S. maritime companies that I've heard, said, read and written many times is regarding the overall downturn of the maritime business in the United States. While there is some truth to the statement in certain sectors, I think it unfair and unwise to paint broad stroke an industry this broad and diverse. Case in point, according to the *World Factbook* (as reported by **Rich DeSimone** in his colum on page 20), in 2010 the U.S. received nearly $2 trillion in imports (#1 in the world); and shipped out close to $1.3 billion in exports (#3 in the world behind China and Germany). A maritime nation with global influence, we are.

From nearly two decades of observation, I can reasonably conclude that many U.S. companies simply don't bother to explore opportunities abroad as domestic business in certain sectors dwindle.

Later this month I will attend my 10th Norshipping exhibition in Oslo, arguably the second best maritime exhibition in the world behind SMM in Hamburg, Germany. Without looking, I can reasonably guess that in Oslo — and in most other major global maritime exhibitions — there will be maybe two dozen U.S. companies among a cast of thousands. There are, of course, exceptions to every rule, and increasingly it appears that U.S. companies are jumping into global competitions.

Late last month the U.S. Maritime Administration announced that it has signed a $241m loan guarantee that would allow the Eastern Shipbuilding Group of Panama City, FL, to build five PSVs for export to Brazil, a much needed boost U.S. shipbuilding industry. Eastern Shipbuilding Group has built eight PSVs since 2003, with three more under construction. The vessels, being built for Boldini S.A. of Rio de Janeiro, are estimated to result in 300 new local jobs over the next 3.5 years.

Personally, I had the opportunity to interview **Barry Dreyfus**, the candid CEO of United States Marine, which is a small (200-employee) boat builder for the U.S. military, but with much experience and many contracts building for foreign militaries in the Middle East and Asia. In fact, when I interviewed Barry, he was in Singapore on his honeymoon ... with some scheduled business presentations on the side!

Gregory R. Trauthwein, Editor & Associate Publisher | **trauthwein@marinelink.com**

ON THE COVER

Pictured on this month's cover

is an image from the Norwegian Shipowner's Association (NSA). In an interview this month, starting on page 30, Tore Forsmo, NSA's Director, shares the organization's vision on investing in recruiting and talent development, in times good and bad.

(Photo Courtesy: Norwegian Shipowner's Association)

Steve Dickey, Market Director, Global

Sherwin-Williams Protective & Marine Coatings

When Steve Dickey joined Sherwin-Williams Protective & Marine Coatings in 2010, he was tasked to help enhance the iconic brand's global identity. He discusses with MR the plan and progress. • ***by Greg Trauthwein***

How long have you been in the business of marine coatings?

Dickey I have been in the marine coatings business for 30 years, at Ameron, PPG and Sherwin-Williams. I started my career in the Ameron labs, and then moved to marketing and international licensee support. Then I was promoted to VP of marketing and then to group president. I went to PPG as part of the sale of Ameron and served as the global marine director. Now I'm the global market director of marine coatings at Sherwin-Williams.

In your career, what do you believe to be the most significant changes in the marine coatings business?

Dickey The first significant change in the marine coatings business over the span of my career is technology. When I started 30 years ago "high solids" meant 45%, now most ballast tank and epoxy primers are above 80% solids and many topcoats have solids greater than 70%. All of this change means two things: fewer solvents emitted into the environment and a significantly reduced chance of solvent being trapped in the coatings film and contributing to premature failures.

Also, antifoulings and foul release coatings no longer contain TBT, and in many cases the level of biocides has been reduced or eliminated.

Second, IMO PSPC and SOLAS legislation is greatly changing how coatings companies approach the design and supply of our products and how ship owners view the application of coatings and maintenance of their vessels. In the end this will result in significant changes in technology used to design, apply and inspect coatings.

You have been with Sherwin-Williams a relatively short time; what attracted you to the company and this position?

Dickey Sherwin-Williams convinced me (in 2010) that they are committed to being a leader in the global marine coatings market through a combination of technology advancements, an acute understanding of customer needs, a proven history and exemplary service.

What do you consider the company's strengths in the marine market?

Dickey Sherwin-Williams is a 145 year old coatings company that understands how to service our customers whether they are in Norfolk, Shanghai or Rio. We bring outstanding ballast tank coatings technology to the market with our Euronavy ES 301 and Fast Clad ER products. When Sherwin-Williams has the desire to succeed, we always pull through. For example, we have proven ourselves in North America and are now beginning to do that in other parts of the world.

Any weaknesses?

Dickey While Sherwin-Williams has a complete product line offering, our technology teams are working hard to develop more advanced bottom system technology. Second, while we have distribution in over 34 countries, we are working rapidly to expand the framework of our global network.

You indicated previously that global expansion of the Sherwin-Williams brand to the marine market was one of your primary missions. To this end, please provide your assessment of the global marine coatings market?

Dickey Easier-to-apply coatings will

Easier-to-apply coatings will define the market, especially in Asia where the technology is advanced. The current global economic downturn has slowed the growth of the marine market, but once the economy recovers, the market will achieve exceptional growth for the foreseeable future.

Steve Dickey

define the market, especially in Asia where the technology is advanced. The current global economic downturn has slowed the growth of the marine market, but once the economy recovers, the market will achieve exceptional growth for the foreseeable future.

What areas, by region, do you look to for rapid expansion?

Dickey Asia will grow very quickly and significantly, with South America leading the rest of the world.

What does Sherwin-Williams bring new to this market?

Dickey As I have said before, Sherwin-Williams brings unequalled customer service, advanced research and development and exciting new next generation ballast tank and chemical tank technologies.

How is Sherwin-Williams investing to expand its penetration in overseas markets?

Dickey We are in the process of adding experienced people, service infrastructure and operations capabilities in all of the key marine markets.

What do you count as the top challenges to expanding Sherwin-William's market penetration overseas?

Dickey The top challenges to expanding Sherwin-Williams market penetration globally are name recognition, reputation building and educating the ship owners and shipyards on what makes our service better.

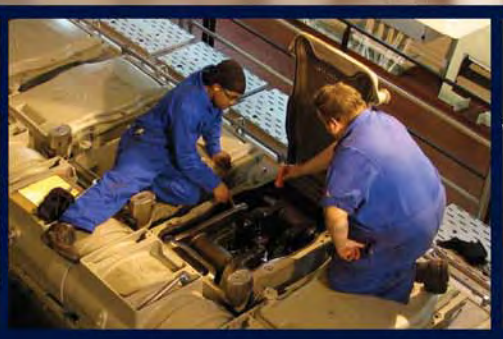
Please provide two or three brief case studies which you think best exemplify your company's success.

Dickey Euronavy ES301 is a premier coating technology designed for application on damp surfaces in humid conditions with alternative surface preparation. Abrasive blasting, generally thought to be necessary in these conditions, can be avoided – and equivalent results achieved – using ultra-high pressure (UHP) water jetting, or hydroblasting. Euronavy ES301 allows for the use of UHP water jetting as a secondary surface preparation method at the block stage in shipbuilding, resulting in huge time and cost savings. It is also IMO PSPC approved over UHP. Transpetro, a wholly-owned subsidiary of Petrobras and Latin America's largest ship owner, considers the ES301-hydroblasting concept the new standard for coating in the shipping industry, especially for ballast and cargo tanks repair. An example is the crude cargo tanks of MT Ataulfo Alves, which was fully refurbished in 2002 using this coating system. An inspection performed five years later by ABS found the surface in pristine condition.

US Navy: To improve coating schedules and combat premature failures of the vulnerable edges of ballast tanks, the U.S. Navy challenged Sherwin-Williams to develop an anti-corrosion technology that could achieve enhanced film thickness over edges, corners and welding seams, be installed quicker and returned to service faster.
The result was Fast Clad ER, an ultra-high-solids, rapid cure, single-coat epoxy that replaced the traditional three-step practice. In part due to the success of this technology, the Navy in 2010 awarded Sherwin-Williams a $24 million, five-year contract to supply coatings to the Navy's yards at Puget Sound, Norfolk, Portsmouth, N.H., and Pearl Harbor on a just-in-time (JIT) basis – the first national comprehensive JIT coatings contract to be awarded by the Fleet and Industrial Supply Center based in Norfolk.

This is how I work
to make critical repairs
to support my crew
to support my ship.
This is how I work to
build my future
and take command of my career
with Military Sealift Command.





It's your turn to get the career you deserve. No contracts or long-term commitments – just secure, stable employment with the federal government. Opportunity awaits at

sealiftcommand.com

MILITARY SEALIFT COMMAND

Take Command of Your Career®

Hunt for talent grows as

Indian Shipbuilders Expand

To maintain the competitive edge ship builders focus on acquiring trained and skilled workforce to feed their expansion plans

With shipping well on its way to recovery, much of shipbuilding activity in India is on an expansion mode. However, the immediate hurdle faced is the shortage of talent and trained work force that can assure productivity. Though poaching and lucrative offers have become the order of the day, a few builders have sought to train their staff to meet their own requirement and this is proving to be better option on the long run. Medium and small players have different business model to that of the big players. **"All fabrication work is contracted out,"** informs a spokesman of Modest Infrastructure Ltd, which falls in the medium category. **"No one in ship building can afford to have their own workforce.** If they do employ people on a permanent basis, the production cost is bound to go up and productivity will suffer as workers tend to make demands for better wages, join labor unions, etc. Already Mazagon Dock Limited, India's premier shipyard constructing warships as well as offshore platforms is facing labor problems because they have their own manpower." But manpower development in green field shipyard has been no big deal for Cmde Jitendra, chief executive officer of the newly set up Pipavav Shipyard which is the largest ship building facility in India. Having served in both state owned ship yards and private ones he finds there being intrinsic advantages to getting talent from outside and grooming for one's own requirements. "Earlier as chairman of Cochin Shipyard we found a lot of skilled people available in the vicinity but it was a question of trying to garner the skills. Unlike all other shipyards in the country, Pipavav Shipyard produces ships by the "block construction" method, wherein the entire multi-deck segments of the hull or superstructure are build elsewhere in the yard and transported to the building dock or shipway, then lifted into place. Being totally different there is no reason for us to ever poach talent from other yards." On the other hand Rear Admiral B. Varadarajan, Head Ship Design & Engineering, Larsen & Turbo, stresses the need of having a special work force for design construction, maintenance and operation of marine vessels and structures. "Success of a shipyard critically depends on its design and engineering edge" he says. He advocates the need for quality equipment and trained hands. "Design officer should be equipped with the right tools and manned by adequate number of experienced and skilled manpower." As the demand for workers goes up, Pipavav Shipyard has well laid out plans for manpower development. Offering a multi-level higher education system, workers at the yard get their skills honed to fit the shipbuilding's requirements. "We have safety training, behavior training, software training, fire fighting, etc.," says Cmde Jitendra.

"We have created equal opportunities for women in nearly all fields including welding, designing, marine fabrication, etc. Our strategy aims to nurture the skills required for the company to remain competitive and operate successfully over the next decade and beyond."

Posted by Joseph Fonseca — Mumbai

SS Great Eastern

A huge and revolutionary ship too far ahead of its time

When launched in 1858, the SS Great Eastern was by far the largest ship ever built. **Its cast iron hull was 692 feet in length and had a beam of 82 feet.** Designed for carriage of emigrants from Europe to America, it could theoretically carry 4,000 passengers. Like today's very large container ships, it was intended to make a profit based on the economies of scale – it taking fewer crew members to operate one large ship than multiple smaller vessels. In addition to its size, the Great Eastern, designed by Isambard Kingdom Brunel, had other revolutionary features. It was the first ship built with a double hull. It was heavily compartmented, with two longitudinal bulkheads and various transverse bulkheads, dividing the ship into nineteen separate compartments. Its 56-foot diameter side paddlewheels were powered by four steam boilers. Its 24-foot diameter four-bladed screw was powered by a separate steam boiler. The ship was also fitted with six masts, theoretically capable of carrying more than 18,000 sq. ft. of sail. The ship had a maximum speed of 13 knots and seldom utilized its sails. Due to financial difficulties and to a boiler explosion on its first sea trial, the Great Eastern never carried a significant number of passengers. In 1864, the ship was sold and converted into a cable-laying vessel. It laid the first lasting cable across the Atlantic Ocean in 1866. Working steadily through 1878, she laid over 30,000 miles of submarine telegraph cable, mostly in the Atlantic Ocean, but also in the Indian Ocean. Late in its career, the ship was used as a showboat, concert hall, and gymnasium. Its final owner used the ship as a floating billboard on the River Mersey in Liverpool. It took 18 months to scrap the Great Eastern in 1889-1890. The ship's designer saw almost nothing of this. Isambard Brunel died in 1859, before the ship made its first transatlantic voyage.

Posted by Dennis Bryant

Recent Ship Sales

(Source: Shipping Intelligence, New York, NY)

Date	Name	DWT	YB(age)	Price
Bulk Carriers				
02/21/11	SIBEL DEVAL	16,750	74(37)	$2
02/01/11	TRIUMPH	27,386	78(33)	$3.4
02/01/11	ENTERPRISE	27,499	78(33)	$3.4
02/01/11	EFFORT ONE	28,234	83(28)	$4.3
02/01/11	CAPETAN MICHALIS	29,003	81(30)	$4.2
02/07/11	F & K	32,942	98(13)	$18.8
02/07/11	GOLD STAR	36,850	84(27)	$6.4
02/14/11	BULK ISLAND	37,687	84(27)	$6.4
02/17/11	AVENIR	42,842	85(26)	$7.8
02/01/11	GYN YOH	43,117	88(23)	$8
02/01/11	DIXIEMAIDEN	44,679	91(20)	$10
02/01/11	KEN UNITY	48,913	99(12)	$21
02/14/11	SAFFRON	50,341	04(7)	$3
02/01/11	GECON 1	52,458	05(6)	$28
02/09/11	IOANNA L	69,346	89(22)	$14.5
02/01/11	SARAJI TRADER	169,963	97(14)	$24
02/21/11	IRON YANDI	169,963	96(15)	$14
02/17/11	BLUE EVEREST	180,000	10(1)	$62.6
Chemical Carriers				
02/01/11	CRYSTAL GRACE	5,807	96(15)	$4.4
02/01/11	GOLDEN ASIA	6,312	94(17)	$4.2
02/07/11	BOW DE JIN	11,752	99(12)	$10.3
02/14/11	CHEMSTAR KING	19,508	98(13)	$13.3
02/01/11	JOSE BRIGHT	32,442	93(18)	$6.5
02/21/11	TAUNUS	38,100	04(7)	$25
02/01/11	CAPE BILBAO	40,327	06(5)	$ 27
02/14/11	NORTH POINT	50,930	05(6)	$ 30
02/14/11	EAST POINT	50,930	06(5)	$ 30
Containerships				
02/01/11	CAROLIN SCHULTE	10,935	99(12)	$10.3
02/21/11	ROTHORN	14,600	96(15)	$9
02/21/11	WEISSHORN	14,600	96(15)	$9
02/01/11	FOREVER PROSPERITY	22,148	96(15)	$9.5
02/17/11	MSC SIERRA	27,900	77(34)	$7
02/17/11	MSC NAMIBIA	27,900	75(36)	$7
02/17/11	MSC SUDAN	27,900	77(34)	$7
02/01/11	ORANJE	29,651	91(20)	$7.5
02/09/11	MAERSK MARYLAND	31,829	91(20)	$10.5
02/09/11	MAERSK MAINE	31,829	92(19)	$10.5
02/09/11	MAERSK VERMONT	31,829	91(20)	$10.5
02/07/11	OOCL MELBOURNE	43,093	03(8)	$27.5
02/09/11	NEWPORT BRIDGE	47,384	93(18)	$18.5
02/07/11	CMA CGM MARLIN	65,950	07(4)	$52.5
02/07/11	CMA CGM KINGFISH	65,950	07(4)	$52.5
Gas Carriers				
02/07/11	ATLAS STAR	3,751	07(4)	$27.5
02/21/11	KESWICK	8,700	03(8)	$22.5
02/21/11	KENDAL	8,700	03(8)	$22.5
02/09/11	GAS MIRACLE	50,400	92(19)	$23
Passenger Ferries				
02/01/11	LONG JIE	3,202	72(39)	$12.9
Tankers				
02/14/11	MISTRAL	5,215	95(16)	$3.8
02/09/11	HARTAMAS	6,320	91(20)	$1.8
02/09/11	SAINT MARY	39,645	95(16)	$4
02/14/11	LEPTA MERMAID	45,908	99(12)	$15.5
02/21/11	FIDELITY	71,049	05(6)	$34
02/14/11	MILKYWAY	93,662	91(20)	$9
02/14/11	GENMAR CONSTANTINE	102,335	92(19)	$7
02/21/11	PACIFIC IVY	104,280	11(0)	$48.5
02/01/11	OKEANIS	106,547	97(14)	$19
02/14/11	MONTE UMBE	107,222	97(14)	$21.7
02/07/11	OLINDA	149,258	96(15)	$19
02/14/11	GENMAR GULF	149,803	91(20)	$11
02/01/11	TAJIMA	265,539	96(15)	$28.1
02/17/11	FORMOSAPETRO EMPIRE	299,170	04(7)	$74.5
Tweendeckers				
02/01/11	F BLUE	9,370	94(17)	$5.6
02/01/11	F SPIRIT	9,370	95(16)	$5.6

software service training consulting integration **understanding**

ABS Nautical Systems®

www.abs-ns.com

MARITIME REPORTER AND ENGINEERING NEWS

Jan. 4 - May 10, 2011

www.maritimephotographs.com

First Annual
Don Sutherland Memorial

Maritime Photo Contest

Hundreds of photos are already online!

See the best images posted by maritime photographers around the world, and submit you own best photos. Candidates may enter as many photos as they like, in each of the five categories below. Entries can be submitted and viewed at:

www.maritimephotographs.com

Established to honor the memory of Donald S. Sutherland, photographer extraordinaire.

The best entries from each category will be published in the June 2011 edition of Maritime Reporter and Engineering News. All photos must be entered by May 10 to be counted.

Grand Prize:
Canon EOS Rebel Digital T1I 15.1 MP
w/18-55MM IS Lens
-SLR
-3.1x Optical Zoom
-SD/MMC Memory Card

Contest rules at http://www.maritimephotographs.com/rules-and-terms.asp

Sponsored By:

Takeovers on the Pacific Route Ahead

The list of causes of the collapse of Denmark's The Containership Company makes impressive reading for business school graduates. At latest count there are between eight and 10, depending on one's point of view.

Vessel sizes, bunker prices, the Transpacific Stabilization Agreement, falling rates, shippers not meeting "their contractual cargo volumes committed to TCC under the 2010-11 season service contracts," lower than expected eastbound cargo volume due to increased competition; new entrants pricing themselves into the market; significant one time equipment acquisition and positioning costs and larger than required administration organization as it was geared to manage an additional two strings.

Two of these are management risks associated with any business enterprise (buying equipment, i.e. a ship, at the wrong time, and employing too many people for the size of the company) and are not peculiar to the trans-Pacific trade. They smack more of being excuses for bade judgment or wrong decisions.

Of the others, urgent questions need to be answered about the assertion that some customers were not honoring their contracts.

Allegations have been flying around that some carriers have been rejecting contracted cargo when they get better spot quotes (one of the reasons for the Federal Maritime Commission investigations) but the reverse seems to be happening as well.

There seems to be other evidence of this. A forwarder in Hong Kong tells me that business can get "hairy" at a couple of Chinese ports because contracted cargo has failed to show up – leading to a scramble to get filled boxes onto booked space on vessels. And there are indications that carriers have suffered with spot cargo as well.

Most intriguing is the TCC assertion about vessel sizes and bunker surcharges. It is saying that the TSA surcharge formula locks out independents – which has made critics of the whole TSA apparatus prick up their ears. Associated with this is the lament that lines with smaller vessels – which seem to be anything between 3,500 TEU and 7,000 TEU – are going to be hammered on rates even in good times.

Possibly this is a hint at the reason for Maersk plumping for 18,000 TEU classes – trying to knock out competition with one blow. But it must be remembered that the Panama Canal will have a limit of 13,000 TEU, meaning that there will always be a market for smaller vessels.

Which leads to the main implication of the TCC's demise. Consolidation is the order of the day in the trans-Pacific. The recent spate of vessel sharing agreements is an indicator of what is to come.

Posted by Martin Rushmere
— U.S. West Coast

Dry Bulk Sector ... a Bit Too Bulky?

If you thought the container shipping industry was burdened by overcapacity, have a look at the dry bulk sector that is being flooded with new ships.

A Cargill International executive said in Singapore that dry cargo ships totaling 106 million dwt would be delivered this year.

The cascade of new capacity would boost the world's fleet by 17 percent, while the dry bulk market was only expected to grow by 7.5 percent.

This relatively low market growth estimate is a result of China's attempts to cool its runaway economy. The mainland is facing fast rising inflation and has placed harsh curbs on bank lending. This will see fewer property and manufacturing developments, which will lead to slowing demand for dry bulk raw materials such as iron ore and coal.

Operators of dry bulk fleets were pessimistic in their outlook, expecting this year to be poor and next year to be even worse as China's austerity measures begin to bite.

Chief concern to ship owners is the drop in freight rates. The South China Morning Post reports that average rates for a 180,000 dwt dry cargo capsize ship carrying iron ore from Brazil to China is now at $21,000 per day compared to the $48,000 per day that was being earned last year.

Yet there are imponderables that make the supply-demand balance difficult to predict with any accuracy. Construction may slow in China, but if mainland export orders flood in for the peak season there will be a new demand for raw materials for manufacturing and coal to stoke the fires of industry.

Scrapping of older ships a few years early may be another factor affecting the supply of capacity, as will slowing the construction of new ships in the Korean and Japanese yards.

Still, when your shipping fleet is growing at more than double the rate of the market, it is probably time to get worried. Or at least splash a little more scotch over your rocks.

Posted by Greg Knowler
— Hong Kong

Trans-Pacific Carriers are
Ruminating over Higher Fees

Higher fees are in the works from the Transpacific Stabilization Agreement. As the 15 members lament the cruel turns of economic fate that force them to lay up ships and raise bunker surcharges, there are indications that customers are in line for more grief.

At the Long Beach annual forecast breakfast, CMA CGM (America) boss Frank Baragona gave hints as to what is being discussed.

He highlighted the issues against the overall situation on the trade lane, with the crux on the all important eastbound leg being a 16 percent gap between traffic supply and demand in 2011 (14.2 million TEU demand and 17 million TEU slots available), up from 16 percent in 2010 and 26 percent in 2009 at the height of the recession (basing his figures on Drewry estimates).

Baragona reckons that there is however a capacity worry in the form of the number of boxes in existence.

From an average of three per each available slot three years ago, these have dwindled to less than two. Baragona says the reason that China container manufacturers shut up shop during the recession, producing only 300,000 a year compared with the previous average of 5 million.

He sounds a warning to customers that lines will be ramping up efficiency of supply and turnaround, with a likely reduction in "free time" at ports – the length of time that boxes can sit at the docks without demurrage being slapped on.

A blow is also likely to be aimed at customer's wallets over bunker charges at some stage this year. Platts figures show they have risen from $235 a metric ton in 2008 to as much as $654 this year. "Fuel costs for a vessel of 8,200 TEU between South China and the West Coast are now between $3.5 million and $4 million, making up 60 percent of operating costs," says Baragona. He made no hint about what form the blow might take, but the fact that he mentioned it shows that the Trans-Pacific Stabilization Agreement is mulling things over.

Slow steaming is playing a part, with 55 percent of the Pacific loops to the West Coast and 82 percent of the East Coast traffic opting for steaming between 15 knots and 18 knots. (All on the back haul. The leg to the US is at cruising speed of 24-25 knots.)

But how the world container fleet has changed. The first vessels bigger than 10,000 TEU went into service in 2006-2007. This year 49 will start operations, compared with only 27 in the 7,500-10,000 TEU range.

Posted by Martin Rushmere
— U.S. West Coast

At-Sea Demonstration of Maritime Laser

(Photo: Northrop Grumman)

The U.S. Navy and Northrop Grumman Corporation demonstrated high-energy, solid-state laser defenses at sea by completing a "counter-material" test of the Maritime Laser Demonstrator (MLD) against small boats. Northrop Grumman designed and built the MLD for the Office of Naval Research, leveraging a laser built by Northrop Grumman for the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command and the High Energy Laser Joint Technology Office. Open ocean tests were conducted between October 2010 and April 2011 at the Pacific Ocean Test Range near San Nicolas Island off the Central California coast. For these tests, the laser system was installed on the Navy's Self Defense Test Ship, the USS Paul Foster. While underway, the MLD system initially tracked and lased land targets. The solid-state, directed energy system then tracked and damaged moving, remotely piloted, unmanned small boats traveling at representative speeds and ranges, company executives said.

"The results show that all critical technologies for an operational laser weapon system are mature enough to begin a formal weapon system development program," said Steve Hixson, vice president, space and directed energy systems at Northrop Grumman's Aerospace Systems sector. "Solid-state laser weapons are ready to transition to the fleet." Hixson said the MLD team accomplished several notable firsts, including:

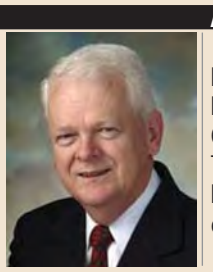
- **First Navy laser system to go to sea, installed on a decommissioned Spruance-class destroyer, for the program's culminating demonstration;**
- **First Navy laser system to be integrated with a ship's radar and navigation system;** and
- **First electric laser weapon to be fired at sea from a moving platform. Other tests of solid-state lasers for the Navy have been conducted from land-based positions.**

"During the latest demonstrations, MLD spent a total of three days at sea, during which we operated the laser at high power more than 35 times," said Dan Wildt, vice president, directed energy systems. "The laser withstood the stresses of wave heights up to seven-and-a-half feet."

According to Jay Marmo, the company's MLD program manager, the open ocean tests collectively showed that a laser weapon system can effectively operate in a challenging maritime environment and overcome such obstacles as atmospheric conditions, waves and the motions of both the host and target vessels, while also meeting capability requirements for self-defense. "In the future, lasers will operate synergistically with kinetic energy weapons to optimize ship defenses," Marmo said. "Lasers can address a number of emerging threats, enabling the fleet to maintain freedom of operation, yet with a very low cost of operation. "

The Deepwater Horizon Incident & Lessons *Not* Learned

About the Author



Dennis L. Bryant, Maritime Regulatory Consulting, Gainesville, FL
Tel: 352-692-5493
Email: dennis.l.bryant@gmail.com

The US Coast Guard recently released its Incident Specific Preparedness Review (ISPR) of the service's response effort to the oil spill from the Deepwater Horizon incident. The ISPR was not an effort to determine the cause of the incident – there are any number of investigations examining that issue. It was not an effort to determine liability and compensation – again, others are poring over that in great detail. It was not an effort to re-examine the policy regarding offshore oil and gas exploration and extraction – an issue far outside of the Coast Guard's remit. Rather, the ISPR was limited to examining the implementation and effectiveness of the response to the Deepwater Horizon spill within the confines of the National Contingency Plan, as well as identifying key issues believed most important to assessing preparedness and evaluating the oil spill response and its intersection with the National Response Framework and Homeland Security Presidential Directive-5 (Management of Domestic Incidents). The Coast Guard has no authority to examine other government agencies, and it would be presumptuous to do so. **Outside reviewers, including myself, are not so limited.**

The ISPR did an excellent job of reviewing, within its mandate, the effectiveness of the response to the Deepwater Horizon oil spill. It identified many instances where things were done well and some instances where there is room for improvement. Unfortunately, the media has focused on instances where there is room for improvement by the Coast Guard and largely ignored the many areas in which things went well. For example, the Incident Command System (ICS) "worked as intended" and the Unified Command structure, comprised primarily of the Coast Guard and the responsible party, was found to have worked exceedingly well, but you will find no mention of that in the press reports. In addition, the ISPR noted that "the response generally benefited from the ability of the Government and the private sector to rapidly assess and adapt to new or unusual contingencies and develop innovative solutions." It is a testament to the processes implemented under the Oil Pollution Act of 1990 (OPA 90) that no one is calling for major revision of the oil spill response program, but merely a series of course corrections.

The ISPR report, though, hints at deeper problems, which have also troubled me. These problems relate back to first principles – basic starting points, which, if not done right will prevent participants from successfully achieving their goals despite best efforts.

END THE BUREAUCRATIC STOVE-PIPING

The major pre-existing problem that I perceived during the Deepwater Horizon oil spill response was the agency stove-piping. The Minerals Management Service (MMS), since reorganized as the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), established its own standards for oil spill response plans for offshore facilities and performed its own review of the submitted plans. We now know that both the standards and the review process were deeply flawed. There was (and still is) another flaw in the program. MMS before and BOEMRE now have little if any oil spill response capability. They rely on the Coast Guard to respond to oil spills from offshore facilities. The problem is that the Coast Guard was not provided an opportunity to review and comment on the response plans in advance. This failure to share is immensely unfair to the Coast Guard – the first responders. The problem is not unique to MMS/BOEMRE; it is systemic. The Coast Guard also does not see in advance the oil spill response plans for pipelines or for non-transportation-related onshore facilities, yet it is expected to promptly react when a spill occurs.

DEVELOP FOR A UNIFIED RESPONSE PLAN

Another significant problem that developed during the oil spill response was the disconnect between the federal agencies and many of the state and local government agencies. It appeared to many outside observers that the two groups were not speaking the same language. And it turns out that this perception was correct. Most federal agencies involved in the oil spill response were operating in accordance with the National Contingency Plan (NCP) and utilizing its Incident Command System (ICS). Many state and local agencies were operating under the Stafford Act and its National Response Framework (NRF). The NRF was never intended for use in oil spill response, but that is the milieu within which these agencies were accustomed to operate during crises and it is the one within which they expected to be working during this incident. It took an extended period of time for the two groups to recognize that they were using different playbooks, and in some cases the groups were never on the same page.

U.S. Coast Guard photo by Petty Officer 3rd Class Kevin Metcalf.

Retired USCG Adm. Thad Allen, national incident commander for the Deepwater Horizon oil spill response, along with Frederick Lemond Jr., Venice Branch BP supervisor, and U.S. Coast Guard Cmdr. David Flaherty, Venice Branch operations commander, toured the mashes in Barataria Bay, Aug. 31, 2010. The boat, a BP contracted vessel of opportunity, gave Allen and others the opportunity to meet with the workers replacing boom in the marshes.

PLUG AND CONNECT

FROM INSTALL TO OPERATE

Intellian® v-series

Reduced installation time
Minimal maintenance and lower cost of ownership
Utmost reliability satisfying stringent environmental standards
Remote IP access and firmware upgrade
Gyro-free satellite search

v60 (24”)
v110 (41.3”)
v130 (49.2”)
v240C (94”)

For more information on Intellian 3-axis v-Series antennas,
please visit **www.intelliantech.com/vsat**

Intellian Americas Tel: +1-949-727-4498
Intellian EMEA & APAC Tel: +82-2-511-2244

The problem is not unique to MMS/BOEMRE; it is systemic. The Coast Guard also does not see in advance the oil spill response plans for pipelines or for non-transportation-related onshore facilities, yet it is expected to promptly react when a spill occurs.

INSULATE THE RESPONDERS FROM POLITICAL ISSUES

After the United Kingdom experienced an oil spill response effort that was hobbled by political issues, the government established the position of Secretary of State's Representative for Maritime Salvage and Intervention (SOSREP). The incumbent is tasked to oversee, to control, and, if necessary, to intervene and exercise ultimate command and control, acting in the overriding interest of the United Kingdom in salvage operations within UK waters involving vessels or fixed platforms where there is a significant risk of pollution.

While the incumbent is appointed by and ultimately answers to government ministers, those ministers are not to be involved in operational decisions and the SOSREP has full authority in advance to take all necessary actions to abate the pollution threat. In the United States, a somewhat analogous level of independence is provided to the Director of the Federal Bureau of Investigation (FBI).

The Coast Guard is not perceived as a political entity. It answers, though, to political masters. This generally works well, but not always. The Deepwater Horizon incident was one of those cases where certain aspects were inhibited by political issues. First came the national attention garnered by the incident. The press immediately started hounding the White House for answers and for information.

The White House perceived this event as a political issue and responded accordingly. Rather than referring all questions to the agency that was responsible for the response, it insisted on answering the inquiries directly.

This required the Coast Guard to devote considerable effort to educating the White House about oil spill response in general and this oil spill response in particular. As expected, most things in the White House are seen through a political filter and the responses provided to the media were framed thusly. In addition, response officials were often prevented from answering basic inquiries until those answers were cleared by political masters up the chain of command.

Once the oil spill response effort became politicized, it became vulnerable to political pressure.

The Governor of Louisiana pushed for the building of berms off the coast of the state in a misguided effort to stop the oil slicks from coming ashore. The Coast Guard, the US Army Corps of Engineers, the Environmental Protection Agency, and others counseled against such an expensive and counter-productive effort. The Governor turned it into a political issue. As a result, the berms were built. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling examined this debacle in detail. The other part of the response effort that became heavily politicized was the placement of booms to fend off the oil slicks. The coast of the Gulf of Mexico is lengthy and there was not enough boom available to ring the entire shoreline. Therefore, it was important to place the boom in those locations deemed most vulnerable. Governors, mayors, and county/parish officials, though, demanded their "fair share" of boom. Dealing with the boom war consumed considerable time on the part of senior spill response officials

In summary, from an internal government aspect, the three most important changes that should made to avoid problems that came to light during the Deepwater Horizon oil spill response are: (1) integrating the actual response agency (in most cases, the US Coast Guard) into the response planning effort and not limiting such planning to just the agency with primary regulatory responsibility over that particular industry; (2) getting everyone familiar with and utilizing the same unified plan for the response before the incident occurs; and (3) minimizing the political issues by insulating the individuals in charge of the response effort from political influences. The ISPR and other after-action reviews have provided much guidance on specific areas for potential improvement – most of those recommendations are spot on and worthy of implementation. I suggest, though, that unless some overarching changes, such as those recommended above, are adopted, fixing the details will be of little moment during the next major oil spill.

David Clark

WWW.DAVIDCLARK.COM

ENHANCE CRITICAL COMMUNICATIONS...

((WIRELESS))

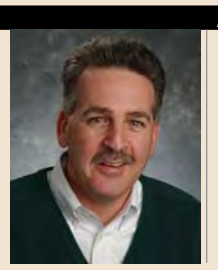
DAVID CLARK HEADSET COMMUNICATION SYSTEMS

David Clark Company Wireless Headset Communication Systems provide maximum freedom and mobility as well as clear communication for a wide variety of work boats, fire boats, harbor patrol, law enforcement and Coast Guard vessels, tugs, towboats, barges, ferries, and more. Crew members move about freely without being tethered to the vessel. Weather-tight components including gateways and belt stations are resistant to salt and spray. If you're working on the water, trust David Clark Wireless Headset Systems for critical communications.

To find out more call **800-298-6235** or visit **www.davidclark.com**.

Made In USA

About the Author



Rich DeSimone is president of Travelers Ocean Marine. He can be reached at rich.desimone@travelers.com

Today's Ports

Tomorrow's Pressures

The vessel pulling alongside a dock to deliver its cargo may be a massive container ship that requires all the sophisticated infrastructure of a modern seaside port – or it may be a small barge plying the inland waterways that offloads its goods at an aging, weathered wharf. From large to small, most vessel owners want the same thing: to offload the cargo quickly and safely, and be underway to the next destination.

Successful dock operators understand those priorities and compete for business by making sure they are prepared to load or unload cargo efficiently, without delays or problems. In a shipping world that is continually evolving, growing larger and more mechanized can be challenging, especially with the ever-present risks that can interrupt and even close down operations.

By working closely with their insurance broker and underwriter, dock owners and operators of all sizes can make sure they are prepared to keep their business up and running even when mishaps come their way.

DRIVING THE VOLUME

The intense competition for shipping business is reflective of the status of the United States as one of the largest trading nations in the world. According to the World Factbook, in 2010 the United States received nearly $2 trillion in imports, taking the number one position among all countries, and shipped out close to $1.3 billion in exports, third behind China and Germany.

To put that in perspective, the U.S. Department of Transportation notes that in 2008 – a year that saw a decline in shipping because of world economic conditions – one out of every 10 containers used in global trade was either bound for or originated in the United States. On a typical day that year, U.S. container ports handled an average of 77,000 TEUs compared to only 37,000 TEUs per day in 1995.

Inland waterways in the United States are also extremely busy and a vital component of American commerce. The U.S. Army Corps of Engineers reports that each year, these transit lanes are responsible for moving nearly 200 million tons of coal and 125 million tons of liquids, including oil and chemicals. The USACE estimates that if inland shipping were not used, it would take an additional 6.3 million rail cars or 25.2 million trucks to carry the load.

The intense competition for shipping business is reflective of the status of the United States as one of the largest trading nations in the world. According to the World Factbook, in 2010 the United States received nearly $2 trillion in imports, taking the number one position among all countries, and shipped out close to $1.3 billion in exports, third behind China and Germany.

SIZE MATTERS

The business of operating a seaside port or even a smaller inland docking operation has changed significantly over the past decades as ships have become bearers of containers and their cargo loads have grown. On the coasts, the evolution of shipping has driven the demand for investments in new port capabilities – dredging to handle greater ship drafts, new equipment more capable of dealing with immense ships, better technology to route and track goods, and integrated infrastructure to take the cargo on to its next destination.

One constant has been the Panama Canal bottleneck, which kept the largest ships from transiting directly from the Far East to the U.S. East Coast. With a third lane of larger locks scheduled to open in 2014, however, the New Panamax specifications will allow ships through that are much wider and deeper. Vessels using the canal today tend to carry a maximum of 5,000 TEUs, while the new locks will accommodate ships that carry 13,000 TEUs.

Coastal ports are already making changes in anticipation of the larger ships. The Port Authority of New York & New Jersey is planning to spend $1 billion to raise New Jersey's Bayonne Bridge 60 feet to 215 feet so the tallest ships can clear the structure and reach the port. In Miami, officials are considering a new dredging project to make way for bigger vessels.

Of course, inland dock operators know they do not have to cater to an ocean-going container ship that requires servicing with massive cranes and automated systems. Nonetheless, their priority is to demonstrate to vessel owners that their operation can take care of business efficiently and effectively, whether it is unloading goods or sending cargo on its way. To compete as shipping practices shift in response to the Panama expansion, dock operators need to be in top form, managing risk and planning ahead for the unexpected.

THE CAMM STRATEGY

There was a time when a disabled dock was a minor problem, and the loss of a day or two of operations was a small amount of money. Today, whether the port sits on the ocean and handles container ships or is inland and deals with strings of barges, a shutdown can be extremely expensive.

To avoid having operations grind to a halt, dock owners and operators need to assess their facilities and manage their risks accordingly. One source for assistance is an insurer who offers risk control services, including professionals who can help map out a plan for protection and alternative arrangements.

Assessing the vulnerability of a specific dock can be complicated. There are no universal standards, and many – especially on smaller waterways – have been constructed at different points in time and for purposes that may have since changed. One framework for assessing a dock uses the acronym CAMM:

- **Construction:** How was the dock originally designed, what component materials were used to build it, and is the current condition suitable for the intended use?
- **Age:** How long ago was the dock built, and how has its use changed since that time?
- **Manufacturer:** A pier manufacturer must have the necessary skill and expertise to build and/or repair the pier for the intended operations to be completed.
- **Maintenance:** What level of investment does the owner or operator need to make to keep the dock in good shape on a day-to-day basis? If it needed to be replaced, how expensive would that be, subject to current material and design requirements?

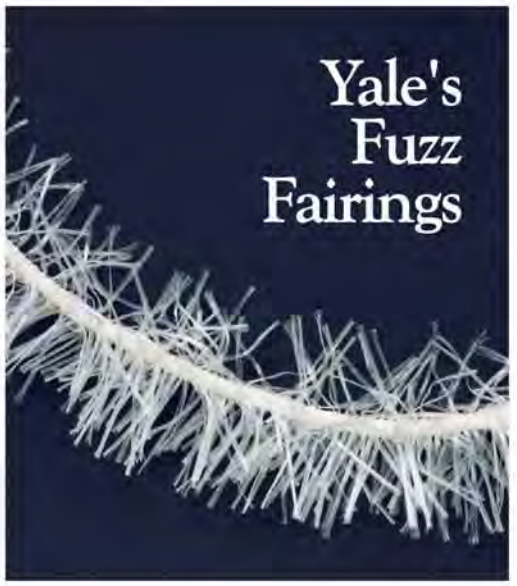
With such an assessment in hand, a dock owner can begin to make informed decisions about how to protect the cash flow of his business. For example, he may consider a wooden or simple concrete dock not worth insuring because of its age and condition. However, the best way to evaluate the value of the dock may not be what it looks like today but instead what it would cost to replace – or how much revenue would be lost if it was unavailable for use, and the owner had to turn away customers.

Another outcome of the assessment may be the recognition that a better program of maintenance and repair will keep the dock operational, even if minor accidents occur. In many cases, the willingness to perform maintenance is a good predictor of dock operations that are more reliable and, therefore, attract more customers. By working with their brokers and insurers, dock operators can also make sure there are no gaps in the protection their coverage provides. If one person owns the dock and another person leases it for a business that serves vessels, the responsibility for who handles repairs and maintenance should be made clear.

The insurer and the dock operator, whether big or small, have the same goal: protecting the operational capability of the facility so that the ships can come and go without interruption.

This close working relationship can pay off with a dock that delivers the operational certainty and efficiency that customers are seeking.

"...and you thought we just made rope..."



Yale Cordage designs combinations of high performance fairings specifically for the ocean environment.

Fairings are used on towed array configurations, drifting buoys, moored arrays and for many drogue applications.

YaleGrips

Holding on to what's important. YaleGrips® set the standard for marine stopping-grips worldwide.

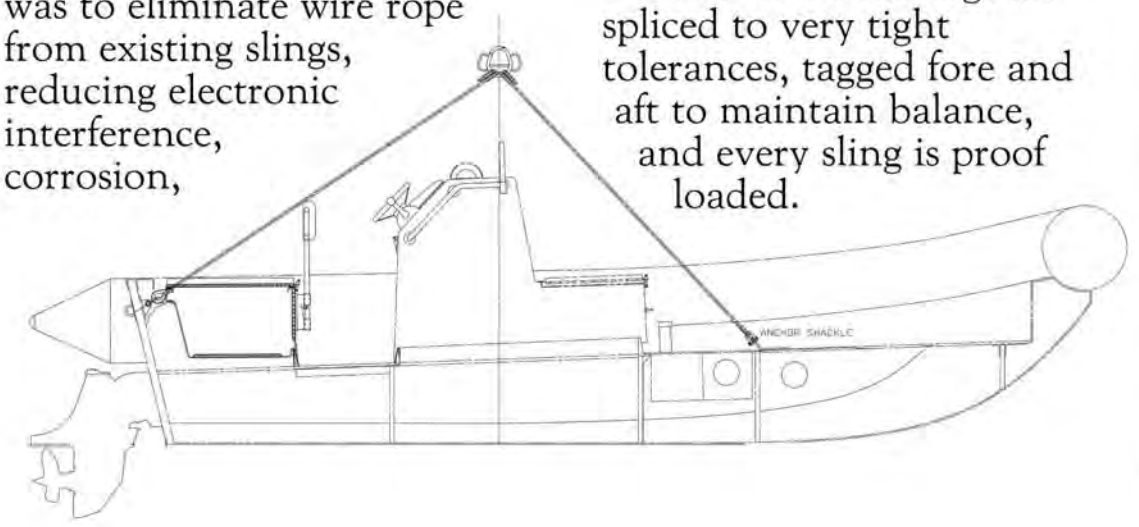
YaleGrips are simple to apply, safe to use, and easy on all mating surfaces.

Working with umbilicals, steel-wire rope, or synthetic cable? There is a YaleGrip for every application.

Four-Leg RIB Boat Slings

These slings were developed in conjunction with NSWC Carderock Division to handle RIB Boats. The goal was to eliminate wire rope from existing slings, reducing electronic interference, corrosion, wire fish hooks and generally engineering a much safer system.

The individual legs are spliced to very tight tolerances, tagged fore and aft to maintain balance, and every sling is proof loaded.



Yale's Unitrex™ XS

Unitrex is the tension member for the 21st Century...

Based on high tech Honeywell Spectra fibers Yale makes a rope three times the strength of polyester with elongation more like wire than any other synthetic. Cores are bonded and blocked with Neoprene and then wound with a vulcanized neoprene rubber layer.

Unitrex™ XS–8

This cable consists of eight Unitrex™ XS ropes plied together to form an 8-strand plaited cable.

Unitrex XS-8 is easily spliced with a straight forward, tucking procedure. Strengths available to 1.2 million pounds.

Yale Synthetic Cable Technology

77 Industrial Park Road
Saco, Maine 04072
Tel: (207) 282-3396
Fax: (207) 282-4620
www.yalecordage.com
Go to our web site and use our search box for detailed product information.

In the new MARIN Lab expected end of 2011

21 Meter Waves

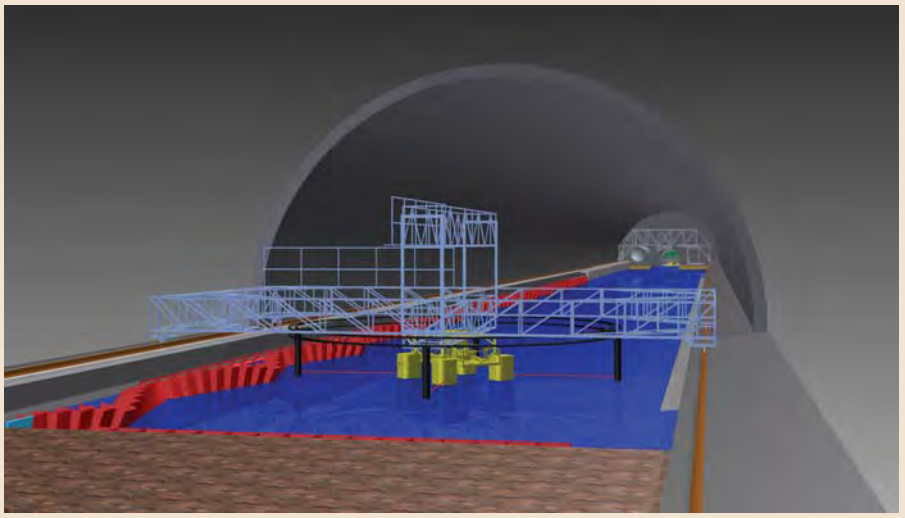
MARIN is building a new Depressurized Wave Basin. The present Depressurized Towing Tank is being rebuilt into an entirely new research facility. The new facility is expected to be completed end-2011. MARIN was granted a $20.5m government subsidy for the construction.

The existing facility already offered the possibility of studying the behavior of ships and constructions under any vacuum circumstances. Wave-creating devices, wave-dampening and measuring systems will be added.

In combination with the graduations in atmospheric pressure, the behavior of ships in waves can be significantly better simulated. This facility will be able to take MARIN into entirely new research directions in the field of flooding, wave impacts and in improving the efficiency of propulsion and in reducing resistance. It will give new possibilities to work on improving the safety of the shipping and offshore industry. One interesting factor is that waves of 21 m in altitude will be able to be simulated in the new facility. This is twice as high as the simulation possibilities in the current facilities of MARIN. The Depressurized Wave Basin is a unique research facility for the testing of ships and offshore structures in most realistic (scaled) operational conditions. Due to the capability to reduce the ambient air pressure, it allows investigations in three important areas: cavitation (in waves), air chambers and wave impacts with air entrapment.

IN MORE DETAIL:

Cavitation of the propeller(s) operating behind the complete ship model either in still water or waves or maneuvering is possible. Cavitation and hull pressure tests are carried out in depressurized conditions, with the propeller(s) in Froude-scaled condition and the model in free surface conditions (free to trim and thus creating the proper propeller inflow). Seakeeping tests at scaled ambient pressure to model the correct behavior of wave impacts and slamming using the wave makers along the short and long side of the basin. The same wave makers can also be used for testing offshore structures and wave energy devices. The facility can also be used as a multi-purpose model basin for hydrodynamic research related to the resistance and propulsion of ships and current loads and dynamics on offshore structures.



MARIN is building a new Depressurized Wave Basin, due for completion at the end of this year

TECHNICAL DATA

Tank dimensions are 240 x 18 x 8 m. The harbor (preparation) area is 26 m long and 4.2 m wide. The instrumentation allows for measuring up 100 channels at 20 kHz. The noise measurement system is able to test frequencies of 2 – 100 kHz.

According to the laws of similarity which apply to cavitation, the ambient air pressure in the tank must be reduced to the inverse of model scale. Through three vacuum pumps it can be lowered to a minimum of 2500 Pa.

Wave generators are positioned at two adjacent sides of the basin and consist of hinged flaps. The wave generators are able to simulate various wave types, such as short-crested wave patterns. The system is equipped with compensation of wave reflection from the model and the wave absorbers.

Opposite this wave generator, passive wave absorbers are installed. The short side wave maker has a capacity of 0.75 m waves at 4 s wave period and the long side wave maker 0.45 m waves, 3 s wave period.

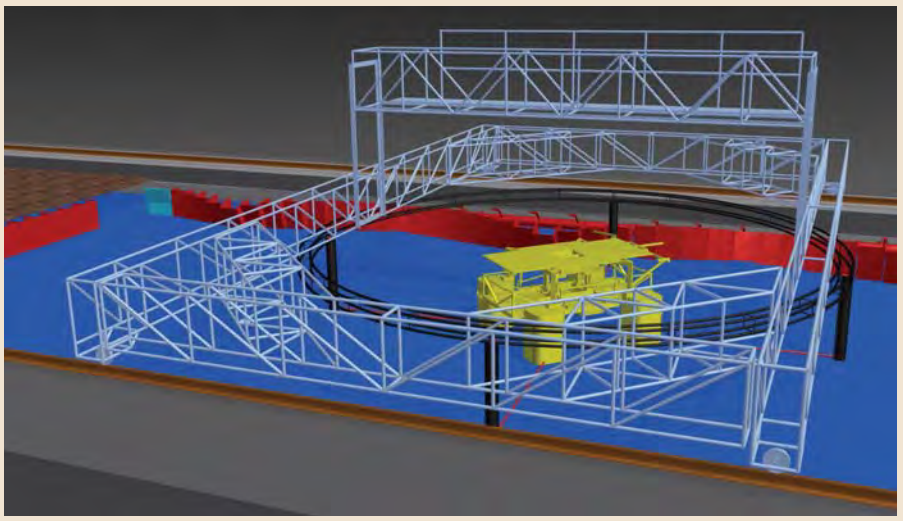
Models range from 2 – 12 m in length, up to 4 m beam and a maximum draught of 1 m. Maximum propeller diameter is 0.4 m.

The observation systems (both inside and outside the model) offer much operational flexibility through the remote control of camera position, camera settings (zoom and focus), lighting and stroboscope positions and intensity. Normal and high speed cameras are available.

CARRIAGES

The basin is equipped with two carriages: a towing carriage for hydrodynamic tests on ship models and a second lightweight carriage for testing offshore structure models or measuring radiated noise from ship models and propellers.

The basin will be equipped with two carriages: a towing carriage for hydrodynamic tests on ship models and a lightweight carriage for testing offshore structure models.



To be able to perform efficient testing the complete test setup is prepared in the harbor outside the tank and transferred through a pressure lock to the tank where it is connected to the towing carriage. Different test setups are available by adding or exchanging modules to a sub-carriage. Four modules are available:

- Resistance and propulsion dynamometer test frame, also used for cavitation tests
- Observation module which carries all equipment related to cavitation observations (camera, stroboscopes and remote controlled positioning frame).
- Seakeeping test frame
- Hexapod test frame

The maximum speed of the towing carriage is 8 m/s. The carriage is fitted with a 3D position measuring system. The 3D is used for measuring model motions and for dynamic tracking of the model with the carriage.

The lightweight carriage with a maximum speed of 4 m/s can be used to guide a ship model during noise measurements. The carriage is specially designed to reduce the background noise. The lightweight carriage is also used for testing offshore structure models or wave energy devices. The carriage is fitted with a large ring, which can be rotated, for mooring purposes. The carriage is also fitted with a 3D system like the towing carriage.

TEST CAPABILITIES

The new facility will be able to take MARIN into new research directions. Test capabilities are:

- Cavitation observation and inception
- Pressure fluctuation measurements
- Radiated noise, flow noise measurements
- Wakefield measurements
- Resistance and propulsion tests
- Offshore structures, fixed, moored or controlled by dynamic positioning to determine motions and/or loads due to waves
- Seakeeping tests in waves from arbitrary directions
- Forced oscillation tests using an hexapod
- Flooding tests (still water, waves, scaled ambient pressure)
- VIM (Vortex Induced Motions)

The Depressurized Wave Basin is expected to be completed end-2011.

Onboard performance

Worldwide experience

PureBallast 2.0 gives you more

When ballast water treatment regulations take effect, you'll want a mature technology to meet them. PureBallast 2.0 is the second generation of Alfa Laval's market-leading ballast water treatment system, which means it's even better adapted to your vessel's real-life needs.

Reduced power consumption, more responsive control and a PureBallast 2.0 EX version for explosive onboard environments are just a few of the new advantages.

By choosing PureBallast 2.0, you choose the world's most experienced supplier in ballast water treatment. Behind the updated system are thousands of hours of experience, logged both with shipyards and out at sea.

In addition, you select a global working partner. With a far-reaching organization and a worldwide network of harbour support, Alfa Laval can provide the parts, service and true peace of mind you need.

ALFA LAVAL

www.alfalaval.com/pureballast

U.S. Export Control Reform

What It Means for Shipyards

By Barbara D. Linney and Kevin J. Miller, Blank Rome LLP

In August 2009, President Obama launched a broad inter-agency process for reviewing U.S. export controls, including both the dual-use and defense trade systems, with the stated objective of updating controls to address current threats to U.S. foreign policy and national and economic security by "building high walls around a smaller yard" and focusing enforcement efforts on the "crown jewels." The reform process has as its goal transformation to a single control list, a single primary enforcement coordination agency, a single IT system and a single licensing agency. These goals were intended to be implemented in three phases. Although ambitious target dates for completion of the three phases have come and gone, considerable progress has been made, including on several previously stalled initiatives that have been placed on a faster track due to the reform initiative, and recently published proposed rules have laid the groundwork for detailed regulatory reform.

PHASES OF REFORM

As originally contemplated, the first phase involves reform that can be initiated immediately without legislation, such as policy and procedural changes and amendments to Regulations. Phase I also encompasses creation of the framework necessary for a new system, including preparation for any legislative proposals and implementation of specific reform actions already underway.

Phase II was billed as involving creation of a "fundamentally new U.S. export control system" based upon the current system by restructuring the existing two control lists (U.S. Munitions List ("USML") and the Commerce Control List ("CCL")) into identical tiered structures, as well as paring down the USML by transferring items from the USML to the CCL as appropriate. Congressional notification would be required to eliminate controls on USML items or to transfer USML items to the CCL. This phase also contemplates further consolidation of export licensing including the transition towards a single electronic licensing system and a revamp of export enforcement – both of which will require additional funding.

The final phase would complete the transition to the new U.S. export control system, provided that the necessary legislation is approved by Congress. Ultimately, the goal is to merge the two control lists into a single list and to implement new processes and procedures to ensure the list remains current. Similarly, in the longer-term, the goal is to consolidate multiple agencies charged with licensing and enforcement into a single export licensing agency and a primary export enforcement coordination agency. Implementation of a single, enterprise-wide IT system which will be used both for export licensing and enforcement also is planned. While on paper the reform initiative was to have been a phased process, in practice the three phases have proceeded somewhat concurrently rather than consecutively, with the result that, while no phase is fully complete, significant progress has been made towards the goals of all three phases.

PROGRESS TO DATE

On November 9, 2010 the President issued an Executive Order establishing an Export Coordination Enforcement Center. The Center falls under the Department of Homeland Security for administrative purposes and will serve as a central point of contact for executive departments and agencies to coordinate and enhance their export control enforcement efforts. The Center also will serve as a primary point of contact between enforcement authorities and agencies engaged in export licensing and will coordinate public outreach activities related to export controls. Finally, the Center will serve as a conduit between Federal law enforcement agencies and the U.S. intelligence community for the exchange of information related to suspected violations of U.S. export controls.

Progress on another key reform proposal, creation of a single IT system to receive, process and screen new license applications and end-users, also is well underway. The agencies reportedly have decided on the single platform to be used and plans for migrating all agencies to the single platform are under discussion.

Likewise, at the direction of the President, in March of this year, the Office of Management and Budget began to plan for streamlining of the various agencies currently overseeing trade and export.

On the licensing front, several specific reforms have been implemented, including movement on several long pending regulatory reforms. Developments include:

- Elimination of duplicate USML licensing requirements for foreign employees (DSP-5 is now the sole licensing vehicle)
- Proposed rules designed to eliminate unnecessary obstacles to exporting products to companies with dual-national and third-country national employees
- Clarification of hand-carried USML technical data exemption
- Removal of requirement for prior approval for certain proposals to foreign persons for Significant Military Equipment ("SME")
- Elimination of paper filing for agreements and commodity jurisdiction requests and proposed rule regarding electronic payment of registration fees
- Proposed rules updating FMS exemption, permitting temporary export of chemical agent protective gear for personal use, and eliminating license requirements for USML replacement parts and components previously authorized for export
- Senate ratification of long pending defense trade treaties with Australia and the United Kingdom

As can be seen from a review of progress to date, fundamental structural changes remain in the planning stages, while licensing reforms to date have consisted primarily of bringing various previously pending initiatives to fruition.

CHANGES ON THE HORIZON

Considerable work has, however, been done to lay the groundwork for more fundamental regulatory reforms, as can be seen from significant proposed rules issued in late 2010.

On December 9, 2010, the Department of Commerce published a proposed Strategic Trade Authorization ("STA") License Exception, which, if implemented as planned, would authorize broad-based exports, re-exports and in-country transfers of many CCL items to destinations that are not a threat to U.S. foreign policy or foreign policy goals without an export license. Use of the STA license exception would be optional; exporters could still choose to apply for a license or rely on a different license exception as appropriate. However, the purpose of the planned exception is to further focus export controls on the most critical national security priorities, consistent with one of the primary goals of the reform initiative.

Also on December 9, the Department of Commerce sought public comments on how to make the CCL more clear and positive and "tiered" in a manner consistent with the control criteria developed as part of the reform effort. The Department of State published a similar request on December 10 with respect to the USML. A three tiered control system is contemplated for both lists, depending upon whether the item controlled provides a critical (Tier I), substantial (Tier II) or significant (Tier III) military or intelligence advantage, and the extent to which the item is available outside of the United States or from its close allies and multilateral regime partners, with Tier I items (the "crown jewels") being subject to the highest level of controls. The ultimate objective is to make the lists clearer and more positive thereby enabling exporters to easily identify where specific commodities fall based upon set criteria and to align the two lists so that they can later be combined into a single control list. Among other things, the notices signal an intention to revise the USML format to more closely mirror the CCL, in that each USML category would be subdivided into the same subcategories as the CCL ("A" for Equipment, Assemblies, and Components; "B" for Test, Inspection and Production Equipment; "C" for Materials; "D" for Software; and "E" for Technology), with additional subcategories "F" and "G" for Defense Services and Manufacturing and Production Authorizations respectively. The proposed revisions for Category VII of the USML, also issued for comment on December 10, illustrate the contemplated approach.

IMPACT ON EXPORT CONTROLS IN THE SHIPYARD

While few of the concrete reforms accomplished to date have had much impact on the burden of export compliance by U.S. shipyards and their contractors and subcontractors, the recent proposed rules foreshadow considerable progress toward substantial regulatory reform. Although culmination of the migration to a single list, single agency system is unlikely to be achieved in the short term, the current reform initiative appears to have gained sufficient traction to give cause for cautious optimism that the goal of fewer controls focused on the most critical items can in fact be realized.

**This article reflects developments through April 8, 2011. 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.*

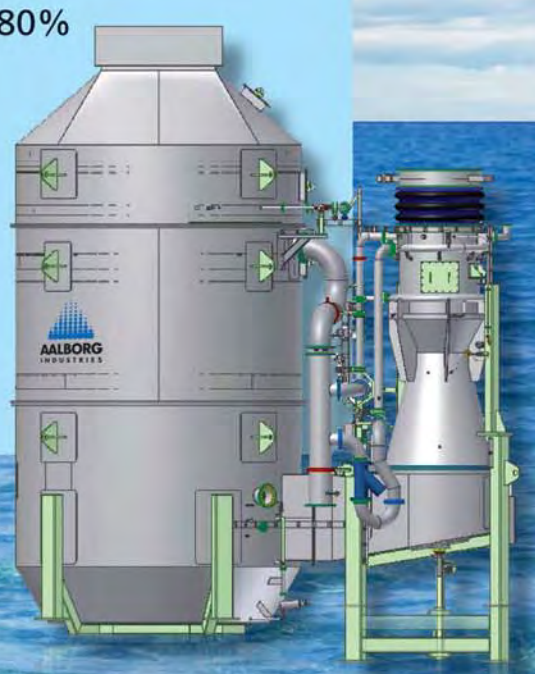
Contact Barbara Linney
Email: Linney@BlankRome.com
Tel: 202-772-5935

AALBORG
INDUSTRIES

Exhaust Gas Cleaning

Aalborg Industries' combined exhaust gas cleaning system offers maximum flexibility and the operational costs are kept to a minimum.

- The largest exhaust gas scrubber (21 MW) installed
- SO_x removal rate equivalent to 0.1% sulphur in fuel
- In compliance with MARPOL Annex VI – MEPC 59
- Particulate matter (PM) trapping up to 80%
- Short payback time (1 to 2 years)
- Seawater and freshwater hybrid
- Well-proven technology
- Cost-saving solution



exhaust-gas-cleaning@aalborg-industries.com

www.aalborg-industries.com

(Photo: Claudio Paschoa)

Maritime Training Challenges in Brazil

As the offshore service industry blossoms in Brazil, so too must mariner training and education facilities

By Claudio Paschoa

Professional maritime training in Brazil has historically been run by the Brazilian Navy. Unfortunately, until now, only the Navy has authorization to certify maritime crews, from officers to deckhands. This is unfortunate not because the training is lacking in quality, but because it is only available to a limited number of cadets, and Brazil is facing a looming crew shortage situation – particularly in the offshore sector – to sustain its tremendous growth.

Maritime business is booming again in Brazil, from shipbuilding to the offshore sector, but the country is not insulated from a dearth of qualified mariners to fuel future growth. Simultaneously, the offshore support vessel market is enjoying massive growth, where more than 400 offshore support vessels are pegged to be operating in Brazil shortly, more than doubling the current fleet. There simply are not enough crews, specifically Brazilian officers, for all these ships and the current training regimen simply does not contemplate any specific offshore support vessel training, as most of the training is geared towards tanker crews.

HISTORY OF MARITIME TRAINING IN BRAZIL

There are only two Brazilian Navy certified maritime training schools in Brazil, one in Rio de Janeiro (CIAGA) and one in Belém in the northern state of Pará (CIABA). The beginning of professional maritime training in Brazil dates back to 1892 in Belém do Pará, with the creation of the School for Engineers and a Nautical Course. In 1907 these two were united and transformed into the Merchant Marine School of Pará, the location of which was justified at the time, as the Amazon region was the main rubber extraction center in the country and rubber exports where in high demand and also one of the main commercial activities in the country. Pará also housed many small shipyards for the repair and construction of the ships which transported the goods from the rubber plantations.

By the end of 1939, the southern region of Brazil was chosen to house the Brazilian Lloyd´s Merchant Marine School of Rio de Janeiro. The school itself was located in one of the floors of the old Lloyd´s headquarters building and it also had classrooms in the Allegrete School Ship, a converted general cargo ship, which was moored alongside the Lloyd's building at the old "Praça XV" docks; today home of docking for modern catamaran ferries. The first director of this maritime school was Admiral Graça Aranha, who also directed the Brazilian Lloyd´s Company. Unable to deal with the increasing number of students, that school was closed in 1956 and in its place, the Merchant Marine School of the Navy Secretary was established, this new school was constructed in "Avenida Brasil," close to the downtown area but still located by the sea, with an initial capacity of graduating 80 officers per year.

With strong economic growth in Brazil in the late 1950s and '60s, the maritime school thrived and managed to supply the full officer quota demanded by the needs of the growing Brazilian fleet. In 1968,

the Brazilian Congress destined to the Brazilian Navy all the tax contributions owed by the maritime companies to the National Service of Industrial Learning, triggering the creation of the Maritime Education Development Fund in 1969. It is important to note here, that by 1970, Brazil had the second largest shipbuilding industry in the world, behind only Japan.

With the help of the International Maritime Organization (IMO), the Merchant Marine School was transformed in 1971, into the Admiral Graça Aranha Instruction Center (CIAGA), a true "University of the Sea" where all levels of crew members received both technical and complementary maritime education, in tune with the demand from the thriving Brazilian merchant fleet.

To build the new CIAGA facilities, financial and technical support from abroad was required, and through the United Nations Development Program (UNDP) and the IMO, the facilities were

The forecast for 2015 is of 422 offshore vessels with 180 (43%) being foreign flagged and 242 (57%) Brazilian flagged. In 2010 there was a shortage of 900 officers and by 2013 this shortage is expected to reach 1,419 officers.

ready by 1973. The foreign help included, besides the donation of part of the equipment, temporary assistance from technical experts to help train the teachers in the best use of the new equipment.

Today, CIAGA is the main subordinate military organization of the Directory of Ports and Coast, dedicated to modern professional maritime education and together with CIABA in Belém, houses the country´s only two Merchant Marine Officers' Academies (EFOMMs).

EFOMM´s syllabus is split into six semesters in class and two semesters aboard oceangoing ships for Deck Officers and six semesters in class and one aboard for Engineering Officers. Once approved in class and after sea service evaluations, graduates are given the coveted degree of Bachelor in Nautical Sciences and are promoted from cadets to 2nd Lieutenants in the Brazilian Naval Reserve Force. Recent graduates may take specific advanced maritime courses, while other advanced courses are also offered to Merchant Marine Petty Officers. CIAGA also offers a wide range of specialization and updating courses for all categories of seaman.

To accomplish this, CIAGA enrolls a force of more than 200 military and 201 civilian workers, including instructors and professors. Its installations can house up to 600 students in comfortable internship.

Up in Belém the original Brazilian maritime school continued forming pilots, river boat crews, machinists and radio operators until 1973, when CIABA was created in order to graduate deck officers and engineers to supplement the demand from the growing Brazilian Maritime Fleet. Today the school is located within an area of nearly 150 thousand square meters, and like its corresponding

Table1

Petrobras Business Plan 2010 – 2014 Resource Requirements

Critical Resources Current Delivery Plan (to be contracted)

	Dec 2009	By 2013	By 2015	By 2020	Add units
Supply & Special Vessels	254	465	491	504	250
Production Platforms/FPSOs	41	53	63	84	43
Drilling Rigs (2,000m + WD)	5	26	31	53	48
Others (Jacket & TLWP)	79	81	83	85	6

Source: DvB/Petrobras Business Plan 2010 – 2014 (September 2010)

number in Rio, it has excellent and modern facilities and has been going through periodic upgrades in teaching equipment, such as state of the art deck and engine room simulators. Differently from the school in Rio, CIABA also offers an extensive syllabus dedicated to inland waterway officer and crew training because of the large number of navigable rivers that cross the Amazon jungle. Maritime education in Belém will be commemorating 118 years of existence this year.

In February of 2011 during the commencement ceremony for a new classes at CIAGA, the Director General of Navigation, Admiral Leal Ferreira commented on the relationship between the Merchant Marine and the Brazilian Navy, "Ties attracting us to life at sea, where all of us, from the Merchant Marine and the Brazilian Navy, execute our tasks, marveling from day to day at the beauty of nature and also learning to respect its challenges, working together for the future of our country." A total of 370 seats were available for Maritime Officer Training in the first class of 2011, being 240 for CIAGA and 130 for CIABA.

Another asset of Maritime Training in Brazil is the Sea Foundation (FEMAR) which specializes in research, courses, seminars and other activities related to the maritime industry and shipping in general. It was instituted in 1966 by Fleet Admiral José Santos de Saldanha da Gama, its first president, at the Navy Club in Rio de Janeiro. Other founding members were organizations linked to sea trade and maritime development, such as Petrobras, the national Merchant Marine Commission (CMM), the National Department of Ports and Waterways (DNPVN), and the National Shipbuilding Industry Syndicate (SINAVAL). Other than providing maritime instruction to the industry, it also helps to finance and negotiate partnerships, such as the recent acquisition of a new simulator for CIABA, ordered from European manufacturer ECA-Sindel. This bridge simulator was recently on display at the LAAD Defense and Security event in Rio de Janeiro and attracted much attention from visitors and maritime officers alike.

MILITARY EDUCATION FOR MARITIME CREWS

Although many countries have their own military style maritime training school, it is rare today for a country to have solely military maritime training available. In Brazil´s case, where the maritime industry is in full growth, it is not viable to continue with such an outdated maritime training policy. Although the Brazilian Navy is still skeptical about changing its traditional ways of maritime instruction, pressure from the shipping industry, from Oil and Gas industry and even from the Brazilian Government is gaining steam. Even with the great facilities, the training is still too rigid, a good example being the fact that cadets do not have an option to train aboard PSVs, modern multipurpose vessels, or any support vessel at all, except when the cadets are enrolled through agreements with support vessel operators, which desperately need local officers and are aggressively pursuing local candidates willing to go through a military controlled training regimen.

CIAGA can boast to have splendid facilities and excellent equipment like the

aforementioned modern bridge and engine room simulators, DP simulators, GMDSS simulators and modern sonar simulators, yet there is really no way to conscientiously differ from the fact that this military mode of training is outdated. While there is no reason for the Navy to discontinue its training schools, there is no other choice but to allow at least selected institutions to open high level civilian maritime training schemes.

According to data presented by Walter Souza Lima from Offshore Ship Management (OSM), during the 7th Annual Marine Money - Latin America Ship and Offshore Finance Forum, held in September 2010 in Rio de Janeiro, offshore vessels in Brazil totaled 276 in 2010, of which 135 were foreign flagged (51%) and 132 were Brazilian flagged (48%). The forecast for 2015 is of 422 offshore vessels with 180 (43%) being foreign flagged and 242 (57%) Brazilian flagged. In 2010 there was a shortage of 900 officers and by 2013 this shortage is expected to reach 1,419 officers, although with all the new constructions, many believe this expectation has already been reached and surpassed. The demand in 2013 is expected to reach 4,465 maritime officers in total. Some of the consequences of these shortages are the probable fast promotion of junior officers, crews staying longer aboard, followed by short leave periods, increased accident risks due to on the job training needs, crew cost increases and high OPEX for vessels operating in Brazil. Lima offered suggestions to help to avoid a market collapse due to shortage of officers. The main points were the acceptance of foreign officers as a temporary work force and being more flexible with the NR72* regulation requirements. He also pointed out was the necessity of alternatives to educate Brazilian officers, such as; public and/or private maritime training schools, allowing Brazilian officer candidates to be trained abroad (the Brazilian Navy still does not accept foreign maritime certification from Brazilians) and the necessary expansion of both CIAGA and CIABA training facilities.

IMSN Earns DNV Certification for Anti-Piracy Course

International Maritime Security Network (IMSN) became the first maritime security training center to offer an eLearning-based Anti-Piracy Defense Course certified by Det Norske Veritas (DNV), under its SeaSkill standard for maritime learning programs. The announcement was made by Captain Timothy D. Nease (ret.), co-founder and CEO of IMSN, at the Ship Operations Cooperative Program (SOCP) in Dania Beach, Fla. IMSN has the only DNV certified Anti-Piracy Course—offering a blended version of eLearning and practical drills and exercises.

IMSN's Anti-Piracy Defense Course provides practical training for vital activities such as watch-keeping, lockdown procedures, anti-piracy drills, hand-to-hand defensive tactics, as well as contingency plans for issues such as surviving a hostage attack or movement of prisoners. The training course also covers concepts related to anti-piracy laws. IMSN's anti-piracy training course is available online or on DVD.

www.imsn.us
Email: info@imsn.us

(Photo Courtesy Norwegian Shipowner's Association)

Norwegian Shipowners' Association

NSA

Investing in the Future

At a time when the global maritime industry is still surviving the impact of the financial crisis, it is encouraging to see programs in place that support the future talent in the industry. The Norwegian Shipowners' Association is busy coordinating two programs that are set to do just that.

"The Norwegian maritime industry needs to have a continuous focus on recruiting and talent development even in economic recessions."

.

Tore Forsmo

Director of the Norwegian Shipowners' Association

The Norwegian Shipowners' Association (NSA) together with Oslo Maritime Network (OMN) have established the Global Maritime Knowledge Hub, a professional program intended to further enhance Norway as a leading international maritime hub. The program supports a number of professorships at several leading academic institutions in Norway. Within the two and a half years that it has been running the Hub has established 20 professorships at leading universities, such as NTNU in Trondheim and the Ålesund University College.

Each professorship is sponsored by an organization within the industry. The total net worth of the professorships is NOK150 million over a five-year period.

The Norwegian Shipowners' Association, along with Oslo Maritime Network, will support the professorships by making sure that there are active finance options available for PhD students. Out of the 20 professorships currently in existence, eight have been received by NTNU. Tore Forsmo, Director of the Norwegian Shipowners' Association said, "The Global Maritime Knowledge Hub is a unique industry effort in showing dedication and willingness to invest in the future of the maritime industry and in a knowledge based Norwegian economy, particularly in a time of severe financial strain!"

Norway has regional maritime clusters as integral parts of its maritime activity. These clusters consist of shipowners, maritime consultants, yards, equipment manufacturers, research centers and specialized services – not to mention shipbrokers, marine insurance companies, ship finance and law.

Research that has been undertaken into international industrial cluster development, points out the importance of specialized research and quality education in cluster development.

Examples include the development of the IT cluster in Silicon Valley, California and the life science cluster in Boston, Massachusetts. In the maritime industry, we can observe how Singapore, Japan, Korea and China now invest heavily in maritime research and education, and in Northern Europe we find similar upgrading of maritime education and research in Hamburg, Gothenburg and Copenhagen.

The Global Maritime Knowledge Hub is intended to create something of a 'super cluster', combining the skills and expertise found in all of the maritime clusters within Norway.

UNIQUE PROGRAM

The Maritime Knowledge Hub is a unique program; it is the only program of its kind to have been driven by the private sector. This program has also managed to perform well, even during the financial crisis, with many new professorships coming on board. To be able to encourage the support of the teaching chairs from the industry sponsors during these difficult times is extraordinary. A remarkable amount of money has been invested into research and education for the maritime and oil and gas industry.

When the program was introduced, the NSA and OMN had an ambition of creating 20 professorships across the country, and in the 2.5 years that the program has been running this ambition has been realized.

Another interesting point to note about the program is that the relationship between the donors and the professors is strong. Both the NSA and OMN will monitor this going forward to make sure that it is maintained.

As well as private funding, the program has received public funding and funding from authorities, which will only serve to encourage the growth of the teaching program.

"The state of play now is not to focus on consolidation and to establish different elements such as PhDs, research programs, synergies between professors and in joint-development projects. Dialogue between professors and donors is already there. There is active communication between everyone involved in all sections of the program," said Tore Forsmo.

Some of the donors to the program include NODE, a network of 50 member companies from the offshore drilling industry in Southern Norway (Kristiansand region); Marintek, a research company of the Sintef Group; DNV, and Leif Höegh and Co, among many other major maritime companies.

As well as the Hub initiative, NSA established the Maritime Trainee program in 2005. This program was created for young university graduates in order to give lawyers, economists, engineers and other professions an introduction to the maritime industry. The trainee is hired by a company and rotated within the organization during the two year duration of the trainee period. In addition, the trainees meet in six workshops during these two years, four of which in Norway and two abroad, with the aim to provide a broader understanding of all aspects and sectors of the maritime industry.

Networking and personal development are also key objectives of the trainee period and the program has been a great success so far.

The sixth batch of trainees are currently in the process of being recruited with start-up in August 2011. There are 20 trainee places available and around 750 applicants. In 2010 there were 15 trainee places and more than 900 applicants.

At the early stages of the program there was a trend for engineers and technical specialists joining the program, but in later years a more even spread and better balance between lawyers, economists and engineers is the case. Like the professorship and the Global Maritime Knowledge Hub program, the Maritime Trainee program highlights the level of support that the industry is willing to provide in order to sustain future development and keep the industry alive. At a time when large scale lay-offs in different sectors of the maritime industry are not unheard of, these programs represent a significant change in the industry's thinking. "We need to position our industry in the long term picture even when the short term picture look bleak and a global financial crisis is the order of the day. This means that the Norwegian maritime industry needs to have a continuous focus on recruiting and talent development even in economic recessions. I am extremely pleased that we are able to do just that through these two programs," said Forsmo.

Innovative Training for Testing Times

By Christer Sjödoff, Group VP, GAC Solutions

The maritime industry has always been the backbone of world trade but now its businesses face a multitude of pressures from within its operating environment. Amid continued economic uncertainty, shrinking margins, rising bunker prices, increasingly stringent environmental regulations and ongoing operational challenges, it is perhaps understandable that some might regard training as just another cost.

Yet even in tough economic times staff training must be viewed as a long-term investment. The 'human factor' may be our greatest vulnerability, but, at the same time, people provide our biggest opportunity. Ensuring that maritime professionals are qualified, capable and confident of doing their jobs to the best of their abilities is not only an investment worth making, but one that could also give companies a crucial commercial advantage over their competitors, particularly when there is a shortage of qualified, experienced crew.

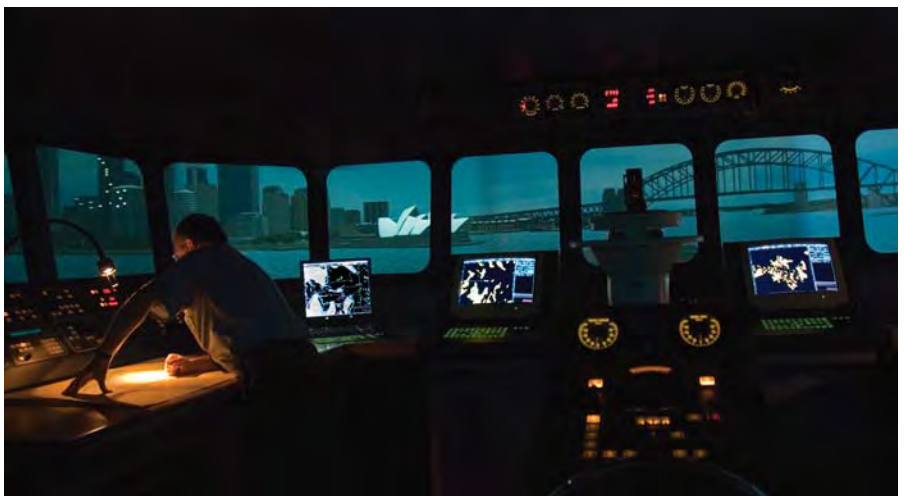
The temptation to see training and crewing as 'soft' costs that can be cut to protect the bottom line. However, one should weigh this inclination against a report from DNV, stating that 60% of the most costly incidents for ship owners and operators were collisions, groundings, and contacts.

In addition, a recent online survey by a shipping daily highlighted a lack of training opportunities as a leading cause of disenchantment across a broad spectrum of industry groups such as brokers, charterers, and traders; up to and including executives and senior management. Moreover, the Marine Accident Investigation Board (MAIB), the IMO and DNV have all raised concerns about corners being cut and seafarers serving in positions for which they lack the qualifications and experience.

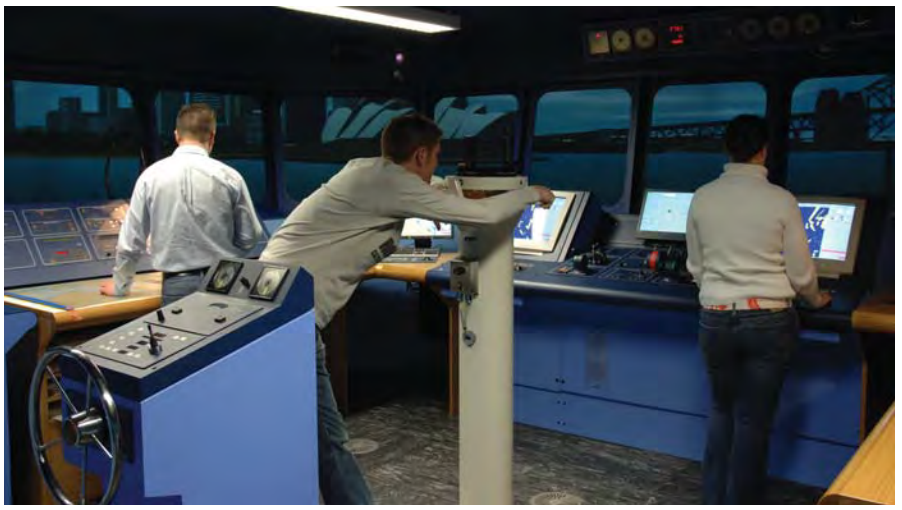
Costs of training are low relative to the investments that owners and operators are putting at risk. For example, an exportation LNG terminal that costs $3bn to build, with a ship alongside valued at $250m, discharging a cargo worth $20m, is a hugely valuable asset which carries understandable concerns regarding safety, environmental and financial risk.

The best way to minimize that risk is to ensure that all parties with a share of the responsibility for implementing the correct procedures, upholding regulations and maintaining standards are properly trained to do so.

Just as slow steaming has emerged to counter rising fuel costs and new environmental solutions have been developed to drive up vessel efficiency, so the training sector has responded by modernizing its methods and tools in order to equip all maritime professionals with the skills that they need.



Costs of training are low relative to the investments that are put at risk. For example, an exportation LNG terminal that costs $3b to build, with a ship alongside valued at $250m, discharging a cargo worth $20m.



The latest maritime training courses seek to achieve this by breaking down working silos between the operational and commercial activities in every business.

There are many instances of where a commercial error has operational consequences and vice versa; a vessel may not see the importance of issuing a note of protest about a shore-side delay, while the ship management team may not understand the true cause of a breakdown that rendered the Note of Readiness invalid.

Bridging this knowledge gap between ship and shore can be a rich source of efficiency gains.

New technology is also playing a decisive role, not only in revolutionizing shipping operations through the likes of ECDIS, but also in helping to deliver safe, effective, realistic and value-for-money training for crews and land-based personnel alike. This is reflected in the training courses provided at GTSS and elsewhere.

GTSS is a partnership between GAC, the global provider of shipping, logistics and marine services, and the National Maritime College of Ireland (NMCI), one of the most advanced maritime training facilities in the world.

GTSS is committed to delivering high value, technologically-advanced training and adopts a number of innovative new training tools; among the most exciting of which is its increasingly sophisticated marine simulator. The NMCI has the world's largest simulator suite, with 17 simulators supplied by Kongsberg Maritime. This includes one of only a few full 360-degree simulators, as well as damper-mounted simulators that realistically simulate the movement of the ocean. The benefits of these simulators are exemplified in the field of Ship-to-Ship Transfer training.

Ship handling experience is the key to successful STS operations and simulator training is the ideal way to solve the riddle of how to gain experience, without the risks of 'on the job' training. GTSS offers a week-long STS simulator course which covers safe maneuvering using the ship's engines and helm, the impact of natural forces, such as wind, current and interaction, the importance of approach planning, efficient management of bridge procedures, and effective and safe bridge team management. The course progresses from the basics of STS procedures in benign weather conditions to worst-case scenarios in adverse conditions.

There are many variables at the disposal of the course lecturer, including different vessel types, locations, weather conditions and every imaginable operational scenario, meaning that attendees can be trained on precisely the right type of vessel for their needs.

Once an exercise has begun, participants tend to forget it's a simulation. This is particularly useful when worst-case scenarios such as engine breakdown or steering failure are enacted. Trainees experience the full stress of the situation in a safe environment, allowing them to understand how to react appropriately should it happen in a real life situation.

Increasing numbers of companies are also asking for commercial STS training for their shoreside personnel, incorporating an element of simulated STS operations to help them understand the role of their seafaring colleagues. To meet this demand, GTSS offers a commercial STS course that bridges the gap between ship and shore.

The overall objective is to enable people to better understand the drivers within the industry, blend practical and commercial skills and ultimately to improve their ability to perform their role in the value chain – both onshore and shipside.

Proper and effective training is an area with clear opportunity to add value - peo-

ple with different skill sets are required to collaborate for a common goal but are often restricted by their understanding of factors outside their own role. Those people who are involved in the organization and coordination of operations from an office in, for example, London or Geneva can only perform more effectively by understanding not only their own responsibilities but also the responsibilities of everyone involved in the operation, whether directly or indirectly.

Organizations rely upon their staff to do the best job they can; to make the right decisions and take appropriate action on the behalf of the company. With this expectation comes a responsibility to empower them to do so. Whether afloat or onshore specialist training is fundamental to realizing profitable efficiencies and minimizing environmental and financial risk.

Despite, or perhaps because of, the fact that budgets have come under considerable pressure during such tough economic times, the demands placed upon maritime professionals have rarely been higher.

The more forward thinking companies recognize that their human capital can be the strongest link in their value chain and are investing in training for their seafarers and land-based teams.

The marine training sector is responding to this in a dynamic, creative and proactive fashion by delivering cutting edge training solutions that meet specialist needs with the right blend of practical and commercial skills. In doing so, it is helping its customers to both minimize risks and maximize efficiencies in their operations.

Christer Sjödoff

Group Vice-President, GAC Solutions

Based in the corporate head office in Dubai, **Christer Sjödoff** is responsible for the conception and development of GAC Solutions designed to meet the needs of the international maritime community through strategic tie-ups that marry GAC's capabilities in shipping, logistics and marine with the specialist services of its partners. A partnership between GAC Solutions and the state-of-the-art $100m training facility at NMCI, GTSS provides expert delivery of a portfolio of training courses for both seafarers and shore-based shipping personnel.

www.gac.com/gtss

BREAKTHROUGH:

New line of tactical boats delivers high-speed control and stability in 6-foot seas

Joint venture combines to market the best of Concept Boats, Falcon Marine, and famed race boat naval architect John Cosker of Mystic Power Boats

Photos: 36' high speed Coastal Patrol Boat model with a wide open deck arrangement for the tropics. Over 30 of these models are now in commission. Falcon/Concept is presently testing its new diesel powered 44' of similar configuration. The 36', 44' and larger boats will be available in full pilot house and cabin versions.

Cape Canaveral / Opa Locka, Florida, USA

Concept Boats, Inc. and **Falcon Marine, LLC** unveiled a new, comprehensive line of high speed Police, Security, Military and Coast Guard, Patrol, Surveillance, and Emergency Response boats for domestic and foreign markets.

Concept and **Falcon's** joint venture is marketing, and selling the new line of boats:

- 23' – 44' **Concept** boats are based on **Concept's** highly successful line of civilian and coastal patrol boats.
- 44' – 70' **Falcon** boats are based on designs and hull platforms of famed race boat naval architect **John Cosker** of **Mystic Power Boats.**

Sizes: The hull sizes currently being offered include 23', 27', 30', 32', 36', 44', 50', 60', and 70'. All sizes are proven hull platforms from current production molds.

Speeds: 23' through 44' models are offered as outboard powered boats. Speed: 50+ knots.

The 70' model reaches light ship speeds in excess of 65 knots and fifty+ knots in 5' to 6' seas.

Power: The 36' and 44' models are offered with either outboard or diesel power and boats 50' through 70' as diesel powered boats only.

Police and Patrol Packages: For boats 23' through 36' a **police/patrol package is standard equipment** except where specific equipment or custom options are requested.

All patrol models are equipped with the large heavy duty rubber fender/rub rail which is unique to our boats and ideal for coming along side and boarding.

Expert Marine Builders: Concept and Falcon bring together Concept's 25 years as a highly skilled custom boat builder of 23' through 44' civilian and military vessels and Falcon's, (through its owners, the former 51% owners of Vectorworks Marine LLC and Vectorworks Naval Engineering LLC) 45 years of engineering, project management and government contract experience including 18 years in advanced composite manufacturing, and boat building and 7 years as part owners of the Vectorworks companies during the growth of Vectorworks into the construction of large military vessels and advanced engineering capabilities.

The Falcon/Concept team prides itself in being able to quickly and efficiently produce a wide variety of customized deck arrangements for the various mission requirements of its customers on proven hull platforms.

Certification: All current model boats are CE certified and ABS certification will be available on boats 44' and larger as required.

Designed, Engineered, Built, and Tested for Special Operations:

- Homeland Security
- Coast Guard
- Navy Special Ops
- Port Security
- Anti-Piracy
- Fisheries Patrol
- Anti-Smuggling
- Search and Rescue
- Oil Field Security and Protection
- Fish and Game
- Police and Sheriff
- Border Guard
- Surveillance
- Customs
- Anti-Terrorist

Demonstrations and Inquiries Available to Qualified Organizations

Concept Boats Inc.
Susan Patterson, VP Sales & Marketing
941-316-9591 • Email: susan@falconcept.com

Falcon Marine, LLC
Harley McDonald, CEO
321-799-4841 • hmcdonald@falconcept.com

www.falconcept.com

11-0129

At BCIT Marine Campus

Kongsberg Completes Simulator Upgrades

Canada's West Coast received a boost in maritime simulation technology in the first week of March when Kongsberg Maritime Simulation completed site acceptance testing on a full suite of new simulators at the Marine Campus of the British Columbia Institute of Technology (BCIT). Among the upgrades are a new 360-degree tug boat simulator, seven ownship bridges with 120-degree visuals, new dynamic positioning trainers and new full mission and desktop engine room simulators. A suite of full-mission and desktop dynamic positioning trainers also formed part of the delivery, including installations in BCIT's existing Bridge A. BCIT began offering training courses to its customers less than one week following successful site acceptance testing and handover.

BCIT is home to a 360-degree industry-approved tug boat simulator from Kongsberg, incorporating both conventional and Voith-Schneider propulsion systems. It features twenty 50-inch plasmas, two of which form the door. It is the first 360-degree tug bridge delivered by Kongsberg.

Photo Credit: Scott McAlpine.

"This project has been a long time in the making and would not have been possible without the generous support of Transport Canada and the commitment by our many industry partners," said Capt. John A. Clarkson, Associate Dean at the BCIT Marine Campus. "Today, we can say without hesitation that we have the most current and advanced simulation technology in the world."

The upgrades also produced some firsts - BCIT Marine Campus now has the only 360-degree dedicated full mission tug bridge in the world, and the first full mission Diesel-Electric engine room simulator in Canada. In addition to the main simulator upgrade, BCIT also took the opportunity to upgrade the projectors on Bridge A, which was also fitted with a new dual redundant Advanced DP training simulator. BCIT has also significantly increased its ownship library with new models ranging from tugs to ferries.

BCIT is now capable of conducting combined bridge and engine room simulation exercises, with a new bridge-engine connection providing a direct linkage between the two simulators in real time. Failures in the engine room will have an immediate impact on bridge operations and provide a new capability to the Campus that will be the foundation for new Crew Resource Management (CRM) training. This opens new opportunities for training and positions BCIT as a key West coast training resource for Canadian and US customers.

"We are most impressed with the outcome of this upgrade. It really is an impressive suite of simulators and we value BCIT's confidence in our technology to meet their training requirements," said Henry Tremblay, President of Kongsberg Maritime Simulation in the Americas.

"We view this simulator upgrade program as a key technology renewal for BCIT, but also as an important asset for the West Coast marine industry," said Kongsberg's Area Sales Manager, Clayton Burry. BCIT will host the Grand Opening of the renewed simulators on May 17.

Human Element

Øivind Stærk, Head of Maritime Personnel, Höegh LNG, discusses the factors that help attract and retain experienced crew.

Höegh LNG is a fully integrated LNG transportation and services company operating a fleet of seven LNG carriers, including the two innovative new build shuttle and regasification vessels (SRVs), GDF Suez Cape Ann and GDF Suez Neptune. According to Stærk, the company enjoys an impressive crew retention rate for its senior officers and other officers: 90% for senior officers, 87% for all other officers.

However, as global demand for LNG expands, the need for highly skilled personnel remains a major challenge for ship owners. Recently the International Shipmanagers Association (InterManager), The Research Council of Norway and Marintek introduced a KPI (key performance indicator) standard for shipping, which is a calculable method for ship managers and operators to use as a benchmark for such considerations as officers retention rate, crew planning and officers experience rate.

Höegh LNG recorded strong performance in retention rates, and has plans improve on that rate year by year. "Our high retention rates and competent officers and crew tell me that people are generally satisfied with how the company treats its seafarers," Stærk says. "Our main aim is to strengthen this relationship."

THE THREE R'S

According to Stærk, the most important consideration from an HR manager's point of view is the three R's – 'R-ecruit, R-etrain and R-etain'. Höegh LNG works hard to recruit the most experienced seafarers and offers a broad range of quality training programs to ensure safe and effective operations. "We have always maintained a high training standard for the operation of our LNG carriers, but with the introduction of more sophisticated tonnage such as the Neptune SRVs, we recognise that advanced training is not just a benefit, but a necessity," he says. "As the company continues to expand into the LNG supply chain and develop other types of specialized tonnage, we will invest more into these programs."

Stærk notes that taking steps to ensure crew safety and improving onboard conditions are linked to strong performance. "Our vessels are equipped with a gymnasium, relaxation areas, internet and other key facilities that benefit the crew during leisure time," he says. "In addition, the SRVs have been classed with the DNV COMFORT notation, which keeps noise and vibration to a minimum."

Safety features include spray shields at high-pressure LNG flanges, hazardous area classifications, specialized relief and vent systems and redundant gas detection, monitoring and alarm systems.

THE HUMAN TOUCH

Stærk says that, Höegh LNG makes a genuine effort to treat seafarers as individuals, not numbers. "Myself and my team visit vessels at least once a year to get a better sense of the crews' needs and to get to know them individually," he says. "By creating culture of good communication, it is easier to provide them with good support."

In addition, Höegh LNG regularly holds officers' and crew conferences in Croatia, Norway and the Philippines, which provide the setting for all our maritime colleagues to take the opportunity to meet and discuss issues that matters to them. The opportunity for dialogue helps to maintain a good relationship between Höegh LNG and its employees. Management take the views of the officers and crew into consideration and value the officers' input. Stærk said the company encourages the crew to suggest onboard improvements, so they have a direct influence on their place of work, and every year, Höegh LNG invites masters and chief engineers along with their spouses to Oslo for a holiday feast. "It is more important for Höegh LNG to be visible and communicate, rather than simply giving away awards," he says.

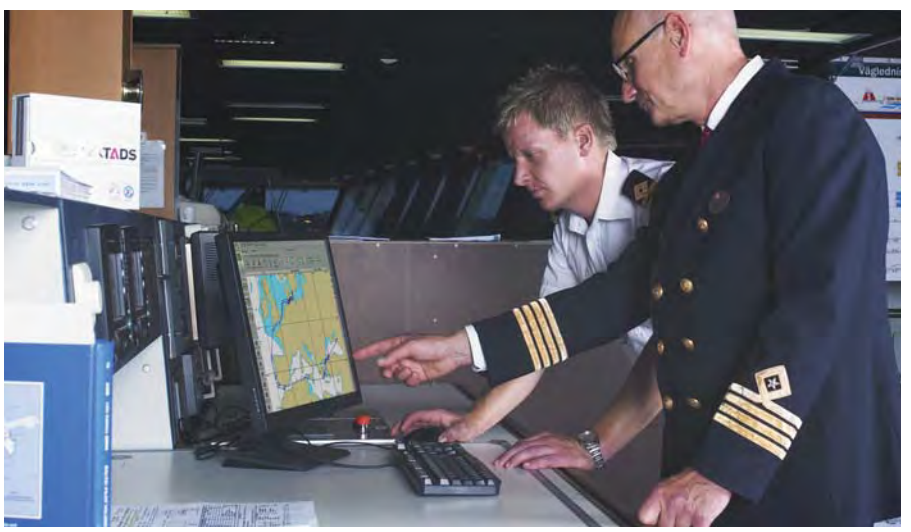
"Höegh LNG's salaries are competitive, but we aim that the crew primarily will choose to work with us or stay with us because we offer them a chance to feel valued and have a say in how they work."

Transas Helps Forward

ECDIS Training

Implementation of the ECDIS concept forces a complete change in the way navigational processes are carried out. Instead of traditional paper charts and tools like divider, parallel ruler, and pencil, navigators should now be thoroughly familiar with the interface and functions of an ECDIS installed on-board.

Training is the key to success when a shipowner decides to invest in ECDIS. It is a core element of an efficient plan for a safe and cost-effective transition from paper charts to ECDIS. Starting January 2012, all bridge officers must have Flag State approved Generic ECDIS training, e.g. Flag State approved IMO Model Course 1.27. According to the ISM Code, Additional equipment-specific training for the ECDIS type in use on-board is required for every ship.



The IMO Standards for Training Certification and Watchkeeping (STCW) require an officer on watch to possess a "thorough knowledge of and ability to use navigational charts and publications" and also "skills and ability to prepare for and conduct a passage, including interpretation and applying information from charts, must be evident". STCW is currently written around paper charts but it is clearly stated in the SOLAS convention that "ECDIS is considered to be included under the term charts". For some Flag States it is entirely evident that if ECDIS is in use as the primary means of navigation, the user must demonstrate the same degree of knowledge as when working on paper charts. Therefore the officer of, for example, an Isle of Man or UK registered ship needs to have an IMO Model Course 1.27 certificate.

According to the Manila Amendments, STCW now includes specific mandatory requirements for certification of officers with regard to the use of ECDIS to maintain the safety of navigation, including knowledge of the capability and limitations of ECDIS operations, with thorough understanding of ENC data, data accuracy, presentation rules, display options and other chart data formats; the danger of over-reliance on, and familiarity with the functions of ECDIS required by performance standard in force; and proficiency in operation, interpretation and analysis of information obtained from ECDIS. Training should incorporate the use of ECDIS simulation equipment and conform to the standards specified in the guidance. It should create a real-time operating environment, including navigation control and communications instrumentation and equipment appropriate to the navigation and watchkeeping tasks to be carried out and the maneuvering skills to be assessed. It should also realistically simulate 'own ship' characteristics in open-water conditions, as well as the effects of weather, tidal stream and currents.

The second important regulation with regards to ECDIS training is the IMO's

International Safety Management code (ISM). It states: "The company should establish procedures that personnel (…) are given proper familiarization with their duties and equipment". This wording refers to the training of users of safety-related equipment, such as ECDIS. They must receive appropriate training on the system in use on a particular vessel prior to its use at sea.

When ECDIS is used as a primary means of navigation, it is essential to understand Flag State requirements for certification. Under existing regulations a shipowner will need to obtain a certificate of equivalency to allow ECDIS to be used and fulfill SOLAS chart carriage requirements. As a second step, the crew needs to be able to prove knowledge and competency in use of ECDIS, and its proper use.

National authorities may require ECDIS training for their flag registries, or for seafarers aboard vessels visiting their ports. The European Union has provided "Guidelines for Port State Control on Electronic Charts" with the Paris Memorandum of Understanding (PSC MOU). Port State Control is authorized to determine if the "Master and deck watchkeeping officers are able to produce appropriate documentation that generic and type-specific ECDIS familiarization has been undertaken." Inspections might require physical demonstration of competency by crew as well as evidence of inclusion of ECDIS operating procedures in an onboard safety management system.

It has been over ten years since the USCG National Maritime Center approved the first ECDIS training courses in the USA. Since then, through close cooperation with Maritime Schools and their Instructors, and ongoing developments in line with related rules, Transas Navi-Sailor products have become the dominant ECDIS simulation training platform in both the United States and regionally in the America's. Today, the leading providers of ECDIS training have already implemented simulators that integrate ECDIS with all aspects of navigation and command decision making, using simulators with visual, radar, conning, communications and other components, allowing students to practice and demonstrate the necessary practical competencies.

Since most crews are truly international, from the four corners of the globe, demand for good quality and standardized ECDIS training available in different locations is growing. With ECDIS mandation on the way and new STCW ECDIS training requirements in force from 1st January 2012, the shipping industry is facing a challenging environment.

In order to meet the challenges, Transas created the Global ECDIS Training Network, "GET-Net". The purpose of GET-Net is to provide the shipping industry with high quality standardised and certified ECDIS Training worldwide, through a network of training providers. Transas trainers, together with external experts created the first Germanischer Lloyd approved ECDIS training courseware following the IMO Model Course 1.27 which already meets the Manila Amendments to STCW. In addition to that, Transas ECDIS training also contains detailed training on the procedures for requesting new Electronic Navigation Charts (ENC) license and chart updates. Just recently Transas Marine and its GET-Net Partner Interschalt maritime systems AG became the first Generic ECDIS training providers in Germany

which received Flag State approval at The Federal Maritime and Hydrographic Agency.

All partnering training centers receive detailed instructor training and pass regular quality audits. Using this training program, a shipping company is able to train locally and save traveling costs. At the same time they are able to book a standardized course with a guaranteed training quality level. Today, Transas GET-Net includes partners from the Philippines, Indonesia, Germany, Greece, Denmark, the Netherlands, with training providers in many other countries soon to join this growing network.

Transition to ECDIS and implementation of new procedures takes time. With proper setup and usage, streamlined procedures (ISM) on the vessel and in a shipping company as well as trained and motivated crew, ECDIS is an investment with huge potential for cost savings. At the same time, efficiency and safety are increased.

Savings can be immediately realized, with real savings potential in the areas of charts, fuel consumption and time spent on planning and preparation of reports. "Our conclusion today is that it's been a long but rewarding way, since our Navigation officers and crew report back that the system makes them feel more secure and that the operation of the vessel is safer", said Capt. Tor-Arne Tonnesen, Maritime Superintendent, Solvang.

New Training Program on Vessel General Permit

A new training program is available for vessels mandated to comply with a set of EPA discharge requirements: the "Vessel General Permit" or "VGP". It was recently announced that the Coast Guard will monitor compliance with the EPA regulations during regular vessel boarding and inspections. Maritime Training Services and QSE Solutions released a new DVD Training Program called "Vessel General Permit: Protecting the Marine Environment." The training program includes a video, training guide, all-in-one sample inspection form, review exercise and certificate of completion for both shore-side and vessel personnel.

The 15 minute video provides a general overview and understanding of the VGP necessary for shore-side managers and vessel officers. The

The video is subtitled in English, Spanish, French and Russian.

www.maritimetraining.com

Japan Battles Back

In the Aftermath of Disaster, assessing the short- and long-term shipping disruptions

APL Korea tied up at the APL-operated terminal in Yokohama port.

By Greg Knowler, Hong Kong

Japan is waging a public relations war as it struggles to control the nuclear contamination threat at home while playing down the concerns of consumers abroad. Fears of tainted goods from the battered nation are affecting trade flows, with regional weather distributing radiation particles and hysteria across Asia. In South Korea, panic over radioactive rain in March saw schools shut down en masse, despite the minute level of radiation posing no known health risks.

In Hong Kong in April, public fears were heightened when the Observatory picked up traces of the radioactive Caesium-137, even though the amounts were minuscule and would take thousands of years to affect humans. Japan trade with China amounts to more than $300 billion a year, so it was inevitable that shipping would be affected. On March 21, the MOL Presence arrived in Xiamen after stopping to collect cargo in Tokyo. On arrival in the Chinese port, inspecting officials refused to allow the ship to berth, claiming abnormal levels of radiation were being detected on the vessel.

It was sent back to Japan, tying up at the port of Kobe where the levels of radiation were declared harmless. The MOL vessel was the first ship barred from unloading its cargo at a foreign port over radiation concerns since the March 11 earthquake and tsunami. Japan is learning that perceptions from a spooked public are far more damaging than the tiny levels of radiation being detected in the region.

At stake is the Made-in-Japan label, and in the near term, China's exports are likely to feel a pinch because of distortions to the supply chain, said HSBC's China economist Sun Junwei. "There are emerging signs: growth of China's imports from Japan slowed to 16.6 percent year-on-year in March from 33.5 percent in the January-February period," he said.

Mitsui OSK Lines cruise ship Fuji Maru called at the ports of Ofunato, Kamaishi and Miyako to provide free day-use services such as meals, baths and rest for victims of the Tohoku–Pacific Ocean earthquake.

However, Jens Eskelund, senior director of Maersk China in Beijing, believes this will be a short-term problem. "We do not have reason to believe that the disaster will lead to lasting damage to Japan's foreign trade," he said. The Japanese market is around five percent of total Maersk Line liftings.

"We would expect that perceptions over time will converge with science based facts and consumers will act accordingly. We cannot predict how the situation will evolve and will base our decisions on facts from primary, authoritative sources, not perception."

Tadhg Meaney, national manager of Swiss forwarding giant Kuehne + Nagel in Japan, said he expected a rise in food and beverage items to cover consumption concerns. "Exports for foods items will

APL will continue to scan "as long as necessary to ensure we are not putting our people or customers' cargo at risk"

Eng Aik Meng

President, APL

reduce for a period, but general exports should remain strong," he said. "Factories that have been shut down are re-opening and will resume normal production shortly."

The Asia head of a large German logistics company, who spoke on condition of anonymity, said as a matter of caution, he had instructed staff not to book cargo on shipping loops that touched Japan.

"That is the safest way to go, because if you have cargo on a ship that is stopped with contamination readings you will have a serious problem," he said.

The company serves customers in Europe where he said the hysteria "especially in Germany" was particularly high.

"There is a stigma becoming attached to goods produced in Japan, which is unfortunate. They have always had the best technology, the most disciplined workforce and quality products, but their reputation is now being tarnished."

Japanese restaurants are particularly vulnerable, especially in Hong Kong where the 4,000 establishments are wildly popular and make up 13.5 percent of all restaurants in the city.

Simon Wong Ka-wo, president of the Hong Kong Federation of Restaurants and Related Trades, said turnover at the restaurants had fallen by up to 80 percent since the radiation leaks began.

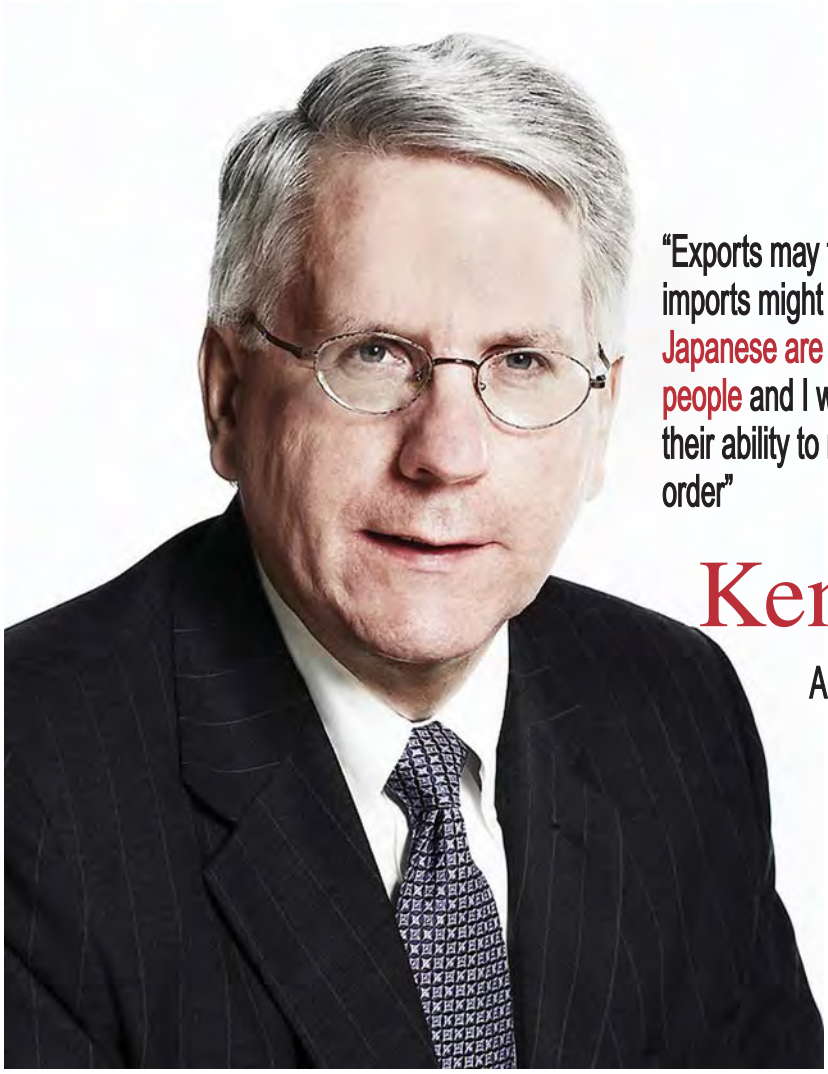
"The concern over Japanese food safety will continue as the media keep reporting on the radiation leaks in Japan," he said.

Continuing coverage of the crisis is guaranteed as strong and regular aftershocks rattle the east coast of Honshu. Japan's Coast Guard has told ship operators to steer at least 50 miles away from the damaged Fukushima plant to avoid potential radiation contamination. Container line APL is keeping its ships at least 200 nautical miles away from the area.

Maersk and other carriers stopped accepting export bookings from the area impacted by radiation leaks. The Danish carrier has implemented a 140-mile nautical no-go zone around the Fukushima plant and is taking careful note of the weather to give its vessels the safest route possible.

"We have made precautionary preparations including the availability of iodine tablets [to crew] should it become necessary," Eskelund said. "But as long as it is considered safe for the crew, Maersk Line will continue calling at Japanese ports."

APL's North Asia president Ken Glenn said there would be inevitable changes to Japan's trade patterns. "In the short to medium term we expect a decrease in overall exports from Japan, but we also forsee an increase in imports," he said.



"Exports may trend down slightly, and imports might trend up. But the Japanese are remarkably resilient people and I would not underestimate their ability to rebound in fairly short order"

Ken Glenn

APL North Asia President

This year, APL expects to carry 150,000 FEU of exports and 180,000 FEU of imports, but the figures will change as safety fears see the country importing greater amounts of fresh produce, and rebuilding will generate greater import volume of construction material.

"Exports may trend down slightly, and imports might trend up. But the Japanese are remarkably resilient people and I would not underestimate their ability to rebound in fairly short order," Glenn said.

A spokesman for Mitsui OSK Lines said the contamination threat would have a certain influence on trade, but the line pledged to minimise the impact on its customers.

Maren Maersk loads cargo at Yokohama port in Japan.

DHL Global Forwarding's David Goldberg, senior vice-president and head of ocean freight in North Asia Pacific, said while the nuclear reactor situation remained serious, the situation on the ground appeared to have stabilised.

"Overall, export and import volumes continue to remain strong both in and out of Japan and potential power shortages to various factories during the summer months will remain an area we will continue to watch closely," he said.

"With the exception of the Sendai port and feeder ports in the northeastern region, most other ports are operating close to normal while the clean up efforts continue at a rapid pace."

Frederic Neumann, co-head of Asian economics research at HSBC, was optimistic that the damage caused by the Japan disaster would ultimately be contained. "Japan's disaster will disrupt trade and production numbers in the coming months," he said.

"Much depends on the country's ability to restore transportation links and adequate electricity supply to key factories. This should occur in due course. Over the second half of the year, reconstruction in Japan will even turn into a powerful source of demand for the region."

Desperate to alleviate contamination concerns, Japan's transport ministry began measuring the radiation levels of ships and containers leaving the Tokyo Bay area for foreign ports early in April. Certificates recording radiation levels are being issued to ship owners.

Ships and containers with radiation readings exceeding a standard level will not be allowed to leave the ports of Tokyo, Kawasaki or Yokohama – located 240 km south of Tokyo Electric Power Co's devastated Fukushima Daiici nuclear plant.

Many shipping lines have contracted third parties to screen their vessels and cargo before they leave the big Japanese ports on the country's east coast.

APL has its own terminal in Yokohama where a contracted company is screening about 200 boxes a day, but the rarity of radiation contamination is evident in the lack of a single international standard.

Earthquake & Tsunami

November 1755 in Lisbon

In a preview of recent events in Japan, a European capital was laid low by natural disaster

Saturday, November 1, 1755, was a pleasant autumn day in Lisbon. It was also All Saints Day, a major holiday in a deeply religious nation. At 9:30 in the morning, while many were in church, the ground stated shaking violently. Chandeliers in the cathedrals began swaying rapidly above the parishioners. People were familiar with earthquakes, but not of this duration and magnitude. Many fled to the wide quays along the Tagus River, where they would not be in danger from following masonry and collapsing buildings. Approximately 30 minutes later, while aftershocks were still occurring, the river suddenly started to recede. Vessels anchored in the river were grounded. Long-forgotten wrecks became exposed. Then, just as suddenly, a wall of water estimated to be 18 feet high swept up the river, engulfing everything within reach. Two other waves, almost as large, followed within the hour. Many of the buildings not destroyed by the earthquake or waves were burned to the ground in the ensuing fires. The death toll in Lisbon was estimated at 50,000. Coastal communities throughout the length of Portugal suffered severe damage, as did the Azores and the Atlantic coast of Morocco. Modern estimates place the earthquake at magnitude 8.7. – it was felt as far away as Sweden. The epicenter was under the floor of the Atlantic Ocean, approximately 120 miles west-southwest of Cape St. Vincent, along the Azores-Gibraltar Transform Fault. The wave, nowadays referred to as a tsunami, was detected in Spain, France, Belgium, Holland, Britain, and Ireland, as well as various Caribbean islands. The magnitude of the destruction, with substantial documentation, began several scientific inquiries as to its cause. These inquiries served as the foundation for modern seismology.

Posted by Dennis Bryant on MaritimeProfessional.com

"There are different jurisdictions and regulatory bodies dealing with it," Glenn said.

The APL readings are based on the International Maritime Dangerous Goods Code, guidelines generally regarded as safe standards, but he said it was a very technical process.

"There are many false positive readings from common elements in household items, like fruit and vegetables, or recycled goods. The false readings have to be separated from the positives," he said.

APL president Eng Aik Meng said the line would continue to scan for "as long as necessary to ensure we are not putting our people or customers' cargo at risk".

MOL is screening its vessels for radiation at the ports of Tokyo and Yokohama.

"We hired a third party surveyor to detect radiation levels on vessels and containers," the line spokesman said. "Besides the surveyors, trained staff are conducting testing."

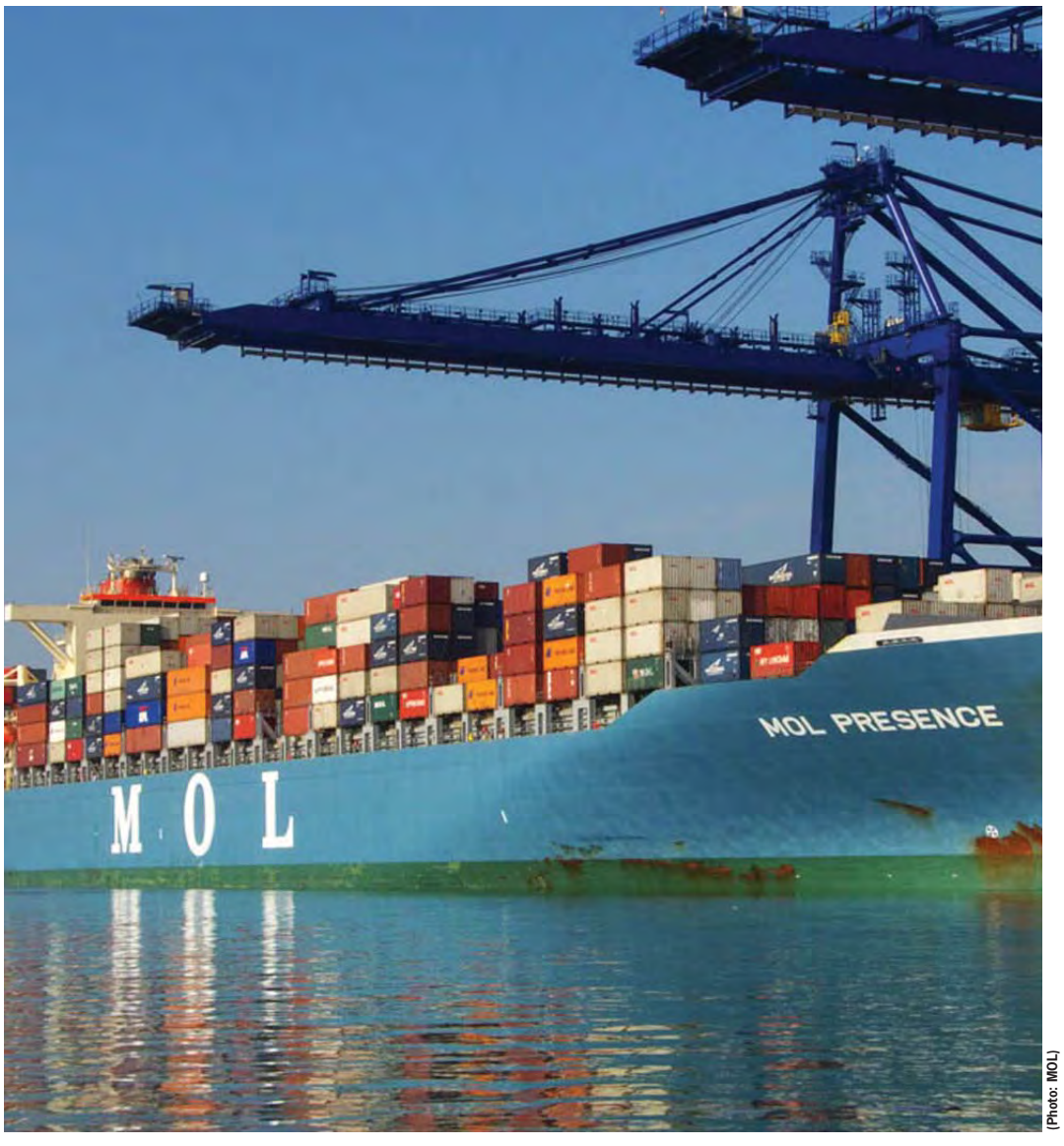
Eskelund said Japanese authorities were constantly monitoring radiation levels in Tokyo and Yokohama – Japan's largest and second-largest container ports – while Maersk continued "to consult national and international experts along with local and global authorities".

"We are communicating with all owned and chartered vessels on a daily basis and vessels have been given the option of requesting a surveyor to perform radioactive measurements while in port," Eskelund said.

The carriers and others involved with the Japan trade were reluctant to put too negative a slant on the radiation threat and its long-term impacts. Instead, they highlighted the actions of staff and their ability to manage both their own safety and the disaster.

Maersk had high praise for its workforce. "We are proud that all employees responded professionally to protect and safeguard themselves and their families and secondarily that our services are disrupted to a minimum degree so we can continue serving Japan's foreign trade".

"Bringing goods and food to Japan is more vital than ever in light of the recent earthquake



(Photo: MOL)

Mitsui OSK Lines cruise ship Fuji Maru called at the ports of Ofunato, Kamaishi and Miyako to provide free day-use services such as meals, baths and rest for victims of the Tohoku–Pacific Ocean earthquake.

"Exports for foods items will reduce for a period, but general exports should remain strong. Factories that have been shut down are re-opening and will resume normal production shortly."

Tadhg Meaney

National Manager of Swiss forwarding giant Kuehne + Nagel in Japan

and devastating tsunami," Eskelund said.

At Japanese carrier MOL, the spokesman said the line's business contingency plan for emergencies was activated.

"After earthquake and tsunami hit Japan, we implemented the plan and dealt with the emergency, confirming employees and their families' safety as well as making sure of our business environment to continue business."

APL's Glenn said the Singapore-based carrier had a disaster management plan for all countries it operated in "based on what we regard as likely threats, such as typhoons, floods or social unrest".

"Our terminal operations at Yokohama were not disrupted, so we did not need to roll out contingency plans," he said.

Barring another earthquake and further radiation leaks from the Fukushima reactor, most of those interviewed expected Japan to be able to ride out the disaster and emerge in time to take advantage of the peak season.

Japan is too big a player in the global supply chain to be shut out for long. The world has depended on the high quality Made-in-Japan label for a long time and simply can't live without it.

Trailblazing

United States Marine Inc. burns an indelible path in the manufacture of high-spec military vessels.

United States Marine, Inc. (USMI) completed acceptance trials of the first of ten Mark V Fast Patrol & Intercept Craft (MKV-PB) constructed under a NAVSEA FMS Contract for the Kuwait Naval Force (KNF). The craft is powered by twin MTU 12V4000 M90 diesel engines each producing 2,735 bhp driving Rolls-Royce 63 SII water jets through ZF reduction gears, and exceeds 45 knots.

By Greg Trauthwein

United States Marine Inc.'s (USMI) story of creation is not far afield from that of other small boat builders, according to it second-generation CEO Barry Dreyfus, Jr.: "My father Tom was too cheap to buy a new boat, so he decided to build one himself!"

So starts the story of United States Marine Inc. (www.usmi.com) one of the country's more innovative, progressive builders of high-speed, high-performance RIBS and patrol boats for some of the world's most demanding customers: the U.S. and foreign militaries. The company today is headed by President & CEO Dreyfus and industry luminary and company chairman John Dane III, exclusively designing and delivering vessels for the military market.

Dreyfus (who, as a side note, was interviewed for this story while on his honeymoon in Singapore, where he was able to mix business with pleasure but was warned by his bride that each hour of business was to be matched by an hour of shopping), is the central dynamic figure to the company's story, but to hear him tell it he is simply another cog in the 200 personnel that make up United States Marine. He would have an open door policy if he indeed had a door, but his "office," as well as all of the offices, are situated in an open air environment which according to Dreyfus fosters an open line of communications. In his words, anyone in the company can call the CEO a "dumbass" just as long as they can show him exactly why, and to show him how he can do it better. "If someone just comes in to gripe for the sake of griping, they can just turn around and leave," said Dreyfus.

WEATHERING THE STORM(S)

Founded in 1971 by the late Tom Dreyfus and joined shortly after by late President, Larry Ellis, United States Marine has weathered its fair share of storms, both literal and metaphorical. In fact it was "the" storm, Hurricane Katrina, which has most shaped Barry Dreyfus' tenure at the top of the company, as he assumed the role of President and CEO just two month before Hurricane Katrina literally wiped out United States Marine in 2005.

"I was lucky person to be put in charge right before Hurricane Katrina … it was kind like 'welcome, you're the CEO; and now your company is destroyed," Dreyfus said. "Hurrican Katrina destroyed three of our buildings, and we literally had to rebuild from the ground up." In fact, the rebuilding effort in the wake of Katrina is the accomplishment that makes him most proud. "I am most proud of being a small part in helping United States Marine to literally rise from the swamps in the wake of Katrina … to taking something that was completely destroyed, rebuilding it and making it better" he said. He attributes the successful rebound – where so many other companies in the region completely fell – to the company's core belief of caring for its employees, operating with zero long-term debt, and being well insured.

From a corporate standpoint, Dreyfus adheres to conservative fiscal values in building and maintaining a small but profitable shop that is designed for the marathon, not the sprint. The company carries no long-term debt and invests with cash on hand. "We don't borrow money, the partners in the company invest in the company," said Dreyfus. This melds well with the company's philosophy to keep its greatest asset – its employee base – intact through times thick and thin. "Our number one priority is retaining all of our people," said Dreyfus. "My father used to say … 'when you build the monster, you have to keep feeding the monster.'"

While the philosophy is simple and straightforward, it is similarly effective as in the wake of Katrina (and in some cases, still to this day), Gulf of Mexico area companies have scrambled to attract and retain qualified workers to keep the business humming. While another boat builder may to this day still be trying to fill welding and fitting slots, Dreyfus' welding shop was being pieced back together by his own welders, without being told what to do. While other shipyards have been forced to import hundreds of workers from outside its region, Dreyfus was procuring a fleet of mobile homes for his employees, and enjoying weekly barbecues with them. An investment that United States Marine recently made was to become ISO 9001 certified, a process that at the outset Dreyfus freely admits he thought was "a crock."

"It can be worthless if you let it be, but it has really helped us, as now we have process meetings every Monday at 7:30 a.m. where we go over the boatbuilding process, discussing any problems. When

we make a mistake twice, we review it because we know that we are doing something wrong."

Dreyfus is in fact a fan of taking advice from the workers on the floor. "They are teaching us; they're the ones building the boats … **It's the idiots who don't listen to the floor."**

Overall, though, he is an advocate of keeping the business a manageable size, concentrating on building and maintaining a strong business for the long haul, ensuring his core team remains intact. "My father used to say 'pigs get fat and the hogs get slaughtered,'" said Dreyfus. "We just want to keep a nice steady income, to provide a good product and to take care of our team."

BUILDING STRONG BOATS

Building exclusively for military markets obviously takes a great deal of patience and planning, but Dreyfus believes the process has helped to optimize the company's process and products.

"In the military market, when a boat breaks people die," Dreyfus summarized succinctly. "If you don't understand that and build to that level, then shame on you." Today the company builds a number of models for the U.S. Navy Special Ops Command, as well as for a number of foreign militaries, including in Singapore, Egypt and Bahrain.

USMI recently delivered five patrol boats (with 10 more on order) for Kuwait, a contract in partnership with Trinity Yachts which Dreyfus described as "27m MK V's on steroids, doing 48 knots in trials and outfitted with a with a remote control gun up front and air conditioning for Middle East."

Dreyfus admits that recent political upheaval in the Middle East has created a "wait and see situation" in the region, the company continues for fulfill contracts and build boats for the area. "It's all very dynamic right now, but we are still building boats and concentrating on building our business overall." A few years ago it delivered a pair of two 82-ft. MKV Special Operations Craft in a contract with the Naval Sea Systems Command, (NAVSEA). The design is owned jointly by USMI and VT Halter and is part of an original contract awarded in 1990's for USSOCOM; the pair send to the Bahrain Navy through a Foreign Military Sales (FMS) program. Built of aluminum, the MKV SOC has seating for five crew and up to 16 passengers, all in shock mitigating seats. Powered by twin MTU 12V396TE94 driving Rolls Royce 50SII waterjets, the boat's cruising speed is 25-35 knots with a top speed of more than 45 knots. The boat will carry tactical radio, navigation, communications and ship control in an integrated console. There is a stern ramp for rapid deployment and recovery of AVON F470 boats.

The MKV SOC has a MK38 25mm weapon system aft with four additional gun stations that can accommodate M2HB .50 Cal or M60/M240 machine guns. Today USMI designs and builds primarily three boats: the MK V for Special Ops Command, Bahrain, the Sultanate of Oman, and the Kuwait Navy; a Navel Special Warfare (NSW) RIB; and a Special Operations Craft Riverine.

Falcon Marine

Concept Boats Inc. and Falcon Marine LLC. joined together to produce, market and sell a line of high speed Police, Security and Military, Patrol and Emergency response boats for domestic and foreign markets. The new line of boats is based on Concept's highly line of civilian boats 23 through 36 ft. and the designs of famed race boat naval architect John Cosker of Mystic Power Boats for boats 44 through 70 ft. The entire line will be capable of 50+ knots with the 70-ft. reaching light ship speeds in excess of 65 knots and fifty+ knots in 5 to 6-ft. seas. The models 23 through 44-ft. are offered as outboard powered boats. The 36 and 44-ft. models are offered with either outboard or diesel power and boats 50 through 70-ft. as diesel powered boats only.

Naiad Inflatables

As part of its International Criminal Investigative Training Assistance Program, The Department of Justice signed a contract with Naiad Inflatables of Newport Inc. to build a fleet of ten individual 10-m aluminum stepped-hull patrol vessels. Operated by local law enforcement trained by ICITAP, they play a key role in local anti-terrorism and anti-smuggling operations along the coasts of Indonesia and the Philippines. The vessels have anti-ballistic foam fenders and are powered by two 250-hp Mercury Verado outboards. Each vessel's crew cabin is equipped with state-of-the-art radar and communication systems, four shock-mitigating seats, V-berth, and storage for hand-held weapons, spares, and outfit items. Fuel capacity is 280 gallons, giving a range in excess of 350 nautical miles at cruise.

Metal Shark

Metal Shark Boats has completed delivery of two 38 Defiant training craft to the U.S. Navy as a Force Protection Boat-Large (FPB-L) Training platform. The 38 Defiant fleet will be based out of Little Creek Training Center in Virginia. With 19 Force Protection Boat-Small (FPB-S) vessels - based on the Metal Shark 27 Defiant platform - currently deployed to Bahrain for Naval asset protection, the Defiant platform is already a well-known asset to Naval forces worldwide. Powered by twin 5.9-liter Cummins diesel engines and maneuvered with Hamilton 292 Waterjets, Defiant intercepts would-be threats at a top speed of 40 knots. Three (3) weapon foundation mounts and a gunner's tub ensure the crew's safety, as well as that of vessels under Defiant's protection. Extensive electronics and a co-pilot's full set of throttle, bucket and shift controls provide unparalleled visibility, as well as unrivaled control of the vessel itself. With an eye toward crew comfort, 38 Defiant's extended cabin offers SHOX-brand shock mitigating seats, engine-driven heat and air conditioning, and a private head.

Silver Ships Inc.

Alabama based Silver Ships built and delivered eight 11m RHIBs to the US Navy in 2009-2010. The boats will be used globally on force protection assignments. The 36-ft. vessel is equipped with twin Yamaha 225hp outboards and a 7kW genset. The fully clad interior contained shock mitigating seats, a complete head and a versatile electronics package. A removable canopy provides shade to the rear deck and access doors on all four sides of the cabin allow freedom of movement for the crew. The boats were also equipped with four mounts that will accommodate a variety of weapon systems. Silver Ships offers a wide variety of these RHIBs from 6-11m.

Strategic Marine

Western Australian owned international shipbuilding company Strategic Marine has been contracted to provide high-speed patrol vessels for the Australian Federal Police. The three 16 m vessels will be manufactured for use by Indonesian authorities. Minister for Home Affairs Brendan O'Connor says the construction of three high-speed patrol boats for the Indonesian National Police is well underway, as part of support from the Gillard Government to help tackle people smuggling in the region. "The 16 meter patrol boats are worth almost $5m and will help the Indonesian National Police respond to and deter people smuggling in the region," O'Connor said. "These high-speed patrol boats will be based at strategic locations across Indonesia as an active force in the ongoing fight against people smuggling," he said. The vessels, expected to be delivered by June 2011, will be specifically designed for maritime environmental conditions experienced in Indonesia and surrounding waters with capability to pursue at high speed, intercept and board other vessels.

RibCraft

Among the recent deliveries was a 19.3-ft. RIBCRAFT 5.85 purchased by the Roscommon County Sheriff's Department. The RIB will be used by the county police for rapid response, patrol, interdiction and boarding on several of the county's expansive lakes. The department's 5.85 professional grade RIB, features RIBCRAFT's signature deep-v hull, T-top, full length lifting strakes, heavy duty multi chambered Hypalon® tubes with pressure relief valves and high profile rubstrake, will deliver outstanding performance and durability the department required. Powered by a single 115HP Yamaha four stroke engine, the boat will reach speeds in excess of 35 knots. Additionally, the open deck configuration provides ample room for personnel, equipment, and passenger transport.

Brunswick Commercial and Government Products

Brunswick Commercial and Government Products (BCGP) delivered a 350 Challenger to the Lorain County Sheriff's Department in Ohio, where it will be used to patrol the border between the U.S. and Canada on Lake Erie. The 350 Challenger is a new Boston Whaler model manufactured by BCGP for military, law enforcement, port security, search and rescue (SAR), and workboat operations. In addition to its rescue and law enforcement duties, NBI is tasked with scanning watercraft coming across the border for potential radiological or nuclear threats. To help the agency address this requirement, BCGP custom-installed an optional Thermo Scientific RadSPEC unit on the 350 Challenger to detect and identify radiation. When the device detects hazardous material on a vessel, its 'reach-back' feature can upload the data immediately to an analysis center, giving officers real-time feedback about the potential threat. Additional electronic options on the NBI unit include FLIR night vision, light bar, hailer, and redundant radio and navigation systems. This new 35.9-ft. walkaround cabin model features an open cockpit and center helm layout for 360 degree access to facilitate boardings and other maneuvers. Its deep-V hull affords smoother rides in rough water, while its 11.6-ft. beam provides both ample deck space for crew and gear as well as excellent lateral stability. A recessed walkaround, flanked by strategically-placed grab rails, promotes bow access even in adverse conditions. The 350 Challenger holds 421 gallons of fuel, and can be powered by dual or triple outboard engines up to 900 total horsepower.

BCGP 750 Impact

Boats are intended for use for rescue during natural disasters (hurricanes, floods, tornados, etc). Boats will be distributed across Mexico and be operated by members of the Mexican Navy. Custom features requested by the Navy are double jockey seats at the bow and lifting eyes so the boats can be transported by aircraft to deliver to hard-to-reach locations.

Purchasing Agency	Mexican Navy
Units Purchased	12
Length, o.a.	24.7 ft.
Beam:	10.1 ft.
Draft	16-in.
Weight	2734 lbs
Fuel Capacity	157 gal
Max HP	300
Engine	Mercury 250 Verado
Max Speed (light load, light fuel)	47.9 mph

Danish Shipowners Back on the Growth Track

Denmark retained its position as one of the world's leading maritime nations, despite the economic crisis. In terms of operated tonnage, Denmark is today the fifth largest maritime nation in the world. In all, Danish shipping companies transport some 10% of the world trade.

Henrik Segercrantz reports.

Danish shipping is global, with trade within Europe counting for only a quarter of the industry's total revenues. The primary markets are the US and China, making up more than 15 percent of the revenues. "Here in Denmark the shipping sector is really a success. We are going forward with all the key figures we can find. In Denmark we have passed the financial crisis and are picking up the new challenges," says Jan Fritz Hansen, Executive Vice President at the Danish Shipowners' Association. "The statement is a little exaggerated as it covers differences in different market segments," he adds. A reason to that Denmark coped relatively well with the crisis was the flexible business model applied by many of the owners, with chartered-in tonnage supplementing the own fleets.

The Danish Shipowners' Association has 21 shipping company members, including companies like A.P. Moeller-Maersk, Torm, Norden, J.Lauritzen, Nordic Tankers and DFDS and 14 associate members, such as Clipper Group, Eitzen, Nordic Bulk Carriers, Container Shipping and Unifeeder, to mention some main companies.

The Danish flag tonnage figures have increased steadily, despite the financial crisis. **In April this year, the amount of ships was 585, (compared to 551 at 1 January 2010). The combined gross tonnage is 11,7mGT and combined deadweight 14,4mdwt. The figures for the beginning of 2010 were 10,9mGT and 13,5mdwt respectively, showing an aggressive, around 7% increase during this demanding period.** 60 percent of the merchant fleet consists of liners, 35% are tankers and 5% operate in tramp trade. The deadweight of Danish owned foreign flag vessels is some 20mdwt and chartered-in vessels amount to more than 20mdwt, bringing the total fleet under Danish control to above 55mdwt. The average age of the Danish fleet is 7.6 years, compared to 10.4 years for the world fleet. Under construction are 211 vessels totaling 10mdwt and valued at DKK63b. The number of newbuilding orders was a record 363 at the beginning of 2009 going down to 273 at the beginning of 2010. The Danish Shipowners Association believes that a 15% to 25% reduction in CO2 carbon emissions is realistically possible to achieve, up to 2020. Denmark was an initiator to the EEDI energy efficiency design index, right now a hot topic within IMO. Many Danish shipowners tell Maritime Reporter how important it is to reach a decision this coming summer on the issue. "I would really like to emphasize, that it is really important that the IMO meeting at the Marine Environment Protection Committee, taking place in July, will hopefully be able to decide on a package of technical measures to address the CO2 emissions. It is really crucial that this package goes thru. Otherwise we are going to see regional legislations in Europe the outcome we could not longer have an influence on," says Simon Bennett, Director at the International Chamber of Shipping. According to the Danish Shipowners Association, a design index for climate efficient bulk carriers, tankers and container vessels is an important and good initiative, whereas it is difficult to set up a general relevant target for ro-ro vessels.

What comes to fighting Greenhouse Gases, the Danish position is that a special fund under IMO is a good basis for discussion, as stated in a proposal by Denmark brought forward on a Market Based Instrument. The Danish Shipowners' Association though states, in its Annual Report, that "It is important to arrive at a model which is also acceptable for China and the US, and like the shipping industry, both these countries are focusing on reducing emissions by making ships more efficient. Therefore, there is every reason to examine the possibilities of making the contribution to the Fund from the individual ship dependent upon the level of climate-friendliness of the ship." Arne C. Mikkelsen, Counsellor at Danish Shipowners' Association notes that support for the Green House Gas Fund proposal has been received lately from the large shipping nations Greece, Liberia and South Korea. "Emission trading is not supported outside Europe," he said. "Will the industry and the EU unite behind the most probable international solution?" he asks.

Denmark is surrounded by an ECA area, with increasing restrictions on sulphur emissions. Also nitrogen oxides emissions are being cut. Danish Shipowners stress that it is vital that the types of oil or treatment equipment demanded for vessels in the future are available in sufficient quantities and at competitive prices so that there is no shift from sea to land transport. This view is shared by Simon H. Galsgaard, Director at Unifeeder A/S, a shipping company, engaged in a 36 vessel feeder and short-

(Photo: Unifeeder)

sea shipping service in the ECA areas of Europe, including the Baltic Sea Region, where the company is the biggest container carrier. "Shortsea is cost efficient," he says, noting that the financial crisis has helped companies to find this mode of transportation as an alternative to trailers. A CO2 calculator on their website, available to anyone, proves the point he stresses,

"This is also an environmentally efficient solution." Galsgaard is worried about the risk of a modal backshift from short sea shipping back to road freight due to the implementation of the IMO sulphur restriction in ECA areas in 2015. "We should be careful that we do not do a backshift in what we have already achieved, namely moving cargo from the trailer and thereby from the congested roads in Europe into containers, and thereby actually saving the environment already from quite big emissions. Our customers will definitely treasure environmental values and will definitely go for an environmental solution, but not at any price."

As most of the Danish shipping companies Maritime Reporter talks to, also Unifeeder is for the time being following the fuel price development carefully between heavy fuel oil and cleaner distillate marine fuels, which meet the upcoming regulations, and is not now engaged in a process to install exhaust gas cleaners, or scrubber for this purpose, on their vessels. Niels Smedegaard, President and CEO at DFDS A/S, the Danish passenger and ro-ro shipping company, is also worried about the implications of the strict 0.1% sulphur restrictions of 2015. The company is testing scrubbers on one ship, but has not yet solved all related problems encountered. According to Smedegaard scrubbers will not be a solution for all their ships. DFDS is also looking at LNG. "The challenges are the safety issues for passenger ships when we would have to retrofit for LNG tanks, it takes capacity away from the freight side, and then there is the problem of finding the needed infrastructure," he says.

"There is a range of issues which will not be solved by 2015." He sees as a solution to limit the requirements to 0.5% instead of 0.1% in 2015. "Can you actually measure, in the environment, the additional reduction from 0.5% to 0.1%. Is it worthwhile to do that when you see the price of the fuel growing like it is?" he asks.

DANISH SHIPPING A SUCCESS

Foreign trade earnings reached DKK175 billion for year 2010, having dipped down to DKK140b in 2009. Earnings are now back on the raising curve of the last decade. Shipping represents 20 to 25% of Danish foreign trade. 75% to 80% of the turnover of shipping takes place outside of Europe. The shipping sector employs a total 100.000 people of which 25,000 employed by Danish shipowners. "We see today a lot of foreign vessels moving to Danish flag today, Hansen notes. We see a lot of shipowners coming from abroad these days, including from countries like Norway and Sweden. Quality in shipping is a key strategic goal for Denmark going forward. It also provides a key competitive advantage according to the strategic goals and recommendations for the EU's maritime policy until 2018.

Hansen pointed out another key issue of importance in these goals; free and fair access to the international markets, without measures which discriminate against specific flags. This provides equal competitive conditions for shipping and maritime industries, another of EU's policy statements.

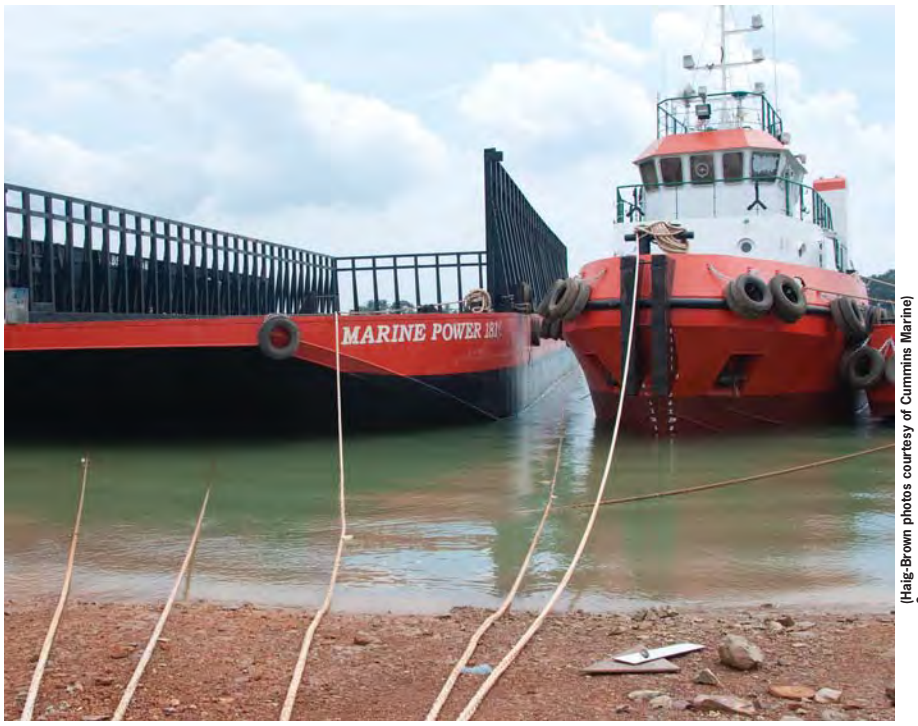
The Next Generation

Bahtera Bahari Shipyard

As with many businesses in Southeast Asia, the Bahtera Bahari Shipyard on Indonesia's Batam Island is a family business. Although the present company was founded only recently, in 2005, the family's association with the marine world of Indonesia extends back several decades. One of four children Ms. Tresya, the oldest of two sisters, has completed her training in program management in Australia. She is now a director of the company and involved in marketing and bringing modern management models to the shipyard as well as an extensive network of inter-related companies. She recently gave a very brief account of the company's history.

Her father, Hengky Suryawan, who was born in 1949, began a small ferry company on Tanjung Pinang Island. As this expanded he learned that transporting inanimate cargos such as logs and coal was a more profitable and much more straight forward. The logistics of arranging cargos let to the development of a shipping company of tugs and barges. This, in turn, led to the acquisition of a quarry and then coal and iron oar mining properties. What began as a company repair yard has morphed into a full shipyard doing new construction of landing craft, tugs and barges.

Now as the four children come of age they are moving into the management of the group of companies. Having grown up around boats and shipyards they are able to apply their overseas educations in a pragmatic fashion that is leading to a stronger fusion of traditional and modern technologies and management. Ms. Tresya's eldest brother, Selamat Budiman, is the Director of the Company's Group while the other bother, Selamet Widodo, is director of the shipping company and a brother-in-law, Mr. Rudiyanto, is the shipyard general manager.



New tug and barge at the Bahtera Bahari Shipyard. (Haig-Brown photos courtesy of Cummins Marine) 9

On a recent visit to the yard on Batam Island, Ms. Tresya showed visitors around the yard and toured a recently launched tug, one of three 29 by 8-meter boats moored to a cluster of new barges. The Marina 30 identifies as one of the boats belonging to the family's extensive fleet all of which are named Marina.

This class of vessel is a good-sized 29 by 8-meter tug with a 3.7-meter molded depth. The functional and roomy wheelhouse has dual sets of engine controls, one each for the port and starboard main engines. The uncluttered control panel included remote starts for the generator sets, a rudder indicator, compass, VHF and SSB radios, a radar, a GPS and echo sounder.

Two decks down, the functionality is repeated in the engine room. The two big Cummins KTA38-M2 diesels, each generating 1200 HP at 1800 RPM, turn into Masson Marine W5200 gears with 5.955:1 reductions. Electrical services are met with a single Cummins 4BT3.9-GI powered 50 kW generator.

The air-conditioned accommodation area includes a comfortable lounge/mess area with a separate compact galley on the port side.

On the tug's bow an electric-powered anchor winch provides a maximum torque of two tons. On the after deck a 40-ton towing hook is mounted just aft of the main cabin.

The Marina 30 has joined the company fleet providing charter services but also moving coal, iron oar and aggregate from the family's other operations.

Mr. Fauzi, project manager, with quick release towing hook. (Haig-Brown photos courtesy of Cummins Marine) 9

Tresya and Rudiyanto with a new-build from the Bahtera Bahari Shipyard. (Haig-Brown photos courtesy of Cummins Marine) 9

A. K. Suda, Ltd.

Liftboats: Unique Above the Sea

While most boats have to find shelter or tough it out in heavy weather, the lift boat simply jacks up her hull and avoids the waves. Conventional vessels are often defined by their hull length, but it is the length of the jacking legs that is the significant number for lift boats.

Having recently delivered a lift boat with massive 320-ft. legs, naval architect A. K. Suda, Ltd. are currently overseeing the construction of two of their latest designs. The larger of the two has 300-ft. lift legs. Like most vessels of this type the beam, 118 ft., exceeds a 2:3 ratio relative to the 150-foot length. The length of the 300-ft. legs is double the vessel's length. The boat has a 12.7 ft. molded depth to its nearly flat bottom. Conventionally, there have been two approaches to liftboat designs. One is a scaled down version of the jackups. Some of these are being built in the Far East. Suda designs are not merely scaled down versions of jackups; they are "true liftboats." Optimizing designs allows them to provide low coat stable work platforms (that are liftboats). The reduced hull weight allows for the use of durable, low maintenance jacking systems that are, once again, not an extrapolation of jackups.

Built to service oil industry production platforms, the lift boat has approximately 10,250 sq. ft (950 sqm) of working deck interrupted only by the two forward legs and a pair of cranes. This allows for a cargo block profile of 100 x 20 ft. with a 48-ft. width. The larger of the two cranes lifts up to 250 tons with a 130-ft. boom. The smaller is a 40-ton crane with a 70-ft. boom. A four level accommodation and navigation block shares the aft-end of the boat with the third leg. A heliport extends out from the stern. The arrangement with a compact accommodation block allows for a more efficient load distribution between the legs. The SUDA 300-L3 model lift boat is propelled by a pair of EPA Tier 2 Cummins KTA38-M engines each delivering 850 HP to nozzled-propellers. These engines are grid-cooled and used only for propulsion while the hull is in the waters. A bowthruster assists in positioning the vessel. Two Cummins-powered 625-kWe generators provide power for the hydraulic jacking engines, the cranes and general shipboard services. Two 250 kw generators provide primary power and backup servce for the ship service load. A 99 kw generator provides emergency power. These engines are air cooled with deck mounted radiators to negate the need for hoses being lowered to the sea for water cooling when the vessel is jacked. When fully extended, the legs can lift the bottom of the boat about 267 ft. off the sea bottom, with some variation depending on penetration of the foot pads in the sea bottom. The lift boat is currently under construction at Gulf Island Marine Fabricators, with delivery scheduled for mid-2012.

Protecting Coastlines Against Drifting Ships

by Dr. Claus-Christian Apneseth, Miko Marine AS

When the 739-foot Golden Seas lost engine power off the Aleutian Islands last December there must have been some very white knuckles in the US Coast Guard administration. Carrying a load of rape seed, 450,000 gallons of bunker oil and 11,748 gallons of diesel fuel the Liberian-flagged ship was drifting towards Atka Island in high winds and heavy seas. There were no rescue tugs anywhere near and it was only luck and perseverance by the crew that enabled the ship to avoid grounding and for North America to be spared another devastating pollution incident.

It is not rare for ships to lose engine power yet maritime authorities must invariably watch helplessly and pray that a rescue tug makes contact with the ship before their coastline does. Even if the incident occurs far from shore a loss of power, for whatever reason, can still be very destructive if the ship is rolling beam-on to the sea and shedding its cargo. Unfortunately rescue tugs are rare and expensive and only good luck will find one close to an endangered ship. Yet even when a tug is available, if the ship has been abandoned to ensure crew safety, connecting a tow-line can be extremely difficult especially in bad weather.

As experienced salvage engineers we started thinking about this problem more than five years ago, and in October 2008 Miko Marine AS in Oslo signed a contract with the European Union to develop the ShipArrestor.

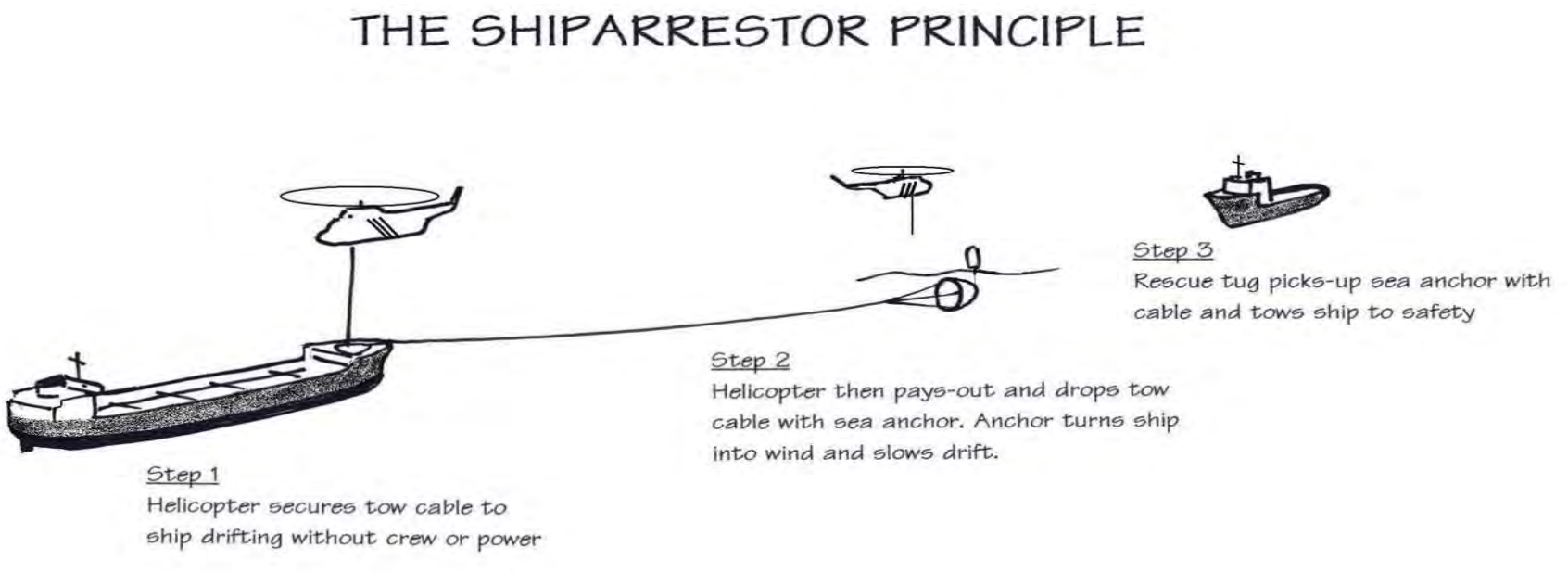
This enables a conventional Search and Rescue helicopter to quickly reach a ship and position a tow line-connection around the winch gear on its foredeck. The helicopter then lays the line upwind and releases it attached to a sea anchor. The effect upon the ship is almost immediate as it is turned into the wind within half an hour and its drift speed reduced by over 50 percent. This can be a vital factor in the ship's survival by creating more time for the distressed vessel to be reached by rescue tugs. On arrival, the tug can immediately pick-up the the sea anchor and the ShipArrestor line and effect a rescue. In shallow water a system without the Sea Anchor can be used to secure a quick connection.

Arrestor trial with Arctic Princess.

Heidi Amundsen of Norwegian Tech Institute lifts Miko chain easily.tif

Although Miko Marine holds the patents for the ShipArrestor and despite its apparent simplicity, there were many technical and logistical issues to be resolved first. A consortium of eight European organizations was consequently created to include companies from Norway, France, Germany, Netherlands and Austria as well as the Norwegian Institute of Technology and the UK's Ship Stability Research Center. By applying their individual expertise to the challenge, we perfected the idea and can now say that we have a product that can cost-effectively minimise the danger of drifting ships.

The concept of the sea anchor is already well known to seafarers but, until now, its use has been restricted to smaller vessels. Part of the project included the mathematical modelling needed to identify the size of sea anchors needed for ships of different tonnages. This, in turn, affected the sea anchor's size and weight



and its ability to be carried by helicopter. Similar constraints applied to the tow line which must be sufficiently strong and also capable of resisting abrasion against the ship's winch gear and gunwhale.

Modern man-made fabrics like Dyneema and Spectra have made it possible for us to design a parachute anchor that is immensely strong yet can be folded into a very compact package for helicopter transport. Mathematical modelling enabled us to conclude that 30-metres diameter is the optimum size for a sea anchor that is capable of turning and slowing the drift of a supertanker. This size would, of course, work on a much smaller ship but there is no reason why an operator should not possess different sized sea anchors from which the optimum could be chosen to match the ship in difficulty. This would maximize the helicopter's range by keeping its load to the minimum.

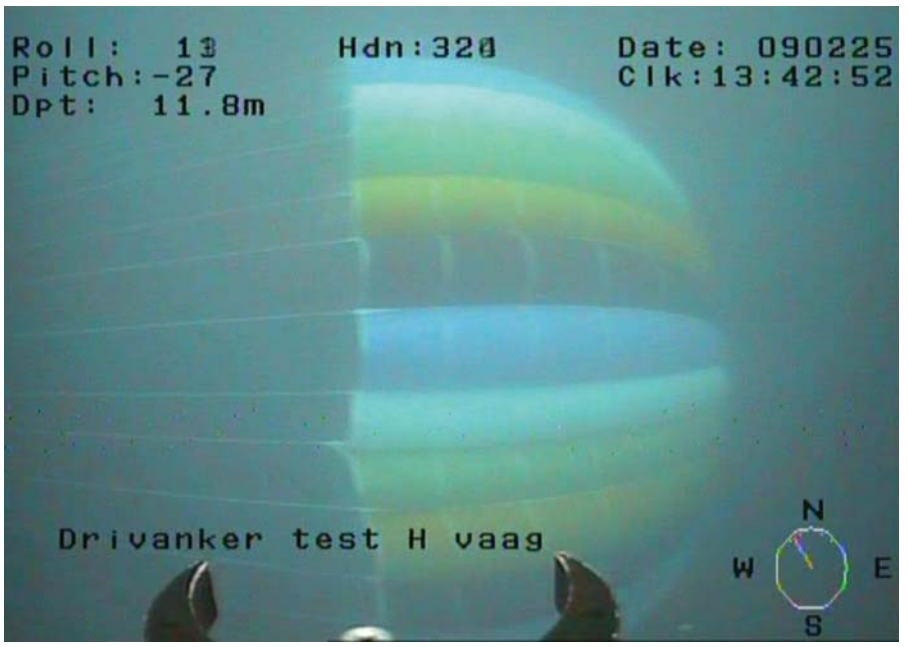
There was a time when the entire project looked likely to founder because of weight problems. The tow-line consists of 200m of 44mm Dyneema and with a 120 ton breaking strain it is more than adequate for the job but is crucially vulnerable to chafing when in contact with the ship. The only practical solution is to terminate the line with a loop of chain that is held open by an inflatable ring suspended below the helicopter. This can be used to "lassoe" the various winches, cleats and bollards on the foredeck and then be paid-out over the ship's bow. The chain is able to resist the chafing that would quickly destroy a rope but it took us some time to locate one light and strong enough for helicopter deployment. We rejected titanium chain because it is brittle and hard to work with but one of the project partners had access to steel compositions developed in the former Soviet Union. These were subsequently used to produce a stud-less 24 mm chain weighing just 11 kg per meter yet with a minimum breaking load of 1250kN. This is far superior to the breaking load of 1308kN for a conventional R4 quality 34mm stud link anchor chain that weighs 27 kg per metre. It has proved ideal for the job and Miko is now even able to supply the chain to any customers needing such a product.

The first trial of the ShipArrestor was carried-out last summer by Miko Marine, the Norwegian Technical Institute and Norway's Coastal Administration. Hoegh LNG and Statoil made the 120,000 ton LNG tanker Arctic Princess available by off the north coast of Norway where unusually calm weather proved helpful. The pilot of the Luftransport helicopter, had no difficulty in lowering the chain into position and the handling characteristics of the deployment ring proved to be very helicopter-friendly. The pilots were confident that it could be positioned almost as easily in far more extreme conditions.

However, the most crucial evidence gained from the first test was that even in the relatively calm conditions on the day, the LNG Tanker was turned up into the wind in less than 20 minutes and its rate of drift reduced by 58 percent.

The purpose of the first trial was obviously to confirm the viability of the system and to enable us to iron-out any snags. During the test the sea anchor and its pick-up buoy were released from their container smoothly and the anchor opened correctly. Unfortunately the sea anchor sank deeper into the water column than we had expected and this reduced its performance and made its recovery more difficult. Initially we tried to remedy this by re-designing the pick-up system but further trials revealed that we had to give the sea anchor an asymmetrical shape. This means that it drags itself up to the surface rather than down and so on November 10 last year the final demonstration of the ShipArrestor took place off Hammerfest in Northern Norway.

The LNG tanker Arctic Princess resumed the role of casualty and the ShipArrestor was again deployed by a helicopter from Lufttransport. The dusk of the northern winter and an absence of floodlighting on the tanker's forecastle added to the realism of the exercise yet the helicopter had no problem positioning the inflated ring around the strong point and releasing the anchor into the sea. As soon as it was deployed the sea anchor turned the Arctic Princess' bow up into the weather and reduced her drift rate significantly. The reduction of drift speed of was at one point measured to be more than 80 percent.



Sea anchor filmed from ROV during trial 1.

At the end of the trial we were satisfied that coastal states no longer need to endure dramas such as the one experienced by the US Coast Guard with the Golden Seas. Miko Marine is now in discussions with the Norwegian authorities about implementing the ShipArrestor as part of their overall incident preparedness and it is of particular interest for protecting the remote areas of Northern Norway. Other countries with shallow water around their coasts are proving mainly interested in just the connector part of the system.

If sea anchors could help reduce insurance premiums I also see no reason why they should not also be permanently carried aboard high risk vessels. For others such as cruise ships and Heavy Lift Vessels substantial benefits are provided in case of an "unlikely engine-failure" by maintaining the bow up against the weather. In addition, the Sea Anchor can be offered as a natural amendment to the Emergency Towing Systems that are already compulsory for tankers above 20,000 DWT. Rescue tugs are expensive and there will never be enough of them to provide the coverage the shipping industry needs. We now believe that ShipArrestor systems could help fill that gap.

www.shiparrestor.com

About the Author

Dr. Claus Christian Apneseth was born in Oslo 1971, joined Royal Norwegian Navy in 1991 and graduated from the Naval Academy in 1994. Was honorably discharged in 1997 and spent a year sailing a yacht around the Atlantic. He graduated with a B.Eng. degree in naval architecture from the University of Glasgow in 2001 from and which he followed-up with a PhD degree in 2006. He then worked in the oil and gas industry for two years before joining Miko Marine AS in 2007 as project manager.

CLEANWATER

Clean water is a global concern, certainly not limited to maritime circles. By virtue of operations, though, the maritime community is under increasing regulatory pressure – whether it is bilge, ballast or wastewater – to ensure its operations are as environmentally benign as possible. MR examines recent technological upgrades in this area.

OceanSaver plans to launch revolutionary next generation ballast water management technology, the Mark II technology, which realizes OceanSaver's strategy to roll out its technology to different sized vessels. The Mark II ballast water treatment system is a tailored version of its type-approved Mark I model, but with the most energy demanding features of the original removed. "We are sharpening the already proven OceanSaver technology with our new Mark II ballast water treatment system, this will widen our core market segments, reduce installation time and complexity for retrofit and newbuilding projects," said Tor Atle Eiken of OceanSaver. The new system effectively targets the medium range vessel market, and opens up the retrofit window with reduced installation time and complexity.

Director of R&D at OceanSaver, Aage Bjørn Andersen, has been involved in the development of environmental technologies for the offshore and shipping industries for more than 15 years. Andersen said: "OceanSaver is pretty unique as we are one of the few if not the only ballast water company with own laboratory and testing. This is significant to mention, as we are able to simulate operational conditions and test components of the system over time. This is an assurance to our clients. The retrofit market is an area that OceanSaver will increasingly focus on, in addition to the fairly stable newbuilding market. Without the need for extra piping that would be found in the Mark I due to the addition of the cavitation units the ship owner saves time and money in the dry-docking stage.

The energy required for the complete system and related equipment is 50% less for the Mark II than for the first generation, in addition to no treatment at de-ballasting operations, this will increase the cost-efficient for ship operator.

The BALPURE ballast water treatment system from **Severn Trent De Nora** completed shipboard testing late last year, neutralizing non-indigenous species. According to the manufacturer, the BALPURE system surpasses requirements for IMO G8 Type Approval and IMO Ballast Water Convention D-2 Standards. Type approval of the BALPURE system is anticipated in the first half of 2011. Shipboard testing of the BALPURE system was undertaken on the California Maritime Academy training ship, the 500-foot T.S. Golden Bear,from May to December 2010. Installation engineering of the BALPURE system was performed by The Glosten Associates. Testing of the BALPURE system was performed during the T.S.Golden Bear training voyages in the Pacific. The shipvoyaged from San Francisco to Busan, Korea; Busan to Kobe, Japan; Kobe to Guam; Guam to Saipan; and Saipan to Honolulu, Hawaii. Biology tests were conducted at Busan, Kobe and the Apra, Guam ports. Data samples compiled and tested over the course of the shipboard trial verified the efficacy of the BALPURE system to meet the most stringent ballast water treatment discharge standards. In several cases, the BALPURE system greatly exceeded the regulatory standards for living organism standards outlined by IMO D-2. The BALPURE system also operated without failure during the seven-month observation period under routine shipboard operating conditions.

Wärtsilä announced the launching of a ballast water treatment solution, the Wärtsilä BWT 500i, which has been developed together with **Trojan Marinex**. The new system has a compact design, making it easy to install and suitable for most vessels. "Easy installation and a small profile are crucial for the retrofit market, and have been central to our design process from the outset," says Vesa Marttinen, Director of Wärtsilä's Environmental Services unit. "We have done extensive pre-testing and have worked in close co-operation with our customers in order to meet the key requirements. With this product launch, we are confident that the Wärtsilä BWT 500i meets all regulatory and operational criteria very well."

The Wärtsilä BWT 500i treats the ballast water via a two-step process, first by filtering out larger organisms and particles, and then by ultraviolet disinfection. The UV irradiation either kills the remaining organisms, or renders them incapable of reproduction. Each unit is capable of treating 500 cu. m. ballast water per hour, with the possibility to install several units in parallel for higher flow rates.

"We aim to meet all expectations with a solution that is the most flexible, and which has the lowest risk. By doing this we are providing customers with the confidence that they can meet not only today's requirements, but those of tomorrow as well," says Christian Williamson, Vice President, Global Marketing Strategies at Trojan Technologies.

In February this year, Wärtsilä Corporation and Trojan Technologies signed an exclusive agreement to jointly develop, market, and distribute a ballast water treatment product for ships.

MarineFAST DV-Series Sewage Treatment System

Wärtsilä's integrated BWT system.

Parker Racor's Stowaway G2 Series Watermakers

Wilhelmsen Technical Solutions received orders for five Unitor Ballast Water Treatment Systems (Unitor BWTS) from Chinese yards. Three systems are to be installed on general purpose cargo vessels built at Baibuting Shipbuilding Co. Shandong; the remaining two to be installed on asphalt carriers built at Nanjing East Start Shipbuilding Co. The cargo vessels being built at Baibuting Shipbuilding Co. Shandong are for Shipowner Bluarrow Shipping SA with technical consultant La Prora Ship Management. The vessels require ballast water systems with a capacity of 350 cu. m./hr. each. The vessel deliveries are due in Q2 and Q4 in 2011. The asphalt carriers built at Nanjing East Start Shipbuilding Co are for the Singapore based ship owner Stolt Bitumen Services, a new division of the Stolt Nielsen Group. Each system has a capacity of 200m3/h and the vessels will be delivered in Q4 2011 and Q1 2012. The Unitor BWTS is applicable to all vessel types and sizes. To date, Wilhelmsen Technical Solutions has won contracts to install the system on a range of vessel types including PCTC, LNG carrier, passenger ferry, bulker, general cargo carrier, and asphalt carrier.

The **Hyde Marine** BWTS is designed to offer an effective and reliable solution based on solids separation and UV irradiation. The Hyde Marine system uses existing ballast pumps and piping. Standard systems are available for flow rates from 60 cu.m./hr. up to 1500 cu.m./hr. and customized systems up to 6000 cu.m./hr.

The Hyde Marine BWTS is optimized for each particular vessel design and operating conditions. The system includes pretreatment to remove solids and large organisms. For smaller ballast systems and applications where high solids removal is desired, the Hyde Filter is economical and practical. The Hyde UV destroys or inactivates biological organisms including zooplankton, algae, bacteria and pathogens from ballast water without affecting the normal operation of the ship. Ballast water is also treated during de-ballasting to ensure the maximum effect.

Designed for large commercial vessels and offshore structures, the **MarineFAST** DV-Series meets the needs of larger crews. Offering the ultimate in strength, corrosion resistance, and performance, DV-Series are available to treat 990 to 20,000 GPD (3700 to 75700 LPD). The MarineFAST sewage treatment systems is designed to provide years of reliable, trouble-free treatment without adjustments or the need of a skilled operator. The MarineFAST self-regulates, handling surges, overloads and light loads without problems.

Racor Division of Parker Hannifin Corporation, revamped its Stowaway Series of watermakers. The Racor Village Marine Stowaway G2 Series are compact watermakers for marine applications which include a new touch screen interface control panel and a streamlined frame design. Working with the design house Robrady (Florida), and its team of Racor VMT design engineers, the company updated its Stowaway Series and created a new generation of watermakers. The new Stowaway Series G2 offers features that include a graphic-rich color touch screen panel which displays status, purity of product water output, water temperature, total hours for accurate service log, and many other functions. The touch screen panel allows complete watermaker control at your fingertips.

The Raw Water Flow system from **Livorsi** is a patented system that indicates an engine's GPM- Gallons per Minute. Water flow (GPM) is a real indication of the raw water flow surging through a cooling system such as: exhaust headers, sea strainers, impellers, Gen sets, intercoolers and any other marine or industrial applications that utilize water flow. Raw Water Flow Kits are offered in the following: 40 GPM alarm set at 5 GPM; 60 GPM alarm set at 10 GPM; 120 GPM alarm set at 20 GPM

For more information on the Web

www.hydemarine.com
www.livorsi.com
www.oceansaver.com
www.phstock.com
www.sciencofast.com
www.severntrentservices.com
www.trojanuv.com
www.wartsila.com
www.wilhelmsen.com/technicalsolutions

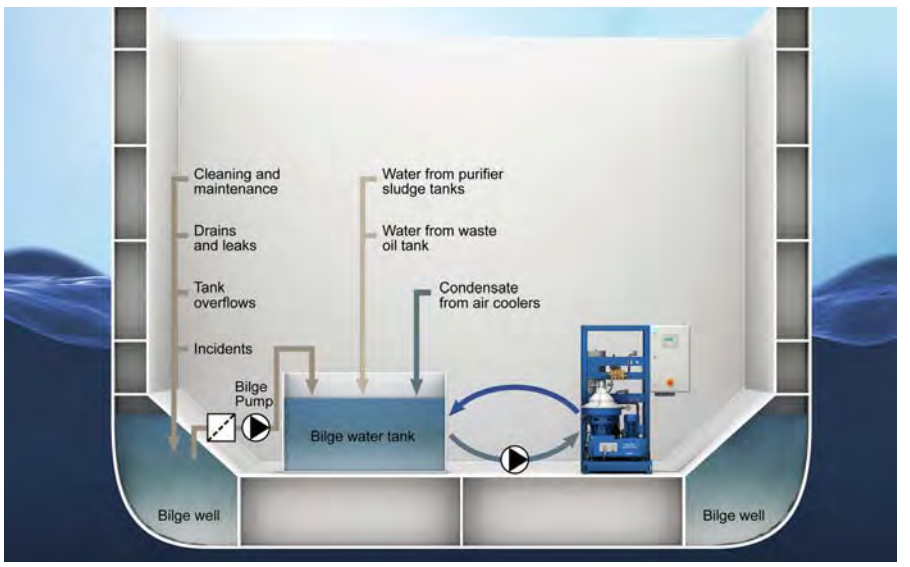
Bilge Water Treatment

Enhancing the BWT Results; Minimizing the Investment

Alfa Laval has introduced a new bilge water treatment system designed to be within the reach of the majority of shipowners; an innovative technical solution that does not require the shipowner to replace one Bilge Water Treatment System with another. As a backdrop, bilge water today is much different than it was 50 years ago. Back then it was a mixture of mainly diesel oil and water, which was relatively easy to separate with the help of gravity. Now bilge water is a more complicated challenge, as it is an ever-changing cocktail, containing not only diesel oil and water, but also lube oil, hydraulic oil, heavy fuel oil, oil additives, chemicals and detergents. As if it were not difficult enough, the process is complicated by the presence of emulsions. Emulsions are even mixtures of immiscible liquids, such as tiny oil droplets mixed into the water phase of bilge water. Although gravity would normally cause these droplets to separate from the water, particles or surfactant chemicals from cleaning products used on board can prevent this process from happening.

A number of technologies exist for reducing oil content in bilge water to 15 ppm. Prior to January 2005, these technologies were regulated by International Maritime Organization (IMO) resolution MEPC.60 (33), which specified type-approval testing with a simple mixture of oil and water. This straightforward trial was easily managed by gravitational coalescers, which are still the predominant technology today. MEPC.60(33) clearly states that: "It should be understood that a gravitational filtering equipment cannot be expected to be effective over the complete range of oils which might be carried on board ship," adding that: "care should be taken that the bilge water is fed to the filtering equipment after the emulsion has broken."

Since January 2005, a stricter regulation has been in place, designed to better reflect the challenges of modern bilge water. Resolution MEPC.107(49) requires, in addition to testing with oil and water, testing with a stable emulsion that includes fine particles and a surfactant chemical. Naturally, ship owners and operators also have the option of switching



to a high-performance bilge water treatment system. Centrifugal separators, for example, have been shown to deal effectively with oil, particles and tough emulsions, even under difficult operating conditions, according to the manufacturer. Yet changing bilge water treatment systems is not always easy as it sounds. Apart from the obvious issue of cost, there is also the issue of space. Medium-sized tankers and other similar-sized vessels may have difficulty accommodating a full-size centrifugal bilge water separator in the engine room. Medium-sized vessels are also more affected by rough seas than larger vessels, so the efficiency and stable performance offered by centrifugal separation could be a significant benefit. Supply vessels, for example, frequently operate in notoriously rough seas, such as the North Sea and the North West Atlantic Finally, there is the issue of the vessel's International Oil Pollution Prevention (IOPP) certificate, which must be redone if the bilge water treatment system is replaced. Some ship owners and ship operators shy away from this extra paperwork, as well as from the fact that recalibration of the oil content meter is no longer possible to make on board when replacing a system approved under resolution MEPC.60(33). For all of these reasons, many ship owners and ship operators have preferred to continue using uneconomical filters rather than replace their underperforming bilge water treatment systems.

PreBilge, a new centrifugal separation system developed by Alfa Laval, does away with the idea that one technology has to be replaced by another. Instead, it works in cooperation with the bilge water treatment system already installed, providing an effective and economical helping hand. The principle is simple. PreBilge is installed as a continuous pretreatment loop, starting and ending at the bilge water tank. Connected in much the same way that a lube oil separator is connected to a lube oil tank, it does its job in a similar fashion. Just as the lube oil separator keeps the lube oil tank clean, PreBilge continuously maintains the bilge water tank, ensuring a clean bilge water feed that the existing treatment system can handle. Since the oil monitoring and overboard discharge are handled by the existing treatment system, no type approval or adjustment to the vessel's IOPP certificate are necessary. PreBilge makes use of centrifugal separation, which Alfa Laval maintains is the most effective means available for dealing with complex bilge water mixtures. This is why, in spite of its small size, it can solve the problems of larger systems.

Employing a force 6000 times stronger than that of gravity, PreBilge removes the heavy oils, particles and emulsions that pose difficulties for other treatment systems. To achieve the same result on its own, a gravitational coalescer would have to possess a settling area of 3000 m2. Because the rotation of the liquid in the separator bowl creates a gyroscopic effect, the process is also immune to the vessel's own pitch and roll. For this reason, PreBilge has the same high separation efficiency in any operating conditions.

www. alfalaval.com

Tamperproof *The PureBilge BlueBox*

The increasing number of cases where severe penalties have been imposed for discharging bilge water with a too high oil content into the ocean, and falsification of Oil Record Books, is a growing concern for shipping companies. In response, Alfa Laval is launching the BlueBox Bilge Data Recorder, an advanced, tamper-proof solution designed to prevent these unpleasant irregularities from occurring in the future.

Corporate criminal fines imposed involving oily water separators and environmental infractions has grown substantially in the last three years, so much so that the shipping industry itself has published a pamphlet entitled "Shipping industry guidance on the use of oily water separators," issued jointly by the Baltic and International Maritime Council, Intercargo, the International Chamber of Shipping, ISF, Intertanko and OCIMF.

Government agencies and other authorities now employ both aerial and satellite surveillance of the oceans to detect violations, while Port State Controls authorize national Coast Guards to board and inspect all vessels in ports worldwide.

Thus, even minor, accidental infringements stand a good chance of being detected and can result in shipowners being forced to pay huge fines. While deliberate violations of MARPOL requirements and falsified records can render the perpetrators liable to criminal prosecution and imprisonment.

BILGE WATER TREATMENT TECHNOLOGIES

For bilge water treatment, the shipping industry pamphlet suggests that shipping companies should consider "installing the latest equipment, or an upgrade in capability, if existing equipment does not perform to requirements".

According to Alfa Laval, the most efficient technology for bilge water cleaning is dynamic systems using high speed centrifugal separation technology, such as its PureBilge system. According to the manufacturer, PureBilge provides a cleaning performance of 0-5 ppm oil content in the water, it is unaffected by sea heave, oil shocks or high solids loading, and no backflushing is required. The company has more than 1,000 systems installed onboard ships to date.

BLUEBOX

However, it is not enough that the system works. The shipping company must be able to prove that it works. The industry pamphlet suggests that shipping companies should consider "using tamper resistant recording systems, alarms and printouts to verify equipment operation, valve position, flow, OWS ppm, incineration, ship's position, etc."

In line with this thinking, in collaboration with leading shipping industry players, Alfa Laval has developed the BlueBox Bilge Data Recorder and incorporated it into the PureBilge system. An effective insurance against unfounded accusations, BlueBox is a fully automatic, tamper-proof bilge data recorder with visuALog software and digital Oil Record Book. The BlueBox PureBilge Data Recorder not only records oil ppm level but also GPS position, separator operation, full alarm log, overboard valve position and overboard flow data.

The system's electromagnetic overboard flow meter records both current and total flow. To protect against operator error or tampering, a proximity switch registers the actual position of the overboard valve. If the flow meter is registering a flow when the overboard valve is in the recirculation position, the software will give an alarm and the system will shut down. The flow meter contains no moving parts and is calibrated for life.

The flow data recorded includes the time the overboard discharge starts, the oil content meter level over a discharge cycle, total quantity of water pumped overboard in a discharge cycle and the time the overboard pumping stops. The information is stored in an encrypted format for a minimum of 18 months and can be downloaded to a USB memory.

In addition, the BlueBox PureBilge Data Recorder is designed to prevent tampering. The complete bilge water sampling line is fully encapsulated and tamper proof, and the unit can only be opened by authorized personnel. The unit is equipped with a coded magnetic limit switch. The insertion of e.g. a screwdriver or other implement between the cover and the main unit, in an attempt to force it open, will generate an alarm and cause the overboard valve to go into recirculation.

Alfa Laval is launching the BlueBox Bilge Data Recorder, an advanced, tamper-proof solution designed to prevent these unpleasant irregularities from occurring in the future.

www. alfalaval.com

Corzan Piping for Water Treatment Problems

By Donald Townley, PE

The job of cleaning up our global water supply is more challenging today than ever, especially in light of stricter environmental regulations. No one understands the unique challenges of water treatment in marine applications better than Severn Trent De Nora, a leading international provider of marine and offshore industrial water and wastewater disinfection systems. For nearly 30 years, the company has been recognized for its innovative approach to water treatment utilizing on-site generated sodium hypochlorite produced from seawater.

Key to Severn Trent De Nora's ability to keep these innovative treatment systems operating efficiently with little or no downtime is the selection of the proper piping system. In most cases, metallic piping has proven to be no match for the harsh, corrosive demands of the offshore environment. That's why for especially challenging applications, the company relies on Corzan CPVC (chlorinated polyvinyl chloride) pipe and fittings which offer both the necessary corrosion resistance and durability not found in metallic systems.

"We've been using Corzan CPVC pipe and fittings for more than 20 years for a variety of offshore sewage and water treatment applications," said Dana Casbeer, marine and offshore product manager for Severn Trent De Nora. "Whenever an application calls for high temperature and corrosion resistance, Corzan CPVC is our material of choice. Corrosion is a serious threat. Our equipment is working in a saline atmosphere and pumping raw sewage, seawater and sodium hypochlorite at pressures up to 150 psi in some cases."

Corzan CPVC, in particular, is well-suited for high-temperature, high-pressure applications because of its superior cell class rating. Corzan pipe is certified to the highest cell classification of 24448—the highest of any commercially available CPVC as defined by ASTM D1784—which means it demonstrates a drop impact strength up to three times that of standard CPVC. In addition, it offers an HDT rating of 239°F (115°C)—the highest of any ASTM D1784-compliant CPVC. "In some cases, the temperature starts to push the limits of PVC, especially when installed in hot engine rooms," said Rudy Matousek, manager of technology for Severn Trent De Nora. "For applications where our equipment is installed outside on a platform in hot regions like the Middle East, we also need to consider the superior UV resistance of CPVC." In addition, the company needs piping that meets the strict smoke requirements of both ABS and the US Coast Guard. "Due to the chlorination process used to create CPVC, Corzan CPVC offers a smoke advantage over PVC when it's burned," said Matousek.

Time is money and no place is this truer than in offshore applications. The benefit of using plastic pipe in offshore applications is that it is easy to cut and join on site and lightweight to handle.

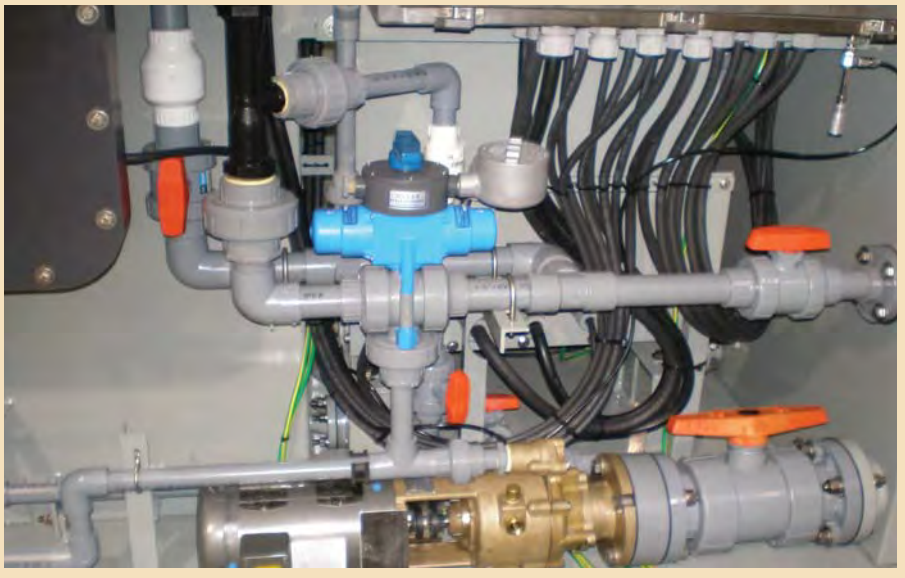
"With plastic, our customers are down for minutes to complete maintenance routines or repairs, instead of days," said Casbeer. "We need products that are sound, offer good mechanical integrity and provide ease of manufacturing," said Matousek. "Corzan CPVC pipe and fittings satisfy all of these requirements."

About the Author

Donald Townley, PE, is the business manager for Corzan Industrial with more than 30 years of engineering experience.

Severn Trent De Nora is a provider of marine and offshore industrial water and wastewater disinfection systems.

Corzan CPVC (chlorinated polyvinyl chloride) pipe and fittings offer corrosion resistance and durability.



Technology Profile

Photo-Catalytic Separation

Richard Fahs of Fahs Stagemyer believes he possesses a critical technology piece in the Ballast Water Treatment puzzle.

How did you come to develop the Photo-Catalytic Separation (PCS) system?

Fahs After managing facilities for Wise Foods, I spent over 20 years in the aquaculture industry. As early as the 1980s, I was unhappy with the current water purification methods in the aquaculture industry. The choice for sterilization of disease species, during this time, where dominated by UV, photonic, electro-chemical, mechanical filtration, electo-chorination, various chemical processes, oxidation, AOP, photo-electric, biocide chlorine dioxide, biocide (electrolytic generation of sodium hypochlorite) Ozone, sonic energy, electrolytic chlorination, cavitation, anoxic and aerobic environments, nitrogen super saturation, electro-dialysis, ultrasound, and many others. The problem with these processes were that they either relied on a chemical reaction, produced a substance which entered into chemical reactions or produced some sort of by-product or altered chemical along with the inactivation of the diseased species. I began researching PCS as a way to address these issues. The work that has been performed under Fahs Stagemyer in the past two years is actually a culmination of my efforts over the past 30 years.

In layman's terms, describe your technology and how it works.

Fahs We have discovered a method to selectively cleave the atomic bonds in a molecule in order to break it down into benign components. This process can be used to dissociate the molecules that make up organisms in ballast water.

While this is a light-based technology, the interactions between the photons and electrons of the target molecule are fundamentally different from UV technology. What we are doing is neither oxidation nor photochemistry. It is actually quantum mechanics.

What are the advantages of PCS?

Fahs We believe that PCS is a perfect fit for disinfecting ballast water treatment, as our testing has shown that it can overcome many of the limitations found in other options. Let's talk about the three biggest criteria for ship owners first – effectiveness, costs, and footprint.

Effectiveness: We provide a 100% kill rate to organisms, even some of the incredibly resistant critters like Tobacco mosaic and Cryptosporidium. This can be done in turbid water; we can even penetrate some solids.

Costs: PCS is very energy efficient. A PCS system consumes 80% less energy than a continuous wave mercury UV system. This greatly reduces operating costs, and we can offer it at a competitive capital expense.

Footprint: Since treatment occurs in one third of one second, we can easily integrate the system into existing waterflow. As a point of reference, we expect our 2000 cu. m./hr. flow rate unit to only take up 8 sq. m. of floor space.

Also, PCS can scale to any required flow rate without needing to run parallel modular units. A PCS unit does not produce any harmful byproducts, and can operate equally effectively with regards to water temperature. Additionally, PCS can be easily modified on the fly to target other contaminants present in ballast water.

The system can be changed, remotely and "on the fly" to target different contaminants. Can you explain further?

Fahs We are designing the PCS unit to be tunable. Each contaminate, from an unwanted organism to a volatile organic compound like ammonia, has a specific set of circumstances required to selectively remove it from the environment. By inputting a change to the software, the PCS unit can adjust its operating parameters to target the chemical makeup of each different contaminant.

What is the status of this system today as it applies to shipboard BWT?

Fahs The technology has been verified independently at UConn and MIT. We are in the process of building a small scale prototype in partnership with NASA through their Space Alliance Technology Outreach Program. The SATOP agreement will also provide us with design drawings for larger flow rates. Additionally, we have identified a manufacturer who we believe can work with us to build a high-quality, cost-effective unit. We are currently looking for an investment or a partner in the maritime industry to commercialize the PCS technology.

There are many established systems on the market already. What is the strategy: compete or cooperate?

Fahs We see ourselves as a supplier of a disinfection solution to other ballast water treatment manufacturers. We believe we have a solution to the limitations of the currently available disinfection methods in the market, and we look forward to forming partnerships with other companies to make it available. We see cooperation is a key part of our strategy. Contact us through our website at:

www.fahs-stagemyer.com

SiCURE BWMS

Addressing Safety Issues

By Vadim Zolotarsky

The SiCURE Ballast Water Management System (BMWS) developed by Siemens Water Technologies uses electrolysis to produce sodium hypochlorite from the seawater it is treating. The system uses the same principles and core components as the Chloropac system that prevents bio-fouling in cooling water circuits on thousands of oil platforms and ships around the world. Any ballast water management system must comply with International treatment standards and be safe to the ship, crew, passengers, and the environment.

One of the main factors that determines the lifetime of marine vessels is corrosion, the effect of which is a reasonable concern as the sodium hypochlorite produced during ballast water treatment is often perceived as being possibly corrosive to the ship's ballast tank structural materials and coatings. Therefore, while the selected hypochlorite dosing levels should meet IMO D2 regulation standards, they should also minimize the hypochlorite residual in ballast tanks to prevent possible corrosion issues. Both of these concerns are assuaged by the SiCURE BWMS' design and control logic.

The Siemens system's design requires that all ballast water treated pass through an automatic back-flush filter with a 40µm screen specifically designed for ballast water treatment. This step removes a large share of marine organisms and sediments, thus minimizing the demand for disinfectant required for treatment. Filtered water is then treated with sodium hypochlorite generated on-board electrolytically using a small side-stream (about one percent of the ballast water flow) and a stand-alone electrochlorination system.

Furthermore, the patent-pending oxidation-reduction potential (a.k.a. redox or ORP)-based control logic of the SiCURE BWMS assures that only the amount of hypochlorite necessary for effective treatment is produced and injected into the ballast water main. The variable, dose-on-demand treatment is capped at 6 mg/L (ppm).

Figure 1: The SiCURE Ballast Water Management System can be supplied pre-assembled for new constructions or as separate components for retrofitting.

CORROSION STUDY: CONSTRUCTION MATERIALS AND TANK COATINGS

In 2010, Siemens conducted a six-month long corrosion test program to evaluate the impact of hypochlorite in general and of treatment with a SiCURE BWMS in particular on shipbuilding materials and coating. This program was carried out at Pasir Ris in Singapore using flow-through setup and test conditions specified in the GESAMP/MEPC guidelines. The study was supervised by Germanischer Lloyd from its inception to completion. The impact of untreated seawater and seawater treated with hypochlorite to 6 mg/L residual level were benchmarked for various alloys (uncoated shipbuilding steel, stainless steel, copper and nickel alloys), gasket and valve seal materials (EPDM, PTFE), and International Paint's Intershield 300 epoxy-based tank coatings. The study looked at general pitting and crevice corrosion for uncoated alloys, stability of gasket materials and blistering and adhesion of the coated samples. A short-term electrochemical study was also carried out to measure free corrosion potential of various alloys at different redox potentials of treated water. It also included potentiodynamic polarization of various samples to determine their stability against localized corrosion.

Figure 2: Corrosion test setup located at PUB Variable Salinity Plant at Pasir Ris, Singapore.

Results showed that the use of hypochlorite for treating ballast water may indeed result in increased corrosion rates for uncoated carbon steel (0.11 mm/year) compared to untreated seawater (0.07 mm/year). It was also shown that the effect of treated ballast water on other metals like stainless steel, brass and cupro-nickel is very low (< 0.01 mm/year) while gasket and seal materials were not affected by the treatment. Interestingly, results showed that crevice corrosion of stainless steel in seawater can be even reduced in the presence of hypochlorite. Results of testing the Intershield 300 coating in treated seawater showed no effect on ballast water coatings at hypochlorite concentrations used by the SiCURE system. Importantly, the study showed that concentration of hypochlorite at about or below 1 mg/L had little or sometimes even a positive effect on anti-corrosion stability of carbon and stainless steel. Stability was reduced at greater hypochlorite concentrations.

As the SiCURE system's design and dose-on-demand control logic ensures that the minimum required amount of active substance is being used during treatment, typically the concentration of hypochlorite in the ballast tanks drops to about or below 1 mg/L within the first 24 hours after treatment. Therefore, the corrosion study confirmed that a treatment of ballast water with SiCURE BWMS should not have any corrosion impact on ships' ballast water system construction materials.

About the Author

Vadim Zolotarsky is a technical manager for the industrial segment at Siemens Water Technologies Corp. Based in Union, N.J., USA, Vadim can be reached at:

Tel:
1-908-851-6957
Email:
vadim.zolotarsky@siemens.com

ABB Power2 Completes Type Testing

Classification society representatives in the control room during the type test run of ABB Turbocharging's Power2 two stage turbocharger system at the company Technical Center in Baden, Switzerland.

ABB Turbocharging celebrated a milestone in its two stage turbocharging systems. Having equipped the first gas engine to enter commercial service with "Power2" two stage turbocharging equipment, ABB Turbocharging has now carried out Type Testing on a Power2 system in the presence of the Classification Societies on a hot gas test rig at its Technical Center in Baden, Switzerland. In this way, Power2 has passed a major milestone on its way to gaining Type Approval for use on 4-stroke, medium speed marine diesel engines.

The Type Test of Power2 took place in early March 2011. It consisted of running a two stage turbocharging system consisting of a high and low pressure turbocharger connected in tandem on the hot gas test rig for one hour at its maximum operating speed and maximum operating temperature. Subsequently the turbochargers were dismantled and their components inspected. The tests and component inspection were witnessed by representatives from LR, GL, ABS, BV, RINA, DNV, NK and others.

www.abb.com/turbocharging

NMD for Australian Destroyers

Hatteland Display announce that its 20.1 inch NMD, full naval display, has been selected,for the C4 environment aboard the new Hobart Class Air Warfare Destroyers.

The Air Warfare Destroyer (AWD) project, also known as SEA 4000, will provide the Royal Australian Navy (RAN) with three technologically advanced air warfare destroyers.

www.hatteland-display.com

MarineFAST Sewage Treatment System

The MarineFAST sewage treatment systems, commonly referred to as a Type II (two) MSD biological (aerobic digestion) treatment system, meets the needs of commercial and leisure vessels. Available in flows of 200-1500 GPD (800-5700 LPD), MarineFAST M- & MX-Series are ideal where access can be limited. MarineFAST self-regulates, handling surges, overloads and light loads without problems. Each MarineFAST unit is certified by US Coast Guard under U.S. and IMO regulations.

www.sciencofast.com

Shipping Can Do 'Clean-Tech' Too

Lloyd's List ran the headline in December 2010, "Brussels report says maritime emissions could be as high as 5%".

'Emissions' refers to carbon dioxide or CO2, and the 5% figure referred to shipping's share of global emissions. According to the European Commission report, the scale of shipping's CO2 emissions were comparable with those of Germany, confounding the widely-held perception that the contribution was around 3.3%, or just over 1 billion tons of CO2 per annum.

The article was not intended to be alarmist but rather to illustrate the dilemma facing shipping and its stakeholders - that the failure to self-regulate was catching the attention of the outside world. Complex and misunderstood as this industry can be, the outside world demanded clear information on shipping's impact on global warming, as well as transparency over what could be done to reduce it.

To outsiders, the fact that there is still conjecture over shipping's contribution does not favour the industry in international negotiations. As one commentator at the UNFCCC summit in December 2010 observed, 'there's no point in dieting if you don't know your weight and your scales don't work.'

The International Maritime Organisation (IMO) Greenhouse Gas Study 2009, widely referenced in The Guide, contains a tremendous amount of excellent work on both market-based measures and technical regulations for emissions reduction, and raises some concerns over the definition of shipping's CO2 contribution to climate change.

The confidence in the data used to calculate fuel consumption and therefore CO2 emissions was described in the study as "moderate" when calculating "Average main engine operating days", "Average main engine load", "Average off-hire / lay-up, "Distance calculations from AIS observations", and "Vessel speed design".

FUEL CONSUMPTION

As a result, the IMO Study suggests its main engine fuel consumption data is "about 20% higher and lower than the central consensus estimate; these bounds do not represent the full range of possible calculations under uncertain inputs, but the range that is best supported by the available data."

Much of the supporting data for the GHG Study's CO2 calculations came from bunker delivery receipts, which are not always reliable, and it is perhaps unsurprising that new studies, such as the EC Report referenced by Lloyd's List, have since been commissioned.

Emissions monitoring is widely available for all other transport industries and highly regulated, especially in developed nations. Major shipping lines such as Maersk Line have collected and published CO2 data. Shipping could go a long way to negating some of the perceived criticism it receives by instigating tough emissions monitoring measures and providing accurate data on its contribution to climate change.

Eventually, it will. There is a convincing argument, pioneered by Maersk Line and a few other companies, that suggests having an 'open book' on emissions makes business sense; or, at least, that will do over the course of a vessel's life.

Real-world emissions data would immediately benefit the many technology companies listed in the inaugural Fathom Guide, as well as those innovative shipping companies that have installed technologies.

To continue the weight loss analogy, understanding the savings in terms of fuel and CO2 makes all the implementation worthwhile!

SAVINGS AND CO2 COUNT

In 2011, there are technologies already on the market that can save 15% on a ship owner or operator's bunker fuel bill. For a Very Large Crude Carrier (VLCC), that fuel saving can equate to millions of dollars in reduced fuel costs.

The IMO GHG Study 2009 states: "A significant potential for reduction of GHG through technical and operational measures has been identified. Together, if implemented, these measures could increase e ciency and reduce the emissions rate by 25% to 75% below the current levels. Many of these measures appear to be cost-e ective."

Det Norske Veritas (DNV) stated in its 2009 report, "Pathways to low carbon shipping – abatement potential towards 2030", that there was a maximum CO2 reduction potential of 15% in the existing fleet, at cost-effective implementation levels. "This can be achieved by modest technical modifications to existing ships, but mainly through improved operational practices. All of the technical and operational means introduced in this study are available and proven today."

Reading through the Fathom Guide to Ship Efficiency Technologies and Measures, it is evident that despite the efficiency gains each technology or measure is capable of, when they are applied collectively, there are – in most cases – synergies and sufficient compatibility to secure significant combined efficiency savings.

The Guide therefore indicates that DNV's 15% potential emissions savings in the existing fleet may in fact be an under-estimate, even allowing for the differences in compatibility and adaptability of different vessel types, which this Guide notes. There is no point prescribing an aspirin for tuberculosis after all - no two ships are the same - and neither are the technologies and measures that each needs. Shipping has a robust record when it comes to efficiency; it is after all, the most efficient transport sector. Nevertheless, much more can be done to improve that efficiency.

The Guide shows that the sector is blessed with an array of potential gains that would be the envy of most other industries - 10%, 15% and 20% fuel reductions can favourably be compared against other transport modes that measure fuel efficiency in portions of 0.1% or less. These are significant and mostly profitable savings that both the vessel charterer and consumer could be benefiting from in dollars and cents. Not to mention the benefits our children and the planet they will inherit could benefit from.

An industry with such a proud history can now conclude, as this Guide reveals for the first time, that it is an innovative sector, and – despite continued debate and some filibustering at IMO, the United Nations and the European Union – it has almost surreptitiously found itself blessed with an active and innovative clean technology market - driven not by regulators in Brussels, London or Washington DC, but by market forces.

ABOUT FATHOM:

Using its deep industry understanding and applying rigorous analytical processes to the latest market, company and regulatory information, Fathom creates detailed insight and intelligence on the key challenges that are redefining every facet of operations within marine and energy.

This intellectual capital gives companies the knowledge and understanding they need to seize the opportunities of increasing operational and environmental performance as well as enterprise value and profitability.

http://www.fathomshipping.com

MariNox Emissions Monitoring

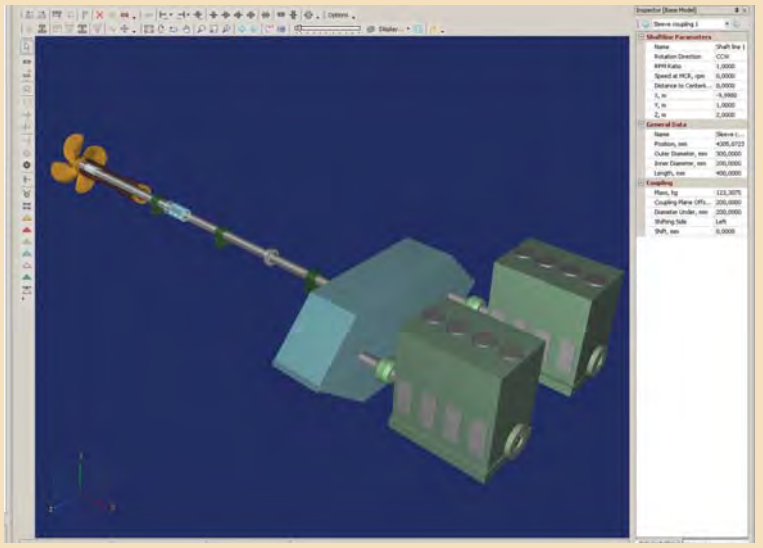
MariNOx Evolution is the latest version of the MariNOx diesel engine emissions monitoring system from Martek Marine. MariNOx Evolution includes a number of new features designed to enhance efficiency.

The installation and running of the new system has been refined by the incorporation of a single, daisy-chain sample line design, replacing the previous arrangement which required several separate sample lines. Reducing the number of sample lines, and cutting the amount of cabling onboard, will take a significant amount of time and money out of the onboard installation process. Furthermore the amount of power needed to heat the sample lines has also been reduced by having the single sample line configuration.

www.martek-marine.com

STX Finland orders ShaftDesigner Software

STX Finland Oy purchased SKF Machine Support's ShaftDesigner software for the STX Finland yards in Turku and Rauma. Previously, the yard bought alignment and vibration calculations analyses from other contracting parties, but decided that it wanted to perform these calculations in-house. In ShaftDesigner the investigators found a software tool that is capable of calculating shaft line alignment as well as all types of vibration. The software also takes into account the entire shaft line and components. The new Ice Impact feature from the Torsional Vibration module was also interesting for STX, as it will be used it for calculations for a Polar Supply and Research Vessel which is now under design and is planned for delivery in 2012.

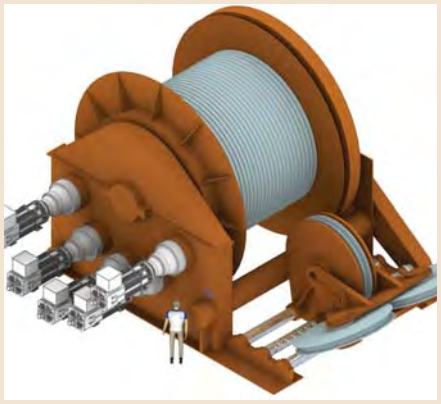


ShaftDesigner Double Engine Installation.tif

Training is also included in the order from STX. The team that will make the calculations will get a training in Finland to be able to use the software efficiently and to be able to properly analyze the results. In a second training session the ShaftDesigner Reverse Engineering module can be handled. A part of this training will be given on board to show how to take measurements and to insert the data in ShaftDesigner to be able to compare the theory with the actual situation on board. This order is an extension of the existing cooperation between the global present STX Business Group companies and SKF Machine Support. STX companies in Brazil, Korea, Norway, Romania and Vietnam are using SKF Machine Support's Vibracon adjustable steel chocks. SKF Machine Support delivers complete Vibracon mounting kits that, besides Vibracon®chocks, include a complete set of components which allow accurate and fast installation of propulsion units and auxiliary equipment.

www.shaftdesigner.com

New A&R Winches from Markey



Markey Machinery introduced a new line of Abandonment and Recovery (A&R) winches which the manufacturer says are more cost effective in operation and maintenance requirements, thus making them ideal for oil field services such as maintenance, repair, and decommissioning. Markey's type DEPS-76AR is a single drum, direct-pull type winch with level wind designed to work 3,300m of 4.75-in. (120mm) diameter wire rope. Redundant vector-motors developing 1,750 hp (1,310 kW) turn the drum through an induction hardened helical transmission.

AC-variable frequency drives produce retrieval speeds of 32 m/min. and enabling torque control down to zero speed. Markey's automatic Render/Recover controls is designed to tame peak loads while pulling in 450Tm- over cable weight.

The form of the DEPS is single drum-direct pull style of winch. Traction heads, alternatively, require multiple sheaves to produce the same pulling force. Bending wire ropes produces uneven strand loading and internal friction leading to accelerated wear of expensive cables. The DEPS-76 is designed to maximize the working life of ropes.

Service providers that couple properly engineered machinery with sound maintenance practices enhance on-site productivity realizing greater margins on each project. Markey engineers design with a 34:1 D:d ratio — substantially larger and easier on the wire rope than the 20:1 D:d ratio of traction winch systems.

The automatic fairleader withstands the breaking force of 4.75-in. (120mm) diameter wire. To make the machine more versatile, Markey's engineers designed a field bolt-on wire rope kit to adapt DEPS-76 grooved drum cores and sheaves to different wire diameters- if needed.

www.markeymachinery.com

Interline 9001: New Coatings Tech for Chemical Tankers

International Paint introduced Interline 9001, a new Bimodal Epoxy coating for the cargo tanks of chemical tankers. With enhanced cargo resistance, zero absorption for many cargoes and fewer cycling restrictions, Interline9001 simplifies the carriage of a wide range of liquid cargoes, optimizing vessel earning potential. Modern chemical tankers of IMO Ship type I, II and III are designed and equipped to handle a very wide range of liquid cargoes ranging from relatively innocuous materials such as vegetable oils to more aggressive types such as ethylene dichloride and caustic soda. Most vessels will have coated mild steel tanks, stainless steel tanks or a combination of both. Interline 9001 is designed to deliver greater efficiency and flexibility in the operation of chemical tankers, easily switching from one cargo to the next with minimal downtime. It can carry all of the cargoes standard epoxy phenolic technology can, plus a further 25% of the large volume cargoes that it cannot and has over 60% fewer cycling restrictions. The technology opens up new (previously restricted) cargo sequences for the carriage of aggressive cargoes, for example, methanol to fatty acids to ethylene dichloride back to back, with no coating recovery required.

www.international-marine.com

Van der Velden Marine

The Oceangoing vessels division of Van der Velden Marine Systems will feature its latest developments at NorShipping 2011, including the Barke rudder and the Van der Velden Commander Rotary vane steering gear. The advanced sealing technology of the Van der Velden Commander Rotary vane steering gear prevents internal leakage and offers a greatly extended seal life.

www.vandervelden-marinesystems.com

MTN Worldwide TV

MTN Worldwide TV is the world's first fully-digital, fully licensed, multi-channel television service for the maritime industry, delivering programming and special events from major international television networks including BBC World News and CNBC. Currently available in more than 42,000 cabins aboard 51 ships, the service seamlessly integrates with a ship's existing TVRO antenna and onboard video distribution system to simplify installations.

www.mtnsat.com

Shockwave Suspension Seating Solutions

ICE-2 is shock mitigation technology, providing a compact, lightweight, multi axis, collaborative control environment, shock mitigating solution. The ICE-2 can be deck mounted in place of a traditional center console or for larger vessels it can be mounted inside the cockpit. Multi Axis suspension is deemed more effective at dampening shock and vibration compared to single axis suspension, according to the company, because it reduces the amount of side to side and fore and aft pitching. Providing lots of storage and integrating the equipment into the suspension package protects the equipment and personal gear from shock and vibration damage. The ICE-2 is a customizable welded aluminum construction that can be altered to suit the needs of our clients and can be equipped with a soft or hard top. Currently up to six seats can be added to this chassis with addition of a row or rear mounted Jump Seats.

www.shockwaveseats.com

Livorsi Navigation Lights

Compact and powerful with a sleek contemporary design, these lights are constructed of 316 marine grade stainless steel. Livorsi nav lights consume 1/10th of an amp at 14 volts. These lights are to be used on any vessel up to 65 ft. and have a visibility of two nautical miles. Designed to be flush mounted onto a vertical surface to allow the light pattern to be unobstructed from view. Port or starboard lights are available for 12 or 24 volt system. ABYC & USCG certified and NMMA accepted. Optional adapter plate available for White Industries & TH lights. Measures 3.25 x 1.75 x .875-in.

www.livorsi.com

Coxreel's New Diesel Exhaust Fluid Hose Reels

Coxreels introduces a complete line of Diesel Exhaust Fluid (DEF) hose reels built on the industry proven, all-steel construction SH and T Series of reels. These reels are equipped with a stainless steel external full-flow swivel and chemical resistant Viton seals to provide a safe, reliable DEF dispensing solution. The swivel is easy to access for simple seal maintenance and fast DEF dispenser hose installation. Coxreels provides professional reeling systems in heavy-duty single pedestal (SH Series) or supreme-duty dual pedestal (T Series) configurations that handle DEF hoses up to 75 ft. of ¾-in. and up to 50 ft. of 1-in. hose I.D. Both designs are outfitted with Super Hub dual axle support systems.

www.coxreels.com
Email: info@coxreels.com

MM Series Pressure Transducers

Omegadyne announces the most durable version of its MM Series micro-machined silicon pressure transducers. The new hermetically sealed version of the MM Series features all welded Stainless Steel construction, 316 wetted parts and glass to metal seals (GMS) at the electrical outlets. The sealed MMA500V Series has a micro machined silicon core that provides high accuracy, low drift and long term stability in the harshest environments. Ranges from 100 psi to 5000 psi, accuracies from 0.08% to 0.03% and a variety of pressure and electrical connections make this MMA500V Series Transducer extremely versatile.

Email: Info@omegadyne.com

Fluid Film

Penetrating existing rust, Fluid Film adheres and absorbs into metal pores, sealing out corrosion and spreading to remain flexible, self-healing and highly resistant to salt-water. Because Fluid Film remains soft it compensates for heat expansion and will not dry or crack like traditional hard-coatings, providing excellent, long-term protection for a fraction of the cost. Fluid Film has been used for over 60 years around the world in ships, barges, drydocks, offshore drill-rigs, chain lockers, inside rudders, wire rope cables, etc. Fluid Film requires less surface preparation and covers in a single coat, offering ease of application and less labor costs. Fluid Film is a non-toxic, non-irritating, non-flammable coating

www.fluid-film.com

SAM Electronics

SAM Electronics and associate L-3 companies, L-3 Valmarine, Lyngsø Marine and APSS will feature latest joint developments for ships of all types and sizes at Norshipping 2011. Key exhibits include an all-purpose new-generation NACOS and Valmatic Platinum control system combining navigation and automation functions, a LAN-based network assembly with standardized hardware and software providing increased scalability, simplified installation and operation.

www.sam-electronics.de

PropExpert 2011

HydroComp PropExpert is a software tool for the sizing and analysis of propellers for workboats and pleasure craft. It provides the tools needed for the proper selection of propulsion system components — engine, gear and propeller — and has been selected as the principal propeller sizing tool of many of the best known manufacturers and distributors of marine engines and propellers.

www.hydrocompinc.com

FLAGSHIP-iCAS:

Optimum Situation-Awareness In An Emergency

FLAGSHIP, the Pan-European maritime transport project part funded by the EU, has developed software that enables comprehensive suppression of audible warnings in order to avoid large cascades of alarms on the bridge and in the engine room. Called iCAS (intelligent Central Alarm System), the system is designed to provide a precise overview of the situation on board as it develops while freeing up staff to address the situation and follow the vessel's routines without disturbance.

This element of the FLAGSHIP project included both a theoretical analysis and a practical exercise in the development of a new integrated alarm system complete with display. Proven methodology from the offshore industry was used to create an alarm shelving and grouping function. The resulting system was used in a simulation of a real incident on an LNG tanker, where a full blackout generated many thousand alarms over a few minutes and more thousands during the next few days. The system focuses on alarm grouping in order to give overview and criticality and also use temporary shelving of spurious alarms to allow much reduced disturbance and more focussed operations on board. Tests were made with experienced bridge officers and the system was very well received.

Geir Hasnes, Principal Engineer at Kongsberg Maritime AS, said: "In addition to introducing the grouping and shelving capability, we have created a central alarm screen which delivers an instant overview and situation summary. The noise reduction in critical situations is almost unbelievable. We are confident that the concept will be integrated into standard products over the coming years.

"A full demonstration bridge with a simulator incorporating the iCAS system has been built at the Kongsberg Maritime AS facility in Norway so that ship owners can see the system operating in lifelike conditions. Responses have been very positive so far." Tage Thorsen of Teekay Shipping said: "We had an initial demonstration of the system in our office and the group that joined the demonstration were astonished by the "silent" bridge concept. We look forward seeing the system demonstrated on the bridge simulator at Kongsberg Maritime AS."

Herman de Meester, Coordinator of Flagship, commented: "FLAGSHIP has pursued the twin objectives of reducing still further both risk and the environmental impact of the world's commercial fleet whilst generating the opportunity for real commercial benefits. FLAGSHIP-iCAS is a further example of the maritime industry collaborating to improve performance and efficiency in everyone's best interest"

The FLAGSHIP– iCAS project was led by Kongsberg Maritime AS in Norway and was supported, delivered and trialled in conjunction with MARINTEK, Teekay and Autronica also of Norway, and ASME and Minoan of Greece.

ABB: Dual Rating Configuration for A100-L

ABB Turbocharging's concept for dual engine ratings involves varying the numbers of turbochargers in the engine's exhaust gas stream and fine tuning using only a bypass valve.

ABB Turbocharging reported two achievements with turbochargers from the A100 family. The first is a new efficiency record. In final testing of the A190-L turbocharger for two - stroke low speed diesels, ABB technicians measured peak efficiency at 75.8%. In the second A100 landmark, ABB Turbocharging's application engineers have devised a new A100-L turbocharger configuration for slow speed engines which facilitates rapid conversion from a higher power output matched to a ship's normal cruising speed to a lower rating matched to a slower fuel saving speed – i.e. "slow steaming". The concept developed by ABB Turbocharging is devised to meet the "dual rating" engine specifications of a series of 10 containership newbuildings contracted by NOL. It takes advantage of the very wide compressor maps of the A100-turbocharger to achieve this aim by varying the number of turbochargers in the engines' exhaust gas stream rather than by fitting new turbochargers, modifying the internal components of existing turbochargers or using techniques like variable turbine geometry to vary turbocharger air delivery characteristics. In detail, the ABB system adopted for the new container ships is designed to allow the ten, 12 cylinder 98 cm. bore low speed two-stroke diesel to achieve ratings of just over 72 MW at 104 rpm or just over 54 MW x 97 rpm. The solution comprises four A190-L turbochargers, one of which can be cut-off from the exhaust gas stream. This is achieved either via a motorized valve or a simple blanking plate. In spite of the reduced level of energy in the engine exhaust gases due to the lower engine power rating, the A190-L's wide compressor maps allow the three turbochargers still in the exhaust gas flow to efficiently produce charge air at the pressures and volumes needed for the lower engine slow steaming rating.

www.abb.com/turbocharging

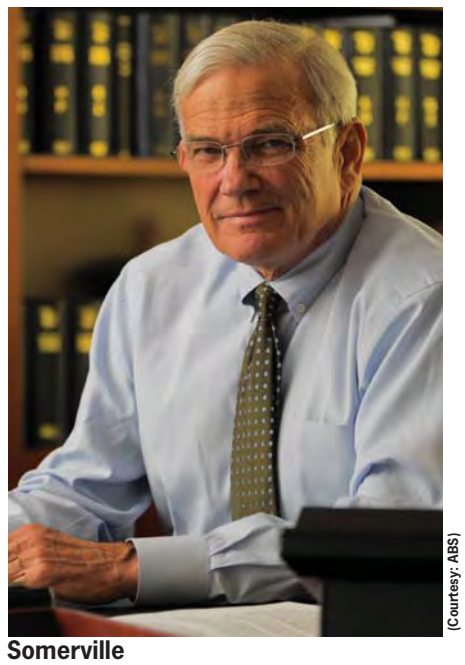
New President of STX Finland

Juha Heikinheimo resigned from the position as President of STX Finland Oy. He will be replaced by Su-Jou Kim, who currently holds the position as Chairman of STX Finland. Su-Jou Kim will be temporary acting President of STX Finland. Despite significant improvements during the last few months, STX Finland is going through very challenging times - in particular at the Turku shipyard - following the delivery of the "Allure of the Seas" in October 2010. Compared with its high shipbuilding capacity for cruise ships, STX Finland and the Turku shipyard have not been successful in getting new orders. The main task for the new President will therefore be to secure new orders and gradually restore the activity level of STX Finland. Mr. Kim will be supported by a committed and experienced management team in these efforts. In the last few months STX Finland has seen significant improvements to its productivity and cost structure. These efforts will be accelerated and further strengthened to improve the competitiveness of STX Finland.

The new President of STX Finland says: "My objective is that STX Finland shall again be in a position to build and deliver the world's most magnificent cruise vessels — and exceed the clients' expectations when it comes to quality, innovation, reliability and deliverability." Su-Jou Kim, 55, has gained significant experience from STX Finland and STX Europe during the last few years. He currently also holds the position as CEO of STX Europe AS (parent company of STX Finland) and Chairman of STX Finland Oy.

ABS Reports Strong Growth

The American Bureau of Shipping (ABS) achieved another record performance in fleet size during 2010, reported Chairman Robert D. Somerville (pictured) at ABS' annual meeting. An eight percent increase in gross tonnage from year-end 2009 resulted in the ABS-fleet reaching a new record of 173m gross tons (gt) representing 11,191 vessels. Somerville said that ABS is in a strong position with regards to the world orderbook, holding more than 20 percent of the newbuild market. Attractive shipyard pricing led to a surprisingly robust flow of new orders to ABS class during the year, particularly for bulk carriers. There was also a resurgence of interest in newbuilds by container operators based on projections of trade growth. ABS continued to build on its position as the preferred class society for mobil offshore drilling units (MODUs). In just the last few months of 2010, ABS received contracts for 43 MODUs, including options. ABS also retained its leading position in the production sector which includes floating production, storage and offloading (FPSO) units; floating, storage and offloading (FSO) units; semisubmersibles, tension leg platforms (TLPs); and spars. Looking to the future, Somerville has expanded the role of current President Christopher J. Wiernicki to include CEO for the society. Wiernicki will direct the overall management of the class society's operations while Somerville remains Chairman of both ABS and the ABS Group of Companies continuing to chart the strategic direction for both organizations.



(Courtesy: ABS)

Somerville

Cianbro CEO to Address Maine Maritime Commencement

(Photo courtesy the Cianbro Companies)

Peter G. Vigue, chairman and CEO of The Cianbro Companies, addressed the graduating class at Maine Maritime Academy's (MMA) 68th Commencement on April 30, 2011. Vigue, a 1969 graduate of Maine Maritime Academy, received an honorary doctorate from the college. The college's class of 2011 includes 6 associate in science, 203 bachelor of science, and 14 master of science degree candidates. An additional 43 associate in science degree candidates from the college's educational program with Bath Iron Works, Bath, Maine, will participate in commencement exercises.

Bollinger Appoints Bowen to Head Patrol Boat Program

Bollinger Shipyards appointed Charles "Skip" Bowen as Program Manager for the FRC "Sentinel" Class Patrol Boat building program at Bollinger's Lockport facility. Bowen joins Bollinger following a 32 year career with the U.S. Coast Guard, culminating with the rank of Master Chief Petty Officer of the Coast Guard, from 2006 to 2010.

Tidewater Promotes Three

Tidewater Inc. promoted Nelson Greer, Mark Handin and Darren Vorst to Vice Presidents of Tidewater companies, effective April 1, 2011. Greer joined Tidewater in 1982, after completing 13 years in the British Merchant Marine. He completed the Harvard Business School General Management Program in 2006, and holds a Chief Engineer Unlimited Class 1 Engineering License. Handin joined Tidewater in 1996, after having earned his B.A. in Economics from Boston University in 1991 and his Master of Business Administration from the University of Texas at Austin in 1996. Vorst earned his Bachelors of Business Administration from Texas A&M University in 1987, and worked for six years at Price Waterhouse in Houston, including his final role as Audit Manager. He joined Tidewater as Treasurer in January 2009, following 14 years in various senior financial positions with offshore drillers Transocean ('93 to '02) and TODCO ('03 to '07).

Mustamäki New MD at ARCTECH Helsinki Shipyard Oy

ARCTECH Helsinki Shipyard Oy, is a joint venture established in December 2010 between STX Finland Oy and United Shipbuilding Corporation. Esko Mustamäki has been appointed as the company's managing director. He has previously been working as the CEO of Finstaship and FG-Shipping Oy (part of Finnlines Group). Mustamäki starts at his position immediately. ARCTECH Helsinki Shipyard will focus on arctic maritime technology and building highly specialized vessels such as icebreakers and other icebreaking special vessels, and it will combine the Russian and Finnish Maritime clusters. The company is currently working on two multifunctional icebreaking supply vessels that are ordered by Sovcomflot, to be delivered during spring 2013.

Eastern in Brazil PSV Deal

U.S. Maritime Administrator David Matsuda announced a $241m loan guarantee that will allow the Eastern Shipbuilding Group of Panama City, FL, to build five platform supply vessels (PSVs) for export to Brazil, to provide service in new deepwater oil fields there. "This project means good jobs for Panama City today and a stronger economic future for our country," said U.S. Transportation Secretary Ray LaHood. Eastern Shipbuilding Group has built eight PSVs since 2003, with three more under construction. The vessels, built for Boldini S.A. of Rio de Janeiro, are estimated to result in 300 new local jobs over the next three-and-a-half years. Demand for supply vessels for the Brazilian offshore drilling market has increased substantially. The supply ships will transport workers, supplies, parts and chemicals to offshore oil rigs.

Rigdon Joins Terresolve Board

Terresolve Technologies, Ltd. announced that Larry Rigdon, founder and former CEO of the Rigdon Marine Cor-

poration, has joined the company's board of directors. Rigdon, a former executive vice president of Tidewater, Inc., also sits on the board of the National Ocean Industries Association. Rigdon founded the Houston-based Rigdon Marine Corporation in 2002 and served as its CEO and Chairman until retiring in 2008.

L-3 Maritime Systems Wins LCS Contract

L-3 Maritime Systems won a contract from General Dynamics Advanced Information Systems to supply its Seaframe Control System for the next Independence variant Littoral Combat Ship (LCS). The contract is for the first ship and includes options for an additional 14 ships. L-3 Maritime Systems' Seaframe Control System will provide advanced automation and control of the ship's propulsion, electrical, ventilation and other machinery systems. The system's automation capabilities successfully achieve the reduced manning requirements mandated for the U.S. Navy's newest class of surface ship combatants. "We are pleased to deliver affordable, open architecture solutions to the U.S. Navy for this program, and look forward to working with General Dynamics and its prime contractor, Austal, to provide the Navy with these extremely capable ships," said Don Roussinos, president of L-3 Maritime Systems. L-3 Maritime Systems, a division of L-3 Marine & Power Systems, is a leading supplier of marine systems and electronics, including integrated bridge, navigation, communications, control and sensing systems for the U.S. Navy, the Military Sealift Command, the U.S. Coast Guard and allied navies.

www.L-3com.com/MPS

Mid Ocean Tanker, BAE Sign Deal to Launch Tanker

Mid Ocean Tanker Company, a joint venture of private equity firm Alterna Capital Partners and Mid Ocean Marine, has contracted with BAE Systems Southeast Shipyards in Mobile, Ala., for work required to launch MOTC's 49,000dwt US Flag/Jones Act product-chemical tanker MV American Phoenix. MOTC acquired the vessel from the estate of American Heavy Lift in February of this year, and intends to complete it for service in US coastwise trade by late 2011 or early 2012.

MOTC has worked with BAE Systems Southeast Shipyards, which was acquired by BAE Systems from Atlantic Marine in July 2010, to develop a work scope and schedule. Nickel Van Reesema, a founder and principal of Mid Ocean Marine, announced the agreement with BAE Systems, stating, "The BAE Systems team has done a terrific job of working with us through the many details necessary to get a project like this completed. We have every confidence that our team will continue to work as partners with the pros at BAE Systems in making this a great success."

NOL Group Succession Plan: Ng Yat Chung to replace Widdows in 2012

NOL Group announced its executive succession plan to appoint Mr. Ng Yat Chung the next Group President and Chief Executive Officer. Mr. Ng will take over from Mr. Ron Widdows, who will retire from his present post at the end of this year and remain as a Senior Adviser to the Company. Mr. Ng spent 28 years in key leadership roles in Singapore's Armed Forces (SAF). Prior to assuming his present role as a senior executive with Temasek Holdings, he was Chief of Defence Force from 2003 to 2007, where he had been instrumental in transforming the SAF as a networked, knowledge-based force and driving close integration between the Army, Navy and Airforce. A graduate from Cambridge with an MBA from Stanford, he most recently headed Temasek's Energy & Resources portfolio and was co-head of Australia & New Zealand and co-head of Strategy.

Widdows, who has served the Company as Group CEO since 2008, said, "I've devoted most of my professional life to this Company and am proud of the team that we have built up over the years and what we have achieved. I will work closely with Yat Chung in the transition period to ensure that NOL is strongly positioned for long-term success."

Arnold Tapped to Head Energy Investment Banking Arm of DR

Dahlman Rose & Co., appointed Rome Arnold as Managing Director and Head of Energy Investment Banking, effective immediately. Arnold has more than 26 years of experience as an investment banker serving the energy industry. Mr. Arnold, 55, has extensive experience as a lead advisor to energy industry companies in equity and debt offerings as well as corporate mergers and acquisitions. Over the course of his career, Mr. Arnold has led transactions that raised an aggregate of more than $7.5 billion for public and private energy companies.

L-3 G.A. Intl. Appoints Schwiering Sales Manager

L-3 G.A International (L-3 GAI) appointed John Schwiering as the sales manager of its Seattle, Wash. office. Schwiering was formerly a regional sales manager for Japan Radio Company and has over 20 years of experience in the maritime industry.

GE Energy to Acquire Converteam

GE entered into an agreement to acquire approximately 90 percent of Converteam, a provider of electrification and automation equipment and systems, from a controlling shareholder group that includes management, Barclays Private Equity and LBO France, for approximately $3.2b. The multi-sector energy efficiency, electrification and automation industry, in which Converteam participates, was valued at over $30b in 2010. Sales of fully electric solutions are expected to grow at 15 percent annually in compression applications within the global oil and gas industry. Electrification is a growing trend in the natural gas storage and pipeline transportation segments. In addition, fully electric solutions will grow in the global offshore exploration and production segment where spending has returned to 2008 pre-financial-crisis levels and is estimated at $490b in 2011 (up 11 percent versus 2010).

www.ge.com

DCOIT Approved for Antifouling

Dow Microbial Control, a business group of The Dow Chemical Company (Dow), said that after five years of evaluation, its active substance DCOIT (4,5-Dichloro-2-octyl-2H-isothiazol-3-one) has been recommended by the EM competent authority for approval and inclusion into the Annex I of the Biocidal Products Directive for Product Type 21: antifouling products. In the European Union, DCOIT has been supported by Dow Microbial Control under the Biocidal Products Directive 98/8/EC. In 2002, Dow Microbial Control notified DCOIT in Product Type 21 and by February 2006 a complete dossier was submitted for the evaluation to its designated Rapporteur Member State: Norway.

www.DowMicrobialControl.com

Marinette Wins Additional USCG RBM Contracts

Marinette Marine won an additional 10 Response Boat – Mediums (RB-Ms), and other Program management work, by the U.S. Coast Guard. With an approximate value of $21.8m, the new boats are part of a multi-year, Coast Guard contract requiring the construction and delivery of up to 250 RB-Ms at a total contract value of up to $600m. Delivery of the 10 boats is scheduled to begin in the fourth quarter of 2012. This brings the total number of boats under contract to 115 at the present time.

OW Bunker Launches in Brazil

OW Bunker launched a new operation in Brazil. The move is part of its continued strategy to develop its operations in South America following the recent commencement of physical operations in Panama and Uruguay.

Slow Steaming Brings Fuels, Lubes into Spotlight

As shipping companies increasingly employ slow steaming to help reduce costs and control emissions, the process and challenge of procuring marine lubricants has taken on greater complexity and significance, according to Total Lubmarine. The North American Emissions Control Area (ECA), effective from 2012, will impact 50% of maritime traffic, forcing ship owners and operators not typically operating in ECA's to begin use of lower basicity cylinder lubricants required for lower sulfur fuels. This increasing trend is likely to pose challenges for ship owners and operators when leaving ECA's, as lower base number (BN) lubricants are not best suited to operation with higher sulfur fuels permissible for use outside ECA boundaries. The use of lower basicity cylinder lubricants within ECA runs directly counter to the lubrication requirements for slow steaming or other conditions outside ECA's, which conversely require owners and operators to run specific lubricants. With rising bunker prices and growing charterer pressure to reduce costs, slow steaming looks set to stay. Most container vessels have cut cruising speeds from 22-25 knots to 18-20 knots, but in the case of extra slow steaming, to as low as 8-12 knots, which significantly increases stresses and strains on a two or four stroke marine engine. Total Lubmarine developed a solution to this two-fold challenge. Talusia Universal has been tested more extensively than any other lubricant on the market today, against both high and low levels of sulfur heavy fuel oil (HFO), and has been validated by customers using distillates and slow steaming.

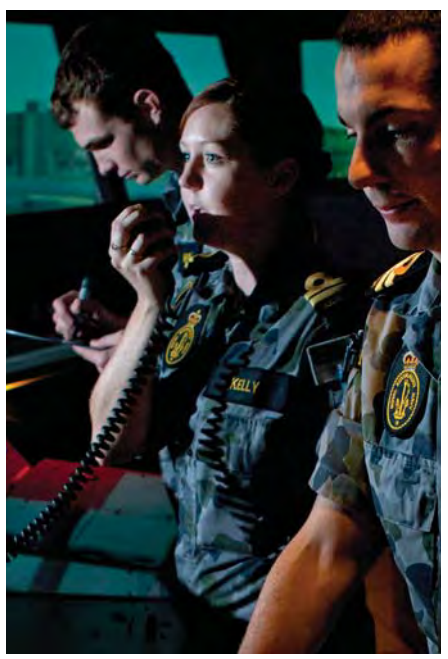
BV Guidance for Risk-Based Qualification of New Technology

Bureau Veritas issued guidelines for the Risk-Based Qualification of New Technology. Qualification is a process by which a new technology or an existing technology used in a new context is validated. The qualification process is intended to prove with an acceptable level of confidence and in a cost effective manner that a technology is fit for purpose, that it complies with the specifications that the designer developed and that it is sufficiently reliable and is safe for the people and the environment. "The pace of change in offshore energy is now so fast that industry is pushed to use new technologies to cope with new challenges and we can no longer only extrapolate from experience to check that things are going to be safe and effective," said Jean-Claude Astrugue, Offshore Equipment and Safety Technical Manager. "We need a new methodology that can assess new technologies quickly and safely. And it is most important that everyone involved understands the strengths and limitations of the assessments we can make, and how we do them. That is what these guidelines are about – how we make sure new ideas are safe while getting new systems and projects into service quickly."

The time frame and the costs are important parameters as it is often impossible to perform tests for the duration of the entire expected life of the product or system that uses a novel technology and the qualification has to be cost effective with regards to the expected results. The application of Risk Based Qualification of New Technology changes the standard processes of design review and inspection.

RAN Opens Kongsberg Training Facility in Sydney

The Royal Australian Navy (RAN) opened its upgraded ship's bridge simulator training facility at HMAS Watson in Sydney on March 25, 2011. Featuring a host of new full mission and desktop simulators from Kongsberg Maritime, the new facility will be used by RAN cadets to learn to pilot the next generation of warships, alongside a wide range of critical training applications, including anti-piracy. The contract for the HMAS Watson upgrade was awarded in January 2010, with several key requirements in addition to the short timescale to completion combining to create a challenging project; all systems had to be compatible with the existing simulator installation and scope of supply creep was not permitted. The HMAS Watson upgraded ship's bridge simulator system was delivered in two phases. It comprises two state-of-the-art full mission simulators, four part-task simulators, ten desktop systems, instructor and debrief stations and extensive visual systems, based on the latest iteration of Kongsberg Maritime's SeaView software. As an integrated system, the simulators will provide RAN with the capability to train cadets in scenarios ranging from simple tasks, such as passage planning, ocean passage and coastal navigation, to more complex tasks including pilotage, berthing and un-berthing, precise navigation and close quarter maneuvering when conducting warfare type exercises.



RAN cadets learn to pilot the next-generation of warships.

National SeaPerch Challenge Set for May

On May 24-25, the first-ever 2011 National SeaPerch Challenge, hosted by ONR, SNAME, ASNE and Drexel, and sponsored this year by the Naval Engineering Education Consortium (NEEC), will be held on the campus of Drexel University where 50 middle and high school student teams from school districts and after school clubs across the country will convene to match skills with their SeaPerch underwater robots in a series of challenging underwater competitions.

The SeaPerch program was designed for students to learn some of the principles of science and engineering by assembling, testing, operating and competing with their own remotely operated ROV's.

Because of ONR's commitment, the SeaPerch Program, which introduces middle and high school students to STEM (science, technology, engineering and mathematics) through underwater robotics, has grown exponentially, reaching over 26,000 students in four years! With over 2000 trained teachers and mentors participating as well, students are learning through hands-on activities and by following an established curriculum to discover the excitement of STEM as a potential future career path. The focus of the program is to introduce STEM to a diverse population, so participating in the National Challenge will be students who have been directly exposed to STEM through SeaPerch and are coming from all over the country - from inner city Baltimore to rural Mississippi to Native American reservations in Minnesota to Alaska and Hawaii.

This national event will provide an opportunity for the students to compete with their peers in a series of underwater challenges, and to present their designs and adaptations in a juried poster event. Later they will visit the Independent Seaport Museum (ISM) and attend the gala Awards Dinner there that evening. Prior to the Awards Dinner, the students will have the opportunity to take part in tours of the historic ships, USS OLYMPIA and the BECUNA (SS-319), and view the many exhibits at the ISM. The next day, students will attend the Intelligent Ship Symposium (ISS IX) sponsored by the Delaware Valley Section of ASNE.

The hosts of the Challenge encourage their members and the general public to visit the Challenge in Philadelphia on Tuesday, May 24, to find out what the SeaPerch program is all about and to cheer on the students competing for prizes. This will be a great opportunity for many to meet first-hand our next generation of scientists and engineers, to witness the students' enthusiasm and to share in the excitement of the pool and poster competitions. The Challenge is taking place at Drexel University's Daskalakis Athletic Center at 33rd and Market St. in Philadelphia. The day starts with opening ceremonies at 8:45 AM, immediately followed by the students' pool competition and the poster presentations.

The National Challenge is looking for judges. Should you be interested in participating as a judge on May 24, please visit the www.seaperch.org website, and for assistance in registering to be a judge, or for any questions about the event, please contact Phil Kimball at pkimball@seaperch.org or call 201-310-2607.

Susan Nelson, Executive Director of SeaPerch, summed it up by saying, "the first National SeaPerch Challenge is the fulfillment of ONR's vision to showcase future STEM talent on the national stage, and this particular event would not have been possible without the generosity of the NEEC grant. Experiencing in person the benefits of hands-on learning, innovation and competition and sharing the excitement and enthusiasm generated by these students is be proof positive of the resounding success of the ONR-funded SeaPerch Educational Outreach Program."

Ens. Natalya Aoki (left) discusses the SeaPerch underwater robot with Ens. Patrick Cooper and Prof. Angie Moran at the U.S. Naval Academy. The photo was taken when Aoki and Cooper were attending the academy are participating in an educational outreach program for young people in science, technology, engineering and math.

SeaPerch

Born @ MIT

SeaPerch is an underwater Remotely Operated Vehicle (ROV) assembled by students as part of a STEM (Science, Technical, Engineering, and Mathematics) curriculum. As student teams build the SeaPerch from kit components, they follow a build curriculum that teaches scientific and engineering concepts while encouraging students to work together in teams, and, most importantly promotes science and engineering as fun. Created by Harry Boehm and Vickie Jensen, authors of "How to Build an Underwater Robot," the SeaPerch ROV was created as hands-on build curriculum by the Massachusetts Institute of Technology (MIT) and was initially funded by the Navy's Office of Naval Research (ONR) through MIT as a teacher-training program. The program was introduced to teachers in New England and expanded to several other school districts outside of the immediate area.

The Navy's Office of Naval Research (ONR), through the National Naval Responsibility for Naval Engineering (NNRNE), providing an initial seed grant aimed at determining SeaPerch's potential to play a larger part in its Outreach efforts. This initial project was deemed successful, and ONR has continued to broaden its support of the SeaPerch program, which has now become their signature K-12 Outreach program.

The Society of Naval Architects and Marine Engineers (SNAME), a professional technical society with a strong history of commitment to education and scholarship in the maritime industry, was tapped by ONR to lead the SeaPerch effort and determine the program's viability for expansion to a national program.

The SNAME/ONR partnership began in the fall of 2007 with just over 700 students and 38 teachers trained. At the end of 2009, just two and a half years later, 6378 students and 257 teachers had participated in the program, doubling each year.

SNAME 2011

ANNUAL MEETING & EXPO

WHERE INDUSTRY & TECHNOLOGY MEET

2011 ANNUAL MEETING CALL FOR PAPERS

NOVEMBER 16 – 18, 2011, HOUSTON , TEXAS

PAPERS ARE WELCOME WHICH AIM TO ADVANCE THE ART, SCIENCE, AND PRACTICE OF:

- NAVAL ARCHITECTURE AND MARINE ENGINEERING
- SHIP CONSTRUCTION AND OPERATION
- OCEAN ENGINEERING
- OFFSHORE TECHNOLOGY
- AND OTHER MARINE-RELATED FIELDS

OTHER GENERAL AREAS OF INTEREST INCLUDE:

- ENVIRONMENTAL CONSIDERATIONS
- HUMAN FACTORS
- LIFECYCLE ENGINEERING
- MARINE ECONOMICS
- MATERIAL TECHNOLOGY
- PIPELINES AND RISERS
- REGULATORY ISSUES
- RENEWABLE OCEAN ENERGY
- SAFETY AND STABILITY
- STRUCTURES AND HYDRODYNAMICS
- SUBSEA TECHNOLOGY
- TRANSPORTATION SYSTEMS

SNAME ANNUAL MEETING & EXPO
EXTENDED ABSTRACTS DUE: MARCH 15, 2011
ABSTRACTS ACCEPTED: MARCH 16, 2011
SUBMIT TO: AM2011@SNAME.ORG

SHIP PRODUCTION SYMPOSIUM
EXTENDED ABSTRACTS DUE:MARCH 1, 2011
ABSTRACTS ACCEPTED: JUNE 1, 2011
SUBMIT TO: SPSPAPERS@SNAME.ORG

WWW.SNAME.ORG

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

ALUMINUM

Mandel Metals, 147 Main Street, Chardon, OH

ATTORNEYS

Blank Rome, 600 New Hampshire Avenue, NW Washington, DC 20037, Washington, DC , Germany , tel:(202) 944-3565, fax:(202) 772-5858 , www.blohmvoss.com

AUTOPILOT SYSTEMS

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

AZIMUTH CONTROLS

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

BALLAST

HF Sceintific- Watts Water, 3170 Metro Parkway, Ft. Myers, FL

BOATBUILDER

Alaska Ship and Drydock, Inc., 3801 Tongass Avenue, Ketchikan, AK , tel:907 225-7199, fax:907 247-7200, dward@akship.net contact: Doug Ward, www.akship.net

BOATBUILDING AND DESIGN

Brunswick Commercial and Government Products, 420 Megan Z Avenue, Edgewater, FL Molde, Norway , tel:(386) 423 - 2900, fax:386-423-9187, BCGPinfo@brunswick.com

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 contact: Ralph Waguespack, www.coastalmarineequipment.com

Superior Lidgerwood Mundy, 1101 John Ave., Superior, WI 54880, USA

COATINGS/ CORROSION CONTROL/ PAINT

Eureka Chemical Company, 234 Lawrence Ave., South San Francisco, CA

COMMUNICATIONS

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

Japan Radio, 1011 SW Klickitat Way, Bldg B Suite 100, Seattle, WA 98134, USA

COMMUNICATIONS SERVICE

Delta Wave Communications, Inc., 8001 Hwy 182 E. Morgan City, LA 70380, Morgan City

COMPOSITE SHAFTS

Centa Corp., 2570 Beverly Drive #128, Aurora, IL 60559, USA , tel:630-236-3500, fax:630-236-3565, bobl@centacorp.com

CORDAGE

Helkama Bica Oy, Lakimiehenkatu 4, KAARINA FI-20780, Finland , tel:+358-2-410 8700, sales@helkamabica.fi

COUPLINGS

Centa Corp., 2570 Beverly Drive #128, Aurora, IL 60559, USA

DECK MACHINERY- CARGO HANDLING EQUIPMENT

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

Smith Berger Marine, 7915 10th Ave. S., Seattle, WA 98108, USA

Superior Lidgerwood Mundy, 1101 John Ave., Superior, WI 54880, USA

DIESEL ENGINE- SPARE PARTS & REPAIR

Motor-Services Hugo Stamp, 3190 SW 4th Avenue, Ft. Lauderdale, FL 33315, USA , tel:954 763-3660, fax:954 763-2872 , www.mshs.com

DRIVES

Konrad Marine-, 1421 Hanley Road Hudson, WI 54016 USA

ELECTRIC PROPULSION

Avtron Industrial Automation, 7900 E.Pleasant Valley Road, Independence, OH , tel:216 642-1230/ext 1263, fax:216 642-6037, mduskey@avtron-ia.com contact: Mark R. Duskey, www.avtron-ia.com/marine.htm

ELECTRICAL SERVICES

Ward's Marine Electric, 617 SW 3rd Avenue Fort Lauderdale, Fort Lauderdale, FL , tel:(954) 523-2815 x124, fax:(954) 523-1967, sales@wardsmarine.com

ELECTRONICS/NAVIGATION COMMUNICATIONS SERVICE AND

Japan Radio, 1011 SW Klickitat Way, Bldg B Suite 100, Seattle, WA 98134, USA

ENGINE AND COMPONENT ALIGNMENT

Dynamold, Inc., 2905 Shamrock Ave., Fort Worth, TX 76107, USA , tel:817-335-0862, fax:817-877-5203, pmpeck@dynamold.com contact: Michael Peck, www.dynamold.com

EPC CONTRACTORS AND ENGINEERING

Waller Marine, 14410 W.Sylvanfield Houston, Texas 77014 , tel:281 444 9650

GALLEY EQUIPMENT

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

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

GOVERNORS

New York State Canal Corporation, Interchange 23, Rt 9w, Albany, NY

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 contact: Ralph Waguespack, www.coastalmarineequipment.com

HVAC

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

HYDRAULIC MANUFACTURING AND SALES

Pennecon Energy, 2 Maverick Place, Paradise NL , tel:709 726-3490, mn1@pennecon.com contact: Eddy Knox, www.pennecon.com

INSURANCE SERVICES

WQIS (Water Quality Insurance Syndicate), 60 Broad Street 33rd Floor, New York, NY

INTERIORS

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

LIFESAVING EQUIPMENT

C.M. Hammar AB, August Barks Gatan 15, 421 32 Vastra Frolunda , Sweden

LUBRICANTS

Varna Products, 4305 Business Drive Cameron Park, CA 95682 , tel:530-676-7770, fax:530-676-7798, tmcachran@VARNAproducts.com

METEOROLOGICAL INSTRUMENTS

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

NAV/COMM EQUIPMENT

Marlink, P.O. Box 433, Lysaker , tel:+32 70 233 220, fax:+32 2 332 3327, customer.service@marlink.com

NAVAL ARCHITECTS, MARINE ENGINEERS

BMT Fleet Technology, 311 Legget Dr, Kanata, ON K2K 1ZB, Canada

JMS Naval Architects & Salvage Engineers, 34 WATER STREET MYSTIC, CT 06355 06340, USA

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

PIPE FITTINGS/CUTTINGS/CONNECTING/ SYSTEMS

Tube-Mac Industries Ltd., 853 Arvin Avenue Stoney Creek, Ontario Canada L8E 5N8

PROPULSION CONTROL SYSTEMS

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

PROPULSION EQUIPMENT

Ultra Dynamics, Inc., 1110A Claycraft Rd., Columbus, OH

VOLVO PENTA OF THE AMERICAS INC, 1300 Volvo Penta Drive, Chesapeake, VA

PROPULSION EQUIPMENT AND SERVICES

Motor-Services Hugo Stamp, 3190 SW 4th Avenue, Ft. Lauderdale, FL 33315, USA

RIGID INFLATABLE BOATS

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

Dalseide, 2901 WEST SAM HOUSTON PKWY, NORTH SUITE E-325, HOUSTON, TX , Norway

Rustibus, 2901 WEST SAM HOUSTON PKWY, NORTH SUITE E-325, HOUSTON, TX , tel:832-203-7170, fax:832-203-7171, houston@rustibus.com contact: Dominic Jordan, www.rustibus.com

SATELLITE COMMUNICATIONS

Delta Wave Communications, Inc., 8001 Hwy 182 E. Morgan City, LA 70380, Morgan City

SEATING

ShockWave Suspension Seating Solutions, 2074 Henry Avenue Sidney, BC V8L 3S6 Canada , tel:1-250-656-6165 Ext. 232, sean@shockwaveseats.com

SHAFTS

Centa Corp., 2570 Beverly Drive #128, Aurora, IL 60559, USA , tel:630-236-3500, fax:630-236-3565, bobl@centacorp.com contact: Bob Lennon, www.centacorp.com

SIMULATION TRAINING

Transas Marine USA, 18912 N.Creek Parkway Ste 100, Bothell, WA 98134, USA , tel:425 486-2100, fax:425 486-2112, gtoma@transasusa.com contact: George Toma, www.transasusa.com

STORAGE BUILDINGS

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

SURFACE PREP TOOLS

Dalseide, 2901 WEST SAM HOUSTON PKWY, NORTH SUITE E-325, HOUSTON, TX , Norway

Water Cannon, 4044 West Lake Mary Blvd, Lake Mary, FL

TANK GAUGING AND SENSORS

Electronic Marine Systems, 800 Ferndale Pl., Rahway, NJ 07065, USA , tel:631 928-5015, fax:732 388-5111, jferencz@emsmarcon.net contact: Joe Ferencz, www.emsmarcon.com

TESTING SERVICES

BMT Fleet Technology, 311 Legget Dr, Kanata, ON K2K 1ZB, Canada

WASTE WATER TREATMENT

Enwa Water Treatment AS, PB 257 Forus 4066, Stavanger

HF Sceintific- Watts Water, 3170 Metro Parkway, Ft. Myers, FL

HF Sceintific- Watts Water, 3170 Metro Parkway Ft. Myers, FL 33916, Ft. Myers, FL

WATER JET CLEANING

Water Cannon, 4044 West Lake Mary Blvd, Lake Mary, FL

WATERMAKERS

Reverse Osmosis of SF, Inc., 2860 W.State Road 84, Suite 108, Fort Lauderdale, FL 3331633312, USA , tel:888-768-2993, Info@Reverse-Osmosis.net

WINCHES & FAIRLEADS

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

Superior Lidgerwood Mundy, 1101 John Ave., Superior, WI 54880, USA

WINDLASSES (ANCHORS)

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

WIRES & CABLE

ICC Cable Corporation, 2125 Center Avenue Suite 401, Fort Lee, NJ , tel:(201) 482-5750, fax:(201) 482-5751, jkim@icccable.com

ICC Cable Corporation, 2125 Center Avenue Suite 401, Fort Lee, NJ , tel:(201) 482-5750, fax:(201) 482-5751, jkim@icccable.com contact: Jang Kim, www.icccable.com

Employment/Recruitment • wwwMaritimeJobs.com

MaritimeJobs.com

where employers and job seekers connect

The Maritime Industry's Leading Employment Website. For more information contact: Jean Vertucci at vertucci@marinelink.com

Engineering Manager
Job Location: USA

Engineering Manager- Austal USA's Engineering department is seeking to fill the position of Engineering Manager

This position is responsible for tactical planning of the engineering department to support resources requirements, productivity and schedule adherence, overseeing and evaluating EVMS and performance metrics and reporting status and corrective action plans for the engineering department

• Successful candidate will possess a Bachelor's Degree in Engineering, or equivalent and have a minimum of 10 years of shipyard design and construction experience with 5 years being in a supervision of Engineers, Designers and Draftspersons role. Working knowledge of vessel structure, ship engineering systems and Knowledge of Maritime Regulatory Authorities (i.e. ABS, NAVSEA, MIL, USCG, IMO, etc.) a must. US Citizenship or Certificate of Naturalization required
Please apply to www.austaljobs.com
Please list MaritimeJobs.com as your referral on all applications

Dana Harris
Austal

USA
Phone: 251-445-5923
Email: dana.harris@austalusa.com
Web: http://www.austaljobs.com

Tug Boat Crew
Job Location: USA, Miami, FL

Tug Boat Crew
Job ID: 104650

Location:USA Miami, Florida

Salary: Per Experience per Year
Status: Full Time
JobLevel:Internship
Company: Sante Shipping Lines
Contact: Bruno E. Ramos
Address: 3075 NW South River Drive
Miami, FL 33142
USA

Fax: 305.634.0599

Job Description:

Looking for Crew with U.S. Licenses and Certifications to work on Ocean TugBoats pulling a 2000 grt container cargo barge to the Caribbean.
Bi-weekly trips (2 weeks on and 2 weeks off).

Please send resumes along with credentials, reference and salary requirements to Karine at berexec@beai.com.

Positions required: Captains, First Mates, AB, OS and Engineers.
Experience and references are very important.
Shipments will be to Haiti and Gitmo.

Karine Bensoussan
Sante Shipping Lines
Miami FL USA
Fax: 305.634.0599
Email: berexec@beai.com

Arctic Engineer
Job Location: USA

Arctic Engineer

Duties:
Undertake research and development projects associated with offshore installations in ice-covered waters. Identify and develop R&D programs that can lead to the development of guidelines to promote safe Arctic offshore development Ice mechanics and ice loading on offshore structures Ice monitoring and ice management for offshore operations Evaluation of offshore designs to operate in ice environments, including fixed structures, floating structure and marine transportation Escape, evacuation and rescue (EER) system in harsh environment Winterization of offshore installation and ships Serve as leader of Arctic offshore engineering field and provide support to management and business development activities.

Participate in Arctic risk management activities
Background Requirements:
BS/MS degree in Ocean Engineering, Mechanical Engineering or Civil Engineering with knowledge of ice sciences and ice/structure interaction 5+ years experience with projects on Arctic / cold regions Experience with fixed and/or floating offshore structures and ships exposed to sea ice or icebergs Excellent interpersonal and communication skills Strong teamwork and facilitation skills, with ability to communicate and interact with all levels of the organization

We are proud to be an EEO/AA employer M/F/D/V. We maintain a drug-free workplace and perform pre-employment substance abuse testing.

Kimberly Blasingame, GPHR
Manager - Employee Relations
American Bureau of Shipping (ABS)
Phone: 281.877.6048 Fax: 281.877.6218
Email: kblasingame@eagle.org Web: www.eagle.org

Kimberly Blasingame
American Bureau of Shipping ABS

USA
Phone: 281.877.6048
Fax: 281.877.6218
Email: kblasingame@eagle.org
Web: http://www.eagle.org

MARITIME REPORTER AND ENGINEERING NEWS

ADVERTISER INDEX

GET FREE INFORMATION ONLINE at: www.maritimeequipment.com/mr

Page#	Advertiser	Website	Phone #
25	Aalborg Industries	www.aalborg-industries.com	45 99 30 40 00
65	AB VOLVA PENTA	www.volvopenta.com	Please visit our website
2	ABS	www.eagle.org	(281) 877-5861
11	ABS Nautical Systems	www.abs-ns.com	(281) 877-5700
37	AER Supply	www.aersupply.com	(800) 767-7606
23	Alfa Laval Tumba AB	www.alfalaval.com	Please visit our website
27	American Public University	www.studyatAPU.com/tlm	(877) 777-9081
69	Anchor Marine	www.anchormarinehouston.com	(713) 644-1183
65	BMT Fleet Technology	www.fleetech.com	(613) 592-2830
63	Brude Safety	www.brude.no	47 70 158700
13	Brunswick Commercial and Government Products	www.brunswickcgp.com	(386) 423-2900
49	Brunvoll A/S	www.brunvoll.no	47 71 21 96 00
41	C.M. Hammar AB	www.cmhammar.com	(800) 828-1131
31	Castrol Marine Ltd.	www.castrol.com	44 (0)1189 843311
61	ClearSpan Fabric Structures	www.ClearSpan.com	(866) 643-1010
63	Creative Systems	www.ghsport.com/support	(360) 385-6212
15	Cummins, Inc	www.cummins.com	Please visit our website
19	David Clark Company, Inc.	www.davidclark.com	(800) 298-6235
12	Donald Sutherland Photo Contest	www.maritimephotographs.com	Please visit our website
18	Donjon Marine Co., Inc.	www.donjon.com	(908) 964-8812
34	Falcon Marine LLC	www.falconconcept.com	(321) 799-4841
44	Fire Fighting Systems	www.fifisystems.com	47 69 24 49 90
61	Floscan	www.floscan.com	(206) 524-6625
7	Global Maritime and Transportation School	www.gmats.usmma.edu	(516) 726-6100
4	Governor Control Systems	www.mshs.com	(954) 763-3660
61	Headhunter	www.headhunterinc.com	(954) 581-6996
35	Hempel	www.hempel.com	45 45 88 3800/45273676
38	HF Sceientific - Watts Water	www.hfscientific.com	(888) 203-7248
63	HO Bostrom	www.hobostrom.com	(262) 542-0222
C2	Huntington Ingalls	www.huntingtoningalls.com	Please visit our website
57	Hyde/Calgon	www.hydemarine.com	(440) 871-8000
17	Intellian Technologies	www.intelliantech.com	(949) 727-4498
69	International Registries, Inc	www.register-iri.com	44 20 76384748
18	Inventory Locator Service LLC	www.ILSmart.com	(800) 233-3414
45	Japan Radio Company -JRC	www.jrcamerica.com	(205) 654-5644
59	Jets Vacuum AS	www.jetsgroup.com	47 70 03 91 00
C4	Karl Senner, Inc.	www.karlsenner.com	(504) 469-4000
27	Kongsberg Maritime Simulation, Inc.	www.km.kongsberg.com	(860) 536-1254
59	Loipart	www.loipart.com	0 32 2 668 385
69	Maritime Associates	www.marinesigns.com	(775) 832-2422
47	Marlink AS	www.marlink.com	32 70 233 220
C3	Maynards Industries	www.maynards.com	(416) 242-3560
8, 9	Military Sealift Command	www.sealiftcommand.com	(888) 228-5509
5	Nace International	www.nace.org	(281) 228-6210
1	Omega Engineering, Inc.	www.omegadyne.com	(800) 872-3963
53	Omnithruster Inc.	www.omnithruster.com	(330) 963-6310
42	Parker Racor/ Village Marine	www.parker.com	(800) C-PARKER
47	Pennel & Flipo, USA	www.pennel.fr	(843) 270-4991
65	Pima Valve	www.pimavalve.com	(520) 796-1095
51	Prime Mover Controls Inc.	www.pmc-controls.com	(604) 433 4644
55	Rapp Hydema AS	www.rappmarine.com	(206) 286-8162
51	Rutter Technologies	www.rutter.ca	(709) 576-6666
61	Scana Mar	www.scana.no	4735075800
3	Scania USA	www.scaniausa.com	(210) 403-0007
2	Schuyler Rubber	www.schuylerrubber.com	(800) 426-3917
33	Sever Trent De Nora	www.balpure.com	Please visit our website
43	ShipConstructor Software Inc.	www.ShipConstructor.com	(888) 210-7420
49	ShockWave Suspension Seating Solutions	www.shockwaveseats.com	(250) 656-6165
72	SNAME	www.sname.org	Please visit our website
6	SNAME Membership	www.sname.org	Please visit our website
14	Sname Publication	www.sname.org	(201) 798-5068
58	Sohre Turbomachinery	www.sohreturbo.com	(413) 267-0590
28	STX OSV AS	www.stxosv.com	Please visit our website
29	Total Lub Marine	www.lubmarine.com	Please visit our website
53	Transas Marine	www.transasmarine.com	(425) 486-2100
36	Voith Turbo Marine GmbH	www.voithturbo.com/marine	Please visit our website
39	World Wide Metric	www.worldwidemetric.com	(855) 225-5996
21	Yale Cordage	www.yalecordage.com	(207) 282-3396

The listings above are an editorial service provided for the convenience of our readers.
If you are an advertiser and would like to update or modify any of the above information, please contact: productionmanager@marinelink.com

Late-Model Shipbuilding Equipment

MAJOR 3-DAY AUCTION

AS INSTRUCTED BY THE BOARD OF DIRECTORS

ODENSE STEEL SHIPYARD

A DIVISION OF A.P. MOLLER-MAERSK GROUP

ENTIRE SHIPBUILDING & MANUFACTURING FACILITY CLOSING

JUNE 14-16, 2011 | Odense, Denmark

AVAILABLE FOR IMMEDIATE SALE

(12) SHIPBUILDING MANUFACTURING AND WELDING LINES

- 2006 MICRO PANEL LINE FOR SUB-ASSEMBLY PROFILE MOUNTING / WELDING
- 2004 CUTTING / STRAIGHTENING / GRINDING LINE FOR NARROW PANELS
- T PROFILE LINE w/PLASMA / AUTOGEN CUTTING, PROFILE / EDGE MILLING, PROFILE BENDING
- (2) 16.5 AND 13.5 METER PANEL WELDING LINES FOR LONGITUDINAL / CROSS WELDING
- TTS SEAM WELDING LINE FOR 1 SIDE WELDING
- (2) TTS CURVED PANEL PRODUCTION LINES
- GANTRY ROBOTIC WELDING SYSTEM w/(12) HANGING ROBOTIC WELDERS
- HN AUTOMATIC MICRO PANEL LINE
- GANTRY ROBOTIC WELDING SYSTEM w/(4) HIROBO ROBOTIC WELDERS
- WEGMANN 12KW LASER CUTTING / WELDING TABLE

INCLUDING A FULL RANGE OF LATE MODEL SHIPBUILDING EQUIPMENT FROM ONE OF THE LARGEST, MOST MODERN SHIPYARDS IN EUROPE

SALE CONDUCTED BY

Maynards SINCE 1902

AUCTIONS
LIQUIDATIONS
APPRAISALS

www.maynards.com

SALE IS BEING HELD IN CONJUNCTION WITH

Hilco Industrial Europe

www.hilcoind.com

CONTACT: Andreas Matuszczak ☎ 49 8151 973420 | oss@maynards.com **UK:** Daniel Gray ☎ 44 (0) 8453 130 185 **NORTH AMERICA:** Mike McIntosh ☎ 1 (416) 242-3560

FOR FURTHER INFORMATION, SPECIFICATIONS ON MACHINERY & EQUIPMENT OR TO DOWNLOAD COMPLETE, DETAILED ONLINE BROCHURE, VISIT WWW.MAYNARDS.COM

When Only the Best Will Do!

KARL SENNER, INC.

M/V Innovation

Karl Senner, Inc. supplied two (2) Reintjes LAF 6745, 3.955:1 non reversing reduction gears for use with CP propellers, with ABS certificates for this new construction added to the Crowley fleet

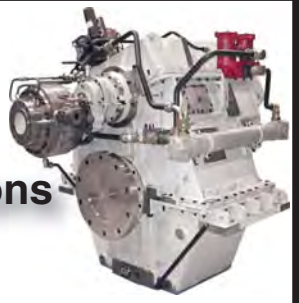
Shipyard: VT Halter Pascagoula, MS

Owner: Crowley Seattle, WA

Azimuthing thrusters

Steerprop

Marine Transmissions



REINTJES

Controllable Pitch Propellers and Bowthrusters

BERG PROPULSION

Contact Us

NEW ORLEANS Karl Senner, Inc. 25 W. Third St. Kenner, LA 70062 Phone: (504) 469-4000 Fax: (504) 464-7528

WEST COAST Karl Senner, Inc. Seattle, WA Mr. Whitney Ducker (425) 338-3344

E-MAIL US service@karlsenner.com sales@karlsenner.com parts@karlsenner.com

Please visit our new website

www.karlsenner.com