

April 2011

MARITIME REPORTER AND ENGINEERING NEWS

www.marinelink.com

BW OFFSHORE & THE

FPSO Boom

Offshore Annual
FPSOs in Gulf of Mexico

Arctic Structures
A New Design Toolset

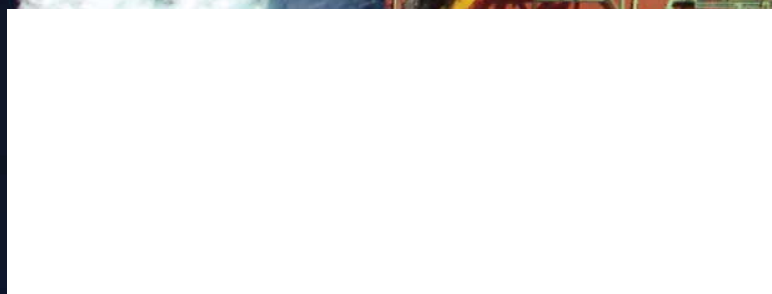
Five Minutes With
Carmen Pino,
Castrol Offshore

Navy
RADM Carr is at
the Helm at ONR

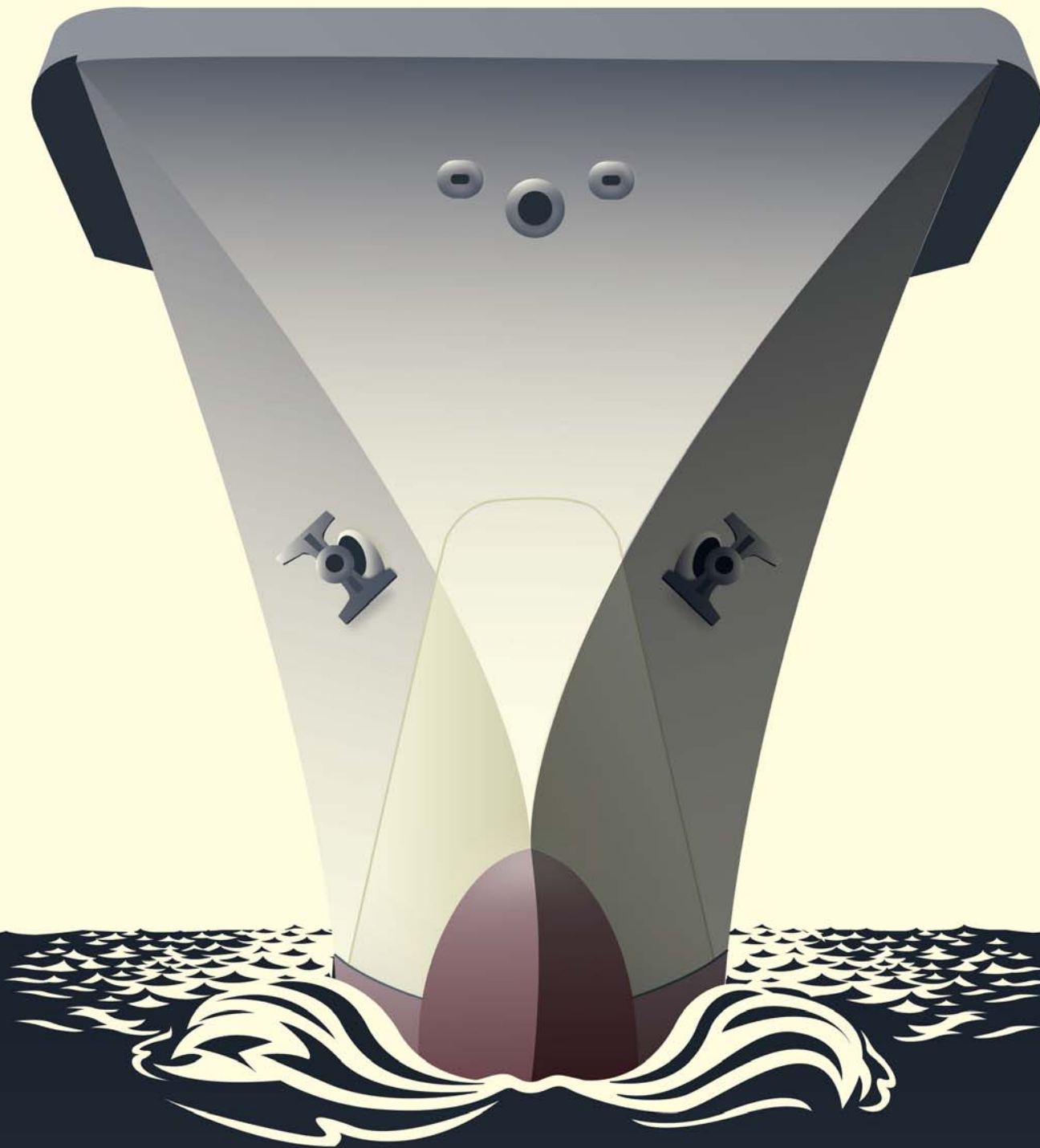
Government Update
Disposal at Sea of
Chemical Weapons

Piracy
Are Weapons
the Answer?

Deck Machinery
Heavy Lifters



A LEGEND. REBORN.



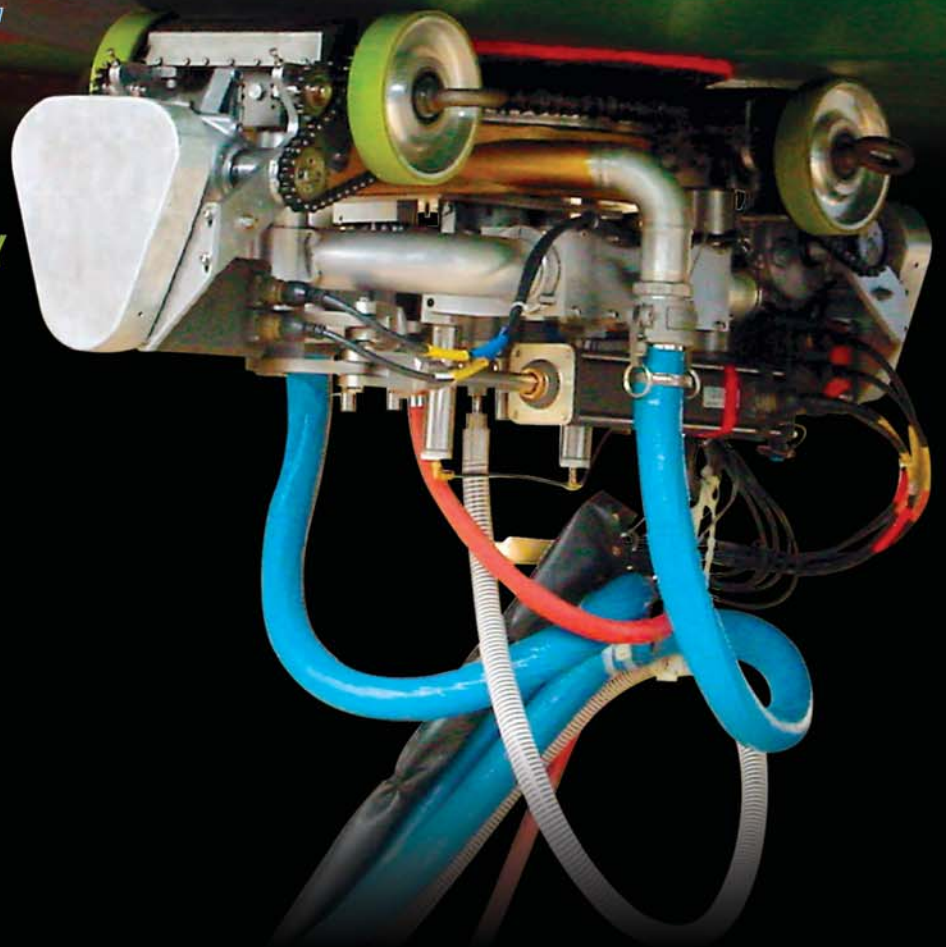
INTRODUCING HUNTINGTON INGALLS

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.





PATENTED GREEN TECHNOLOGY



THE ENVIROBOT IS REDEFINING SURFACE PREPARATION!

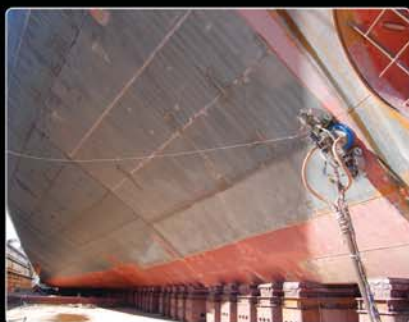


WJ-2 Production Rates up to 1,000 ft² / hour

Ultrasweep[®] Production Rates up to 2,000 ft² / hour



- The ENVIROBOT[®] strips coatings and corrosion from ship's exterior surfaces (hull sides, flatbottom, and deck) and above ground storage tanks
- The ENVIROBOT[®] attaches to the surface using our patented magnetic air gap technology
- Our vacuum effluent containment system removes and contains **100%** of the waste products for ease of disposal
- The ENVIROBOT'S new design now includes a UHP pump at **12 GPM at 40,000 psi**
- Satisfied Customers: Carnival Cruise Lines, Lisnave, Royal Caribbean, Atlantic Marine, BAE Systems, Dubai Drydocks, Maersk, and major shipyards in Asia.



On site user training included with every sale. Ask about our service contracts!
www.ChariotRobotics.com

4398 SW Port Way • Palm City, Florida 34990 • USA • TEL 772.403.2373 • FAX 772.403.2376

CONTRIBUTORS



Bryant

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



Paschoa

Claudio Paschoa is a Rio de Janeiro based writer for *Maritime Reporter & Engineering News*.
See story page 38



Koning

Ned Lundquist is a principal science writer and naval analyst with MCR Federal in Arlington, Virginia.
See story page 34



Kain

Andrew Kain is CEO of AKE Ltd, fellow of RSA, President Mull Highland Games, and former member of SAS.
See story page 30

GOVERNMENT UPDATE

16 Chemical Weapons Disposed @ Sea

Looming threat from WWI & WWII era dumping. — by *Dennis Bryant*



MARITIME SECURITY & PIRACY

30 Are Weapons the Answer

Owners, regulators seek solutions to escalating problem. — by *Andrew Kain*



NAVY

34 RADM Carr at the Helm

On constant watch for “leap ahead” technologies. — by *Edward Lundquist*



OFFSHORE ANNUAL

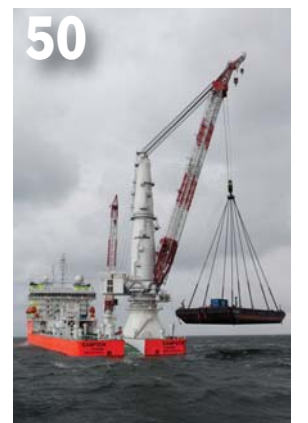
38 BW Offshore: Driving the FPSO Boom

Jon Harald Kilde, BW Offshore’s GM in Brazil, shares with MR insights on his company’s success, today and tomorrow. — by *Claudio Paschoa*

ARCTIC SHIP & OFFSHORE STRUCTURES

44 Design Toolset of the Future

St. John’s Newfoundland is the hub for Arctic development. — by *Andrew Safer*



DECK MACHINERY & CARGO HANDLING

50 Heavy Lifters

MR examines developments in marine & offshore cranes and winches.



Accept No Substitute



UNIPUMP. Dependable, reliable, and uncompromising with whatever it has to pump, even under the toughest conditions. Our pumps are the result of 130 years of unwavering dedication to designing and building quality pumps.

Exclusive U.S. Marine distributor:
Allied Marine Services
Telephone: 803-419-2050 / Fax: 866-276-2051

Email: ataylor@amsgroup.net or visit www.shipequip.com for more information



Technical knowledge and practical experience are the pillars that support maritime safety.

Setting the Standard for Service.



www.eagle.org

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
Mack Boring & Parts Co.
908-964-0700

Northwest
Cascade Engine Center
206-764-3850

Southeast/Gulf Coast
Certified Diesel
954-583-4465

Southwest
Boatswain's Locker
949-642-6800

Central/Eastern Canada
ADF Diesel
800-517-1489

COUNT ON US

Authorized



Authorized Service Partner of
MAN Diesel | PrimeServ



Factory-Trained Turbocharger and Engine Service

- Reconditioning / Repairs - 2 & 4 Stroke Engine Components
- Engine Surveys
- Turbocharger - Core Component Reconditioning
- Engine Modernization - Turbocharger Retrofits
- Boll Filtration Systems
- Extensive Original OEM Parts Inventory

Phone: +1 954-763-3660 Toll free +1 800-622-6747
www.mshs.com



MOTOR-SERVICES HUGO STAMP, INC.

Your #1 Service Resource In The Americas



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.

PUBLISHERS

John E. O'Malley
John C. O'Malley • jomalley@marinelink.com

Associate Publisher & Editor

Gregory R. Trauthwein • trauthwein@marinelink.com

Contributing Editors Editorial Consultant

Dennis L. Bryant • Rich DeSimone • Edward Lundquist • Matt Gresham
James R. McCaul, President, International Maritime Assoc.

PRODUCTION

Production Manager

Oksana Martemy • martemy@marinelink.com

CORPORATE STAFF

Manager, Accounting Services
Manager, Public Relations
Manager - Marketing
Manager, Information
Technology Services

Esther Rothenberger • rothenberger@marinelink.com
Mark O'Malley • momalley@marinelink.com
Jocelyn Redfern • jredfern@marinelink.com
Vladimir Bibik • bibik@marinelink.com

CIRCULATION

Circulation Manager

Kathleen Hickey • mrcirc@marinelink.com

SALES

Vice President of Sales & Marketing
Rob Howard • howard@marinelink.com

Sales Administration & Office Manager
Sales & Event Coordinator
Classified Sales Manager

Rhoda Morgan • morgan@marinelink.com
Michelle Howard • mhoward@marinelink.com
Dale L. Barnett • barnett@marinelink.com; Tel: (212) 477-6700

Advertising Sales Managers

National Sales Manager
Jack Bond
bond@marinelink.com
Tel: (561) 732-1659
Fax: (561) 732-8063

Lucia Annunziata
annunziata@marinelink.com
Tel: (212) 477-6700
Fax: (212) 254-6271

Dawn Trauthwein
drauthwein@marinelink.com
Tel: (631) 868-3575
Fax: (631) 868-3575

Tristan McDermott
mcdermott@marinelink.com
Tel: (561) 732-0312
Fax: (561) 732-9670

Mike Kozlowski
kozlowski@marinelink.com
Tel: (561) 733-2477
Fax: (561) 732-9670

Terry Breese
breese@marinelink.com
Tel: (561) 732-1185
Fax: (561) 732-8414

Scandinavia

Roland Persson • roland@orn.nu
ÖRN MARKETING AB, Box 184, S-271 24 Ystad, Sweden
Tel: +46 411-184 00; Fax: +46 411 105 31

Western Europe

Uwe Riemeyer • riemeyer@intermediapartners.de
Tel: +49 202 27169 0; Fax: +49 202 27169 20

United Kingdom

Paul Barrett • E-ieaco@aol.com
Hallmark House, 25 Downham Road, Ramsden Heath, Essex CM11 1PU UK
T: +44 1268 711560; M: +44 7778 357722; F: +44 1268 711567

Japan

Katsuhiko Ishii • amskatsu@dream.com
Ace Media Service Inc., 12-6, 4-chome, Nishiike, Adachi-ku, Tokyo 121, Japan
Tel: +81 3 5691 3335; Fax: +81 3 5691 3336

Korea

Jo, Young Sang • biscom@biscom.co.kr
Business Communications, Inc., Rm 1232, Gwanghwamoon Officia Bldg.
163, 1-Ga, Shinmoon-Ro, Jongro-Gu, Seoul, Korea 110-999
Tel: +82 2 739 7840; Fax: +82 2 732 3662

Only **ONE** Radar clearly stands above the rest!



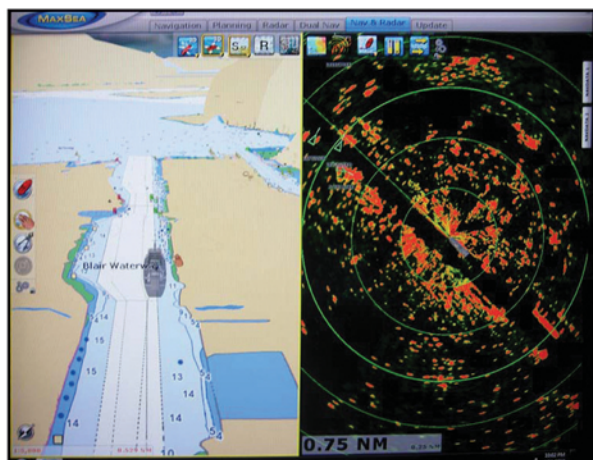
FURUNO
FAR21x7/FAR28x7
Radar Series



20.1" Color LCD, 23.1" Color LCD or Black Box
12kW, 25kW or 50kW X-Band
30kW or 60kW S-Band

- Ethernet interswitching of up to four Radars
- Easy to use menus with trackball control
- Operator selected multi-color target presentation
- Available in X-Band and S-Band
- ARPA — Auto plotting/tracking of 100 targets manually or automatically
- Displays 1,000 AIS targets*
- Display ranges in Nautical Miles (nm) or Statute Miles (sm)
- On-screen "Tow Icon" displays length & width of towboat/barges
- Chart overlay with optional CU200 chart card reader*
- Interfaces with MaxSea TimeZero Navigation Software
- Backed by Furuno's Worldwide Service Network
- Furuno's Radar Technology has been awarded "Best Radar" by the National Marine Electronics Association for the past 35 years

* Appropriate sensors required



Furuno's FAR2xx7 Radars are now compatible with MaxSea TimeZero Explorer PC Software!

FURUNO
www.FurunoUSA.com

INSTANT GRATIFICATION

Thousands of SNAME's award-winning technical papers are available at your fingertips.



Take advantage of the **NEWSNAME.org**

Search. Purchase. Download. Instantly.

www.SNAME.org

At long last it appears the business of discovering and recovering energy from the Gulf of Mexico is set to resume in earnest, as the Bureau of Ocean Energy Management has in the last month quickly picked up the pace of approving drilling permits from the region. While it is difficult to gauge the long term impact to the region, with barrel prices hovering above \$100, it is fair to assume that while this accident will have far-reaching implications regarding technical spec and safety, from a business perspective it will appear a blip on the map.



While the combined offshore and maritime industry in the GOM region struggled for nearly the past year in the wake of the Deepwater Horizon blowout, oil spill and resulting moratorium, it should be heartened that in the big picture, the hunt to find and bring to market these energy resources has long-term, yet historically cyclical legs.

In the past 12 months we have dedicated ample editorial coverage to the evolving, dynamic market in Brazil, and this month is no exception, as our correspondent in Rio had the opportunity for a lengthy interview with Jon Harald Kilde, BW Offshore's General Manager in Brazil. Kilde shares with Claudio Paschoa a blunt assessment of his company's FPSO operations in the region, highlighting some of the struggles in regards to Brazil's onerous "local content" rules, but also the vast potential that lies ahead for companies that are patient and persistent to establish a good long-term operations position in the region. This story starts on page 38. (As a side note, sister-publication Maritime Professional published in its 1Q 2011 edition a primer on setting up operations in Brazil. If you would like a copy, simply jot me a note at truthwein@marinelink.com)

Floating Production globally will continue to be a driver for maritime business for the coming five years. According to a recent IMA report, the number of floating production systems in service continues to grow at a rapid pace, with 250 units in service now vs. 120 in 2001. The order backlog stands today at 47 units, with expected orders for production floaters to average 24 to 35 units over the next five years. To succinctly summarize, Jim McCaul, head of IMA, said "if there is another business sector more strategically positioned for future growth, I'd like to know about it." Further details of the report can be found on page 49.

MARITIME REPORTER AND ENGINEERING NEWS

www.marinelink.com

ISSN-0025-3448
USPS-016-750

No. 4 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.

Publishers are not responsible for the safekeeping or return of editorial material. ©2011 Maritime Activity Reports, Inc.

Member



Business Publications Audit of Circulation, Inc.

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means mechanical, photocopying, recording or otherwise without the prior written permission of the publishers.

ON THE COVER



Pictured on this month's cover

is YÜUM K'AK'NÁAB FPSO (YKN) operating in Mexican side of the GOM. The FPSO market is set for tremendous growth, particularly in Brazil. See story on page 38.

(Photo: Emerson Process Management)

**These are the tools I use
to support my ship
to maintain a healthy crew
to build my future
to support my family
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®

Carmen Pino Castrol Offshore

The business of lube and fluid supply is fiercely competitive and ever-changing, continually challenged to deliver more economical, environmentally and better performing product. Maritime Reporter spent some time with Carmen Pino, a West Point graduate and the Regional Operating Director, Castrol Offshore, to discuss his team's strategy to grow its business.

• by Greg Trauthwein

How would you describe your management philosophy?

Pino I am participative; I want to meet all of my people and the customers personally. At the same time, I set clear direction and boundaries. I think you have to get your team lined up in the direction they need to go, let them know what they can and can't do, and let them run.

How big is your team, and what area do you cover?

Pino I have 30 people in four regions. We are responsible for everywhere in the world except Europe and Africa, which is run by a colleague of mine based in the UK.

The global economy has been a rough ride in recent years. How has it affected your business?

Pino The last few years have been some of the most difficult, not just in offshore of course, but business in general. We saw several big projects delayed, so we've placed more emphasis on innovation and new customer needs. This will result in new offers that will provide more long-term value to our customers.

When you come to work, what is your mission and where are your targets?

Pino We want to be the supplier of choice when it comes to lubricants and control fluids. Our "targets" are heavily

weighted toward the subsea industry and the topsides of offshore installations.

Geographically, what are the "hotspots"?

Pino It really comes down to the "Golden Triangle" of the Gulf of Mexico, Brazil and West Africa. Asia, also, offers some interesting opportunities. In Brazil we have historically managed the business from Houston or the UK. Last year we decided to set up local technical management in Rio. This lines up to our strategic plan in Brazil to provide solutions to their challenges, such as efficiently tapping the Subsalt fields and broadening the reach of Castrol's offshore-focused global network.

How does your business look for 2011 and beyond?

Pino Surprisingly, it is quite good. We are growing our share with some of the biggest operators in the world. On the topside lube business, where our competition is the oil majors, we are in a unique position in that this is a "pure" business segment with a dedicated team. We have a global business set-up explicitly for the offshore business and the needs of its customers, which I believe makes us unique. On the subsea side of the business, typically we compete with a handful of smaller chemical companies. The challenge here always is getting products approved for use in this challenging

Canada's Center of Excellence for Repair, Upgrade & New Construction



Irving Shipbuilding Inc.

Halifax Shipyard - East Isle Shipyard - Shelburne Ship Repair - Woodside Industries
3099 Barrington Street, Halifax, NS, Canada B3K 5M7
Phone: +1 (902) 423 9271 Email: marketing@irvingshipbuilding.com
www.irvingshipbuilding.com



We signed a contract with a global drilling contractor, who at the time had many suppliers and more than 350 lubricants in use, putting unnecessary stress on their logistical operations. We packaged a standardized product solution consisting of about 50 products globally.

Carmen Pino



environment, where regulators drive improved standards.

What do you count as your strategic advantage?

Pino Being a part of an oil major, we have some big advantages to leverage. First, as I mentioned previously, we have a dedicated offshore team that is customer-need orientated. Second, we have a tremendous resource in our Global Technology Center at Pangbourne in the UK, which is second to none in product R&D and performance testing.

What do you count as your biggest challenges?

Pino On the product side, I think we are seeing the tip



We want to be the supplier of choice when it comes to lubricants and control fluids.

of the iceberg regarding the environment, and I think that it is right and is what is needed. On the subsea product side, we are breaking new ground every day in terms of water depth and temperature, and our job is to ensure that the fluids perform in these environments.

On the personnel side, recruiting is always a challenge, because in this, a vibrant and growing industry, there are always other opportunities for our team to consider. We encourage our team to stay focused on the company, honing in on how to build and grow the business. We don't have multiple layers of management and are challenged to meet the career expectations of some of our employees.

What are the product brands you offer to this market?

Pino Castrol Greenfield is a product line that has enjoyed tremendous growth, with products that meet or exceed environmental legislation. Castrol Ultimax is our performance product range; the product suite covers a diverse range of critical applications from top drives and mud systems through to gas turbines and greases. Our subsea lines are a mix of performance and environmental products.

How have you helped an operator to work more efficiently and cost-effectively?

Pino We signed a contract with a global drilling contractor, who at the time had many suppliers and more than 350 lubricants in use, putting unnecessary stress on their logistical operations. We packaged a standardized product solution consisting of about 50 products globally. When their operational footprint moves, Castrol are already there to supply in their new area. We haven't yet gotten to the bottom of the actual cost savings, but it is significant.

www.castrol.com/offshore

Join Military Sealift Command and Take Command of Your Career.®

It's time to take your career up a notch. You can go as far as your unique skills and ambition can take you with Military Sealift Command. Your hard work and dedication will earn you steady pay, the best benefits in the business and a secure future for your family.

To learn more, visit
www.sealiftcommand.com
or call 1-888-228-5509
to speak with a recruiter.

**We currently have
opportunities for:**

Third Assistant Engineer
Unlicensed Junior Engineer
Electrician
Deck Engineer Machinist
Refrigeration Engineer
Chief Radio
Electronics Technician
First Radio
Electronics Technician
Second Radio
Electronics Technician
Chief Cook
Cook Baker
Steward Cook
Medical Services Officer



Take Command of Your Career®

MSC is an equal opportunity employer
and a drug-free workplace.

West Coast Should See Steady Traffic Rise to 2030

The Balance of Power will stay the same between the two coasts.

With trade on the rebound through West Coast ports, excitement and over-hype of the previous years has thankfully given way to clear-headed assessment of the future. That became clear at Long Beach's Pulse of the Ports annual forecast break-

fast recently

Not that the experts giving the lowdown on what's happening can be accused of PR exaggeration. Their opinions have mostly always been based on fact, but were lost in the froth of Great Expectations.

Leading off the assessment was Daniel Smith of TIOGA consultants, who reminded the industry that the Panama Canal's tolls are based on TEU capacity, which means that carriers will focus even more closely on utilization after 2014. "The volume needed to support tripling capacity from 4,000 TEU vessels to 12,000 TEU [maximum vessel size of the widened canal] is unlikely to emerge before 2020," he said.

Smith reckons that while West Coast vs. East Coast shares of trade are likely to stay much the same, there has been a shift within the Western Seaboard, with Lazaro Cardenas, Prince Rupert and Vancouver (Canada) getting more traffic. "All-water routes will gain share, but there will be no stampede," he says.

"The shift to the East or Gulf Coast is likely to be small and gradual," while "East and Gulf Coast ports can handle near-term growth, but must address long-term draft and capacity challenges," and "West Coast ports and railroads are also moving to reinforce their competitive position.

"Railroads will not willingly surrender market share to the Panama Canal. The business the railroads have now is the business they want, and they will fight to keep it. Intermodal container traffic is now solidly profitable, and can compete with coal for investment dollars."

The forecast for LA/Long Beach is a total of 35 million TEU by 2030, compared with 65 million made in a forecast three years ago. Capacity of the two ports will stay at 45 million TEU.

Export volumes are predicted to reach 3.5 million TEU in 2015, out of a total of about 16 million TEU. The obvious conclusion to be drawn is that imports will continue their relentless march; making Empties an increasingly important part of total volume.

Of more immediate interest, Daniel Smith says the third quarter this year at LA/Long Beach will be up 5 percent on last year and the fourth quarter will be up 14 percent (relying on Port Tracker for that assessment).

Posted by **Martin Rushmere** —
West Coast U.S.



Global Response Cutter - GRC 43M
by Westport Shipyard, Inc.

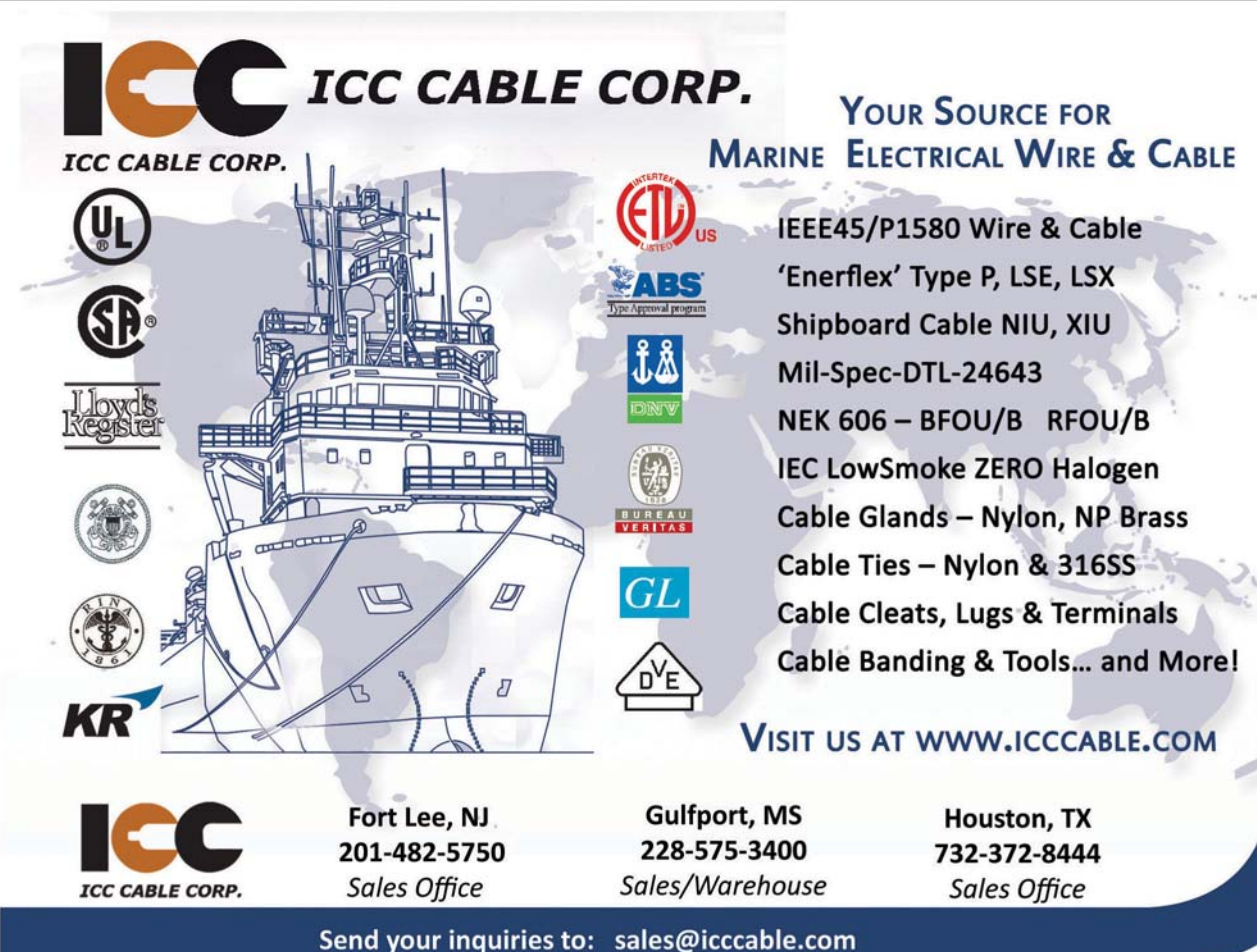
Westport Shipyard Chose Imtra. Shouldn't You?

Westport Shipyard has earned a reputation as a proven leader in the design and construction of high quality composite vessels for maritime defense and security. Their new Global Response Cutter GRC 43M is a prime example of their marine construction expertise. When the Westport team turned to Imtra for a rugged wiper system that met the rigorous standards of offshore security and patrol, we recommended Exalto wiper systems. Exalto systems are made of the finest materials and designed to perform reliably in the toughest conditions.

Imtra supplies top builders and leading companies around the world with quality marine products and systems. Our huge product selection is backed by a deep knowledge base and more than 50 years of experience. Contact Imtra at 508-995-7000 or visit www.imtra.com.

imtra
MARINE PRODUCTS
Chosen by the world's best builders.

See our full product range at www.imtra.com



ICC CABLE CORP.
ICC CABLE CORP.

YOUR SOURCE FOR MARINE ELECTRICAL WIRE & CABLE

IEEE45/P1580 Wire & Cable
'Enerflex' Type P, LSE, LSX
Shipboard Cable NIU, XIU
Mil-Spec-DTL-24643
NEK 606 – BFOU/B RFOU/B
IEC LowSmoke ZERO Halogen
Cable Glands – Nylon, NP Brass
Cable Ties – Nylon & 316SS
Cable Cleats, Lugs & Terminals
Cable Banding & Tools... and More!

VISIT US AT WWW.ICCCABLE.COM

Fort Lee, NJ
201-482-5750
Sales Office

Gulfport, MS
228-575-3400
Sales/Warehouse

Houston, TX
732-372-8444
Sales Office

Send your inquiries to: sales@icccable.com

Japan puts Plan B's to the Test

Logistics managers will need some fancy footwork to solve the massive supply problems affecting Japan manufacturers

A cursory glance at the economic statistics of Japan reveals some incredible numbers in the world's third largest economy: Gross domestic product in 2010 was \$5.4 trillion; More than eight million cars are made in the country; Imports were \$636.8 billion last year, exports \$765.2 billion.

The supply chain servicing this kind of economy and its manufacturing and sourcing machine is one that stretches around the globe.

It is multi-layered, highly complex and colossal, so any disruption can quickly escalate into a serious problem.

What is happening in Japan after the earthquake, tsunami and radiation threat has gone way beyond a serious problem and deep into disaster territory in supply chain terms. Of course, on a human scale it became a disaster soon after the walls began shaking on March 11.

The unresolved nuclear threat forced Toyota to suspend production at all 12 of its domestic assembly plants, a closure that (as of this posting on March 24, 2011) will cost the Japanese carmaker an estimated 140,000 vehicles. Honda also suspended production.

Nissan and Mitsubishi recently resumed production at some plants but are expected to suspend or stop the assembly lines as parts run out.

The main problem facing automakers is that the supply lines delivering crucial parts to their plants are being disrupted by power outages, staffing disruptions as people have trouble getting to work and the closure of suppliers.

Electronics giant Sony said many of its plants have been hit by these problems, forcing it to consider suspending or halting production at several key plants until the end of the month. Canon suspended all domestic manufacturing and Konica said power cuts were affecting its factories in Tokyo.

It is a story being repeated at the tens of thousands of factories across the country and is also being felt around the world. Although Japanese companies have outsourced a huge portion of business to China, auto and electronics manufacturers across Asia and in the US and Europe still source components from Japan.

Supply chain managers have been kept on their toes in the last 10 years with several wars and natural disasters disrupting global sourcing, but the Japan crisis will

give all the Plan B's their greatest test yet.

*Posted by
Greg Knowler — Hong Kong*

13,500 MEMBERS & COUNTING ...

Join — for free — the marine industry's largest, most dynamic and targeted online forum at WWW.MARITIMEPROFESSIONAL.COM
With correspondents located globally, you have access 24/7/365 insightful reports, breaking news and unique content, as well as a social network of nearly 14,000 marine industry professionals.



**Talleres Navales
del Golfo**

*A Worldwide experienced
Shipyard with Integral Services*

TNG through its professional staff, experience, infrastructure and state-of-the-art equipment provides: Ship Repair, Offshore structures fabrication and Conversions.



ISO-9001-2008
certified company

www.tnghph.com.mx

Islote San Juan de Ulúa S/N
C.P. 91800 Veracruz, Ver. México
Tel: + 52 (229) 989 2500 / 2535
Fax: + 52 (229) 989 2510 / 2525



A member of the HPH Group
A Hutchison Whampoa Company

PNTL

Operating specialized ships for carriage of nuclear material



(Photos Courtesy of PNTL)

The Pacific Nuclear Transport Limited (PNTL) is one of the most unusual maritime carriers in history. **It specializes in the carriage of used nuclear fuel, vitrified high-level nuclear waste, mixed oxide (MOX) fuel, and plutonium.** Most of its voyages are between Europe and Japan. Some of these voyages pass through the Panama Canal, but many of them are non-stop voyages around the Cape of Good Hope and Australia. Because the cargo on some voyages could be converted by terrorists into weapons of mass destruction, the vessels are equipped with 30 mm automatic cannons. They also carry a contingent of the UK Civil Nuclear Constabulary (CNC), a government agency within the Department of Energy and Climate Change. The primary mission of the CNC on these voyages is to defend against terrorist attacks. The PNTL currently operates four ships: Pacific Sandpiper (built 1985); Pacific Pintail (built 1987); Pacific Heron (built 2008); and Pacific Egret (built 2011). The Pacific Grebe is due to commence operation in 2012. **The ships are purpose-built for carriage of nuclear material. Their double hulls are designed with twice the void space required of tankers. In fact, almost 40% of the usual cargo area is devoted to void space so as to reduce the risk of sinking in the event of a casualty.** All essential systems, such as propulsion, power generation, steering, and navigation, are designed with duplication and separation, so that if one unit (such as a main engine) goes down, there is a back-up unit to take its place. The construction and operational standards of the PNTL ships were used by the IMO as the basis for the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code).

Posted by Dennis Bryant

Asia Shippers say

Classify Pirates as Terrorists

The defensive approach to piracy is not working – it is time for a more direct response to this threat to world trade.

The Asian Shippers' Council has joined a growing chorus of complaints that initiatives to combat piracy are failing and more aggressive measures are needed. **Treat pirates as terrorists, the ASC said bluntly, highlighting growing fears that the pirates are working with al-Qaeda affiliates operating in the region.**

“We should focus our effort in determining the most effective way to remove the pirate leaders from their strongholds, located along the coast of Somalia, in Caluula, Eyl, Hobyo and Harardhere,” the ASC said.

The council's call for the terrorism tag to be hung on pirates reflects the growing frustration among carriers and their customers at the lack of progress being made in combating the problem. It comes just days after Asian Shipowners' Forum's Safe Navigation and Environment Committee head Teo Siong Seng expressed outrage at the lack of government action against an increasing number of attacks on their ships and the brutality shown by Somali pirates.

The committee wants governments to “act decisively” and “eradicate piracy and attacks on ships.”

Over in England, an industry forum hosted by Gray Page and Protection Vessels International, and including former UK Shadow Home Secretary David Davies, heard how cutting down the number of ships being hijacked was a real possibility. But James Wilkes, managing director for Gray Page, said anti-piracy measures would only work “if shipowners and operators are willing to adopt a security posture onboard their ships that is directly and robustly proportional to the threat.”

This would certainly reduce the numbers of boardings, but would not eradicate the problem. Even the navies

floating around the Indian Ocean in a heavily armed armada are of limited use as they must operate under rules of engagement that are not suited to fighting an elusive foe on the open ocean. According to the ASC, even when pirates are captured, most are released as many countries are reluctant to detain and prosecute them. According to reports, EU and NATO naval forces captured and then released an estimated 700 pirates in the first six months of 2010.

“The time has come for countries and the international community to review laws preventing them from bringing the pirates to justice. Because of the peculiarities of the maritime industry, which involved many jurisdictions for the ship and the ship's crew, it may be necessary to establish specialized prosecutions mechanisms,” the ASC statement said.

Classifying pirates as terrorists will take care of that. It will enable navies to board and seize motherships, detain, interrogate and prosecute suspects, and follow the money to hunt down and freeze their financiers. That world trade is being held to ransom by a bunch of bandits in speedboats is unbelievable. Shipowners and governments talk about “doing whatever it takes,” or “clamping down hard,” or taking “all measures necessary.”

But it is time to dispense with the euphemisms and for governments to go on the offensive instead of waiting for ships to be attacked and then repelling the attackers. Take the fight to the pirates. Sink their motherships, identify and kill their leaders on shore and crush this threat to world trade.

It has been going on far too long already.

Posted by Greg Knowler - Hong Kong

MSC Loss in Chitra Collision

Crossing the \$100m Mark

Loss to Mediterranean Shipping Company (MSC) from last year's collision between MSC Chitra and M/V Khalija 3 has crossed the \$100 million mark. **The collision ended up with MSC Chitra listing and in the process discharging a huge quantity of oil and spilling out hundreds of containers into the sea thus causing danger to shipping activity in the common channel leading to Mumbai port and the Jawaharlal Nehru Port trust (JNPT).** This had led to both ports being out of commission for over a week.

Capt D. K. Tewari, CEO of MSC Mediterranean Shipping Company S. A. informed, “The total cost for the cleaning up, salvaging and other losses has crossed the \$100m figure and we are still counting. MSC Chitra having been refloated by SMIT will be handed over to the ship breakers once the salvage operation is complete.”

“The emergency response was entirely handled by us,” stated a spokesman of SMIT Salvage. “We flew down our engineers and other personnel from Singapore and South Africa numbering over 100 who set to work immediately to minimizing the damage and undertake salvaging operation. The Indian Navy with the help of the

sonar helped in locating the containers that had spilled out from MSC Chitra. The local people, fishermen and even ships at anchorage helped by informing whenever they spotted containers in the sea.”

“The whole episode has proved to be MSC's biggest challenge ever,” says Capt Tewari. “One major issue that has come to light is the need of one Central Agency for emergency response with powers to handle crises of such nature and be able to give necessary directions. In the absence of such a central authority it became difficult to take timely action, co-ordinate the various activities and bring in measures to contain further destructions from taking place.” He explained that they were left running from pillar to post to acquire permissions and spend a lot of time approaching various authorities involved. Necessary equipment was found lacking with the concerned agency including the ports as a result the cost kept spiraling. Equipment which had to be flown down from abroad to control and prevent further damage got stuck at the airport awaiting customs clearance and handle paperwork.

Posted by Joseph Fonseca - Mumbai



Dometic

Radome Environmental Control Unit

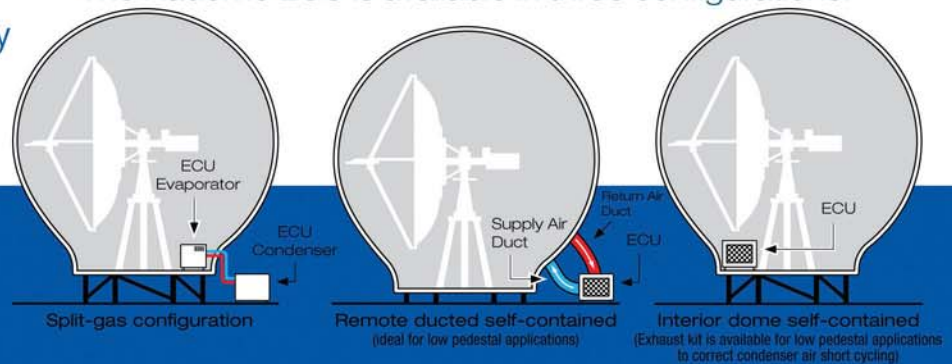
Keep Your Equipment Cool

Conveniently small, lightweight and easy to install, the **Radome ECU** is designed to exceed the cooling requirements of pleasure boat, commercial vessel, and military ship applications. Rugged construction with corrosion-resistant materials allows the unit to be operated in the most extreme conditions at sea. It's highly efficient yet powerful rotary compressor provides quieter operation, increased reliability, and reduced amperage.



Self-contained
HSA16KCZ/1-417A shown

The Radome ECU is available in three configurations:



2301 NASA Parkway, Seabrook, TX 77586 USA
Toll Free: 1.800.767.7606
Fax: 281.474.2714
Email: sales@aersupply.com
www.aersupply.com

Commercial Water Makers

AER Supply Ltd, authorized distributor for Sea Recovery water makers, offers the High Seas Commercial Series.



Tasman Sea™

229 to 875 Gallons Per Hour • 867 to 3312 Liters Per Hour

The Dependable Tasman Sea Series water maker ideally suits mid-range production requirements, such as small hotels, villas, oil platforms, mid-sized commercial vessels and small cruise ships.

- Multimedia filter with feed and backflush valving
- Patented Cycron pre-filtration
- Stainless steel high-pressure pump, piping and valving
- Corrosion proof fiberglass pressure vessels
- System salinity controller



North Sea

458 to 1833 Gallons Per Hour • 1735 to 6940 Liters Per Hour

The rugged and versatile North Sea Series water maker is the top choice of the oil industry, and can also accommodate hotels and large cruise ships.

- Dual multimedia filters with feed and backflush valving
- Patented Cycron pre-filtration
- Stainless steel high-pressure pump, piping and valving
- High rejection/High flux R.O. membrane elements
- Product water flow meter
- Solid state temperature compensated fail-safe salinity meter



2301 NASA Parkway, Seabrook, TX 77586 USA • Toll Free: 1.800.767.7606 • Fax: 281.474.2714

MARITIME PROPULSION

Powering the Maritime Industry

Maritime Propulsion is the online database for marine power and propulsion equipment. Find product reports, engine specifications, suppliers, and auxiliary machinery.

www.maritimepropulsion.com



innovative solutions
custom built



rope - lifting slings - cables - umbilicals



Cortland provides innovative, efficient and lightweight rope, lifting slings, cables and umbilicals to the oil and gas, heavy marine, subsea, ROV, seismic, defense and medical markets. Our in-depth understanding of demanding operational environments means we can deliver trusted, proven solutions to customers worldwide.

email us for your next project:
cortland@cortlandcompany.com

CORTLAND

cortlandcompany.com

Galleass

One of the original dual-fuel (oars & sails) vessels

The galleass was a warship, used primarily in the Mediterranean Sea, powered by both oars and sail. It evolved from the venerable galley, which was exclusively powered by oars. Sails were added so as to take advantage of favorable winds and reduce the burden on the crew. The galleass was a popular ship design from the 1400's to the mid-1600's. It served as a transition type from oar power to sail power, in much the same way that early steam-powered vessels were also equipped with sails. A galleass could have up to 32 oars, each worked by up to six men. Most had two or three masts. The sails were either lateen-rig or square-rig. The English King Henry VIII utilized a number of galleasses in the early Navy Royal during the period

1530-1540. Guns were situated between the row ports on these English warships. By 1550, all the Navy Royal galleasses had been converted to sailing vessels with the removal of the oars. The galleass remained popular in the more benign environment of the Mediterranean, where guns were normally placed on the deck above the oar deck. The galleass played a prominent role in the 1571 Battle of Lepanto, where the Christian fleet defeated the Turkish fleet. Several large galleasses participated in the Spanish Armada assault on England in 1588, but their presence was not a factor in the outcome. By the 1660's, the galleass was clearly obsolete, replaced largely by the galleon.

Posted by Dennis Bryant

Coast Line (Shipping) on

Gold Rush Trail on Indian Coast

Entering coastal shipping a few years back it has always been fair weather for Coast Line (Shipping)

It was not just his fancy for the lusty Indian coast that got the better of Amit Seth, Managing Director of Coast Line Shipping (India) Pvt. Ltd that made him get into the business of coastal shipping but seeing the immense opportunities in bringing about mega changes for improving the transport of liquid bulk cargo in India.

His dramatic debut into coastal shipping began with the commencement of edible oil movement on the coast. All along edible oil was earlier transported solely by road from Kutch, in Gujarat to Mumbai, in Maharashtra on the West coast of India. In matter of few months of the commencement of his coastal service he was able to replace the entire road haulage by water transport and soon his company was handling the entire movement of edible oil between Mumbai and Gujarat

By shifting the movement of edible oil from road to coastal transport he brought in tremendous reduction in cost from nearly \$40 per metric ton to just \$30. That was not all. He cut down the supply shortage that was being experienced and factor in value addition. It is his innovative approach and boldness to venturing into unchartered business waters that has made him a leader in coastal shipping.

Today, Coast Line (shipping) caters not just edible oil but handles a wide variety of cargoes including liquid fuel, limestone, bauxite, coal, clinker, etc which are fast gaining prominence in coastal transport. They are also one of the biggest liquid barge operators in Mumbai port. Their major customers include oil companies including, Indian Oil Corporation Limited (IOC), Hindustan Petroleum

Corporation Limited (HPCL) and Bharat Petroleum Corporation Limited (BPCL) as well as ONGC, Sterlite, Godrej Industries, Unilever Ltd and others

"We operate two companies," says Amit Seth. "Under Coast Line Shipping (India) we have 27 barges, which constitute 80 percent of Mumbai based coastal tanker fleet and barges. These carry base oil, edible oil, acids for soap and chemical plants. Our ocean going tankers numbering three are operated under Castle Ships Pvt Ltd and are contracted to the public sector oil companies for carrying diesel, base oils and various petroleum products. We have regular operation between Haldia on the East Coast near Kolkata to Port Blair in the Andaman Islands as well as Haldia to Mumbai.

"Recently we expanded our operations and acquired four cement carriers from Chowgule's which have been contracted to Ultratech. We have also made an entry into the offshore sector in a small way having acquired a utility vessel mostly deployed as a standby vessel."

Amit sees incredible opportunities on the coast than in overseas trade. He has plans for entering into the mini bulk carrier segment with vessels in the range of 3,000 to 3500 GRT as there is plenty of demand. Bigger vessels would have been advantageous he says but Indian ports have severe draft restrictions making usage of bigger vessels a costly venture. He has placed order for four new building with Chinese ship builders with delivery set for 2012.

Posted by Joseph Fonseca — Mumbai



Together, we can guarantee smooth sailing. Not to mention, smooth loading, steering, winching...

When you're heading out to sea, the last thing you want to worry about is whether critical ship machinery will fail. Which is why it's nice to have a partner like Parker, to help efficiently and cost-effectively build deck machinery and propulsion systems that can handle heavy loads and harsh environments. We've helped engineer durable and reliable **hydraulics, automation, climate control, sealing, and filtration systems** (including **onboard water desalinization**) for ships of all sizes. For more information, go to parker.com/smoothsailing. And see how Parker can help keep your business sailing forward.

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

www.parker.com/smoothsailing 00800 27 27 5374
epic@parker.com

Disposal at Sea of Chemical Weapons



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

While World War II is well-known as the beginning of the age of atomic weapons, World War I is lesser-known as dawn of the age of chemical weapons. The 1914-1918 conflict saw development and large-scale production of mustard gas, lewisite, and other chemical agents specially designed and packaged for use in armed conflict. With the armistice ending the War to End All Wars, large quantities of this material was left with no place to go. The technology to safely destroy these chemical weapons did not exist and public concern over its existence was largely nil.

Without giving the matter much thought, the victorious Allies took much of the surplus chemical weapons out to sea and dumped it overboard. Such dumping is known to have occurred in the Atlantic Ocean, the North Sea, the Baltic Sea, and the Mediterranean Sea, but probably also occurred in other waters. Records documenting what was dumped and where are either non-existent or cursory.

While chemical weapons were not widely used during World War II, large quantities were produced and stockpiled, in the event that the enemy might initiate chemical warfare. Many WWI-era chemical weapons (such as mustard gas) were produced, as well as newer chemical weapons (such as sarin). Again, the victorious Allies dumped large quantities of these weapons at sea after the conflict ended. Again, recordkeeping was cursory.

In the 1960's, people started to raise questions regarding use of the oceans as a dumping ground for chemical weapons. Governments phased out the practice and

started research on methods to destroy chemical weapons, rather than drop them into the ocean and hope for the best. Methodologies have since been developed for the relatively safe destruction of most, if not all, chemical weapons, but the financial cost is high.

The last disposal of chemical weapons at sea by the US Government was on August 18, 1970, when 12,508 M55 sarin rockets, three 155 mm sarin projectiles, and one M23 VX land mine were dumped in the Atlantic Ocean 250 miles east of Cape Kennedy, Florida. Earlier at-sea disposals by the US Government include an unknown number of mustard projectiles off Charleston; 16,000 one-hundred-pound mustard bombs off Oahu; 1,154 fifty-five-gallon drums of arsenic trichloride and 924 ten-pound white phosphorus cluster bombs in "Disposal Area Number 1" in the North Atlantic; twenty 1000-pound hydrogen cyanide bombs and 1,100 one-thousand-pound cyanogen chloride bombs off Waianae, Hawaii; an unspecified quantity of mustard projectiles in the Gulf of Mexico south of New Orleans; three phosgene bombs (German origin) in the Gulf of Mexico; 887 containers of lewisite in the Pacific Ocean twelve miles off the Aleutian Islands; and 301,000 mustard bombs (of 115 pounds each) in the Pacific Ocean 117 miles off San Francisco. The above list is just a sampling of the full list – and the full list is acknowledged to be highly incomplete.

To the extent that anyone thought about it at the time, it was assumed that the oceans were vast and that the chemical weapons would be diluted and dispersed to such an extent that no noticeable harm

would result. It hasn't quite worked out that way. Environmental advocates have raised a number of concerns about the impact of these deteriorating chemical weapons on the marine ecosystem. There is, to date, little hard evidence regarding the ecological impact. This does not mean that there has been no deleterious impact, only that it is hard to document adverse changes that can be traced back to chemical weapons disposal that occurred years previously.

Adverse impact on humans is easier to demonstrate. Numerous fishermen (particularly in European waters) have brought up old munitions, including old chemical weapons, from the bottom of the sea. As recently as June 2010, a crewmember on the US clamming dredger ESS Pursuit was injured when he picked a shell-shaped object off the boat's conveyor belt and threw it back into the sea. He smelled a strange odor as he did so. Shortly thereafter, he experienced a burning sensation on his hands and arms. He was evacuated to shore by the US Coast Guard. Doctors diagnosed that he was suffering from exposure to mustard gas. The clamming vessel was ordered back to port and underwent extensive decontamination. It had been operating in waters above the Hudson Canyon south of Long Island. Although there are no specific records that mustard gas weapons were disposed of in the Hudson Canyon, the records, as noted above, are abysmal. Many of the chemical weapons dumped at sea departed from the Colts Neck Naval Pier at Earle, New Jersey. While dumping of chemical weapons at sea became a violation of federal law in 1972, it wasn't until 2007 that

Congress adopted legislation directing the Department of Defense to review historical records and attempt to better identify areas in waters off the United States where chemical and conventional weapons have been deposited and what was placed there. This information is to be released publicly. Research is to be done on the effects of those weapons on the environment and those who use the ocean waters. A feasibility study is to be done regarding the removal or remediation of those munitions. Unfortunately, no monies were appropriated to fund implementation of the legislation.

An earlier DOD report estimated the cost of environmental remediation of US military installations and former US military properties to be in excess of \$34 billion. The cost of recovery and remediation of chemical weapons disposed at sea could easily exceed that figure. Funding for such a large-scale effort is not expected to be forthcoming in the near future. As noted above, the ecological problems posed by these chemical weapons are impossible to quantify, even though they are very real.

The threats to humans are easier to identify. Chemical weapons have on occasion washed ashore. More frequently, human activity in the sea has resulted in direct contact with these weapons. Fishermen have brought them up in their nets and trawls. Dredging and work on oil and gas platforms and undersea pipelines risk making contact with chemical weapons. As humans increasingly engage in subsea activities, both commercially and recreationally, the likelihood of coming into contact with long-discarded chemical weapons can only increase.



Quality • On Time • Design Support



Senesco Marine, on Narragansett Bay in RI, has 28 acres for new construction, a 1200' pier for topside work, and a 4500 ton capacity drydock. Senesco Marine has a proven track record in:

- New Construction
- Conversion • Repair

10 MacNaught Street
North Kingston, RI 02852-7414
Tel: 401-295-0373
Mike Foster - Vice President and General Manager
Email: mfoster@senescomarine.com
Tom Johnson - Vice President Business Development
Email: tjohnson@senescomarine.com
Tel: (713) 260-9629 • Fax: (713) 260-9602
www.senescomarine.com




SERVICE & QUALITY ARE WITHIN YOUR REACH

INTERNATIONAL REGISTRIES, INC.
The Marshall Islands Maritime and Corporate Administrators

TEL: +1 713 627 9955
HOUSTON@REGISTER-IRI.COM

For a complete list of offices please visit: WWW.REGISTER-IRI.COM



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")



Intellian

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

Intellian Americas
Intellian EMEA & APAC

Tel: +1-949-727-4498

Tel: +82-2-511-2244

Annual Update of U.S. Economic Sanctions & Export Controls

by Barbara D. Linney, Kelly Loughery and Kevin J. Miller, Blank Rome LLP

The primary focus of last year's annual update, which appeared in the April 2010 issue, was U.S. efforts to tighten economic sanctions against Iran. The last several months have seen these efforts come to fruition, as well as imposition of new sanctions affecting Libya, North Korea, and Somalia. Our 2011 update concentrates on these key developments, but readers should be aware that these were not the only changes to sanctions programs administered by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC") over the past year. As always, remaining abreast of all applicable embargoes and sanctions must be a priority for international businesses.

Iran

U.S. Developments. On July 1, 2010, long sought amendments to the Iran Sanctions Act ("ISA") became law. As amended by the Comprehensive Iran Sanctions Accountability & Divestment Act ("CISADA"), the ISA targets persons determined to have invested \$20 million or more in Iran's ability to develop or obtain petroleum resources. CISADA expanded the definition of petroleum resources to include petroleum, refined

petroleum products, oil or liquefied natural gas, natural gas resources, oil or liquefied natural gas tankers, and products used to construct or maintain pipelines used to transport oil or liquefied natural gas. Also targeted are persons contributing to Iran's conventional and nuclear weapons proliferation activities, persons supplying refined petroleum products to Iran, and those who supply goods, services, and technology that could facilitate or contribute to Iran's ability to produce or import refined petroleum products (subject to certain materiality and value thresholds). Provision of ships or shipping services to deliver refined petroleum products to Iran is a sanctionable service. CISADA also imposed or required adoption of other measures designed to tighten the blockade of Iran, including increased penalties for violations of U.N. Security Council resolutions.

Acting to implement measures required by CISADA, OFAC issued (i) the Iranian Financial Sanctions Regulations, which principally target foreign financial institutions (including foreign subsidiaries of U.S. financial institutions) who facilitate proscribed activities by designated Iranian persons and entities, and (ii) the Iranian Human Rights Abuses Sanctions



Regulations, which impose sanctions against Iranian persons designated as responsible for human rights abuses in Iran.

These new regulations and related designations, together with a steady stream of additional designations of Iranian entities, individuals and vessels under pre-existing proliferation sanctions, have created a complex regulatory environment filled with pitfalls for those engaged in trade or financial transactions involving Iran or Iranian vessels.

Pressure for enhanced sanctions against those doing business with Iran continues to build. Legislation pending before the U.S. Congress would require disclosure to the Securities and Exchange Commission and mandatory investigation of certain activities involving Iran.

International Sanctions. Enhanced U.N. sanctions were adopted by the U.N. Security Council on June 9, 2010. The U.N. sanctions specifically target Iran's nuclear program and require Member States to prohibit activities which may contribute to Iran's proliferation or development of nuclear weapons capabilities. Of particular interest to the maritime industry are (i) prohibitions against use of Member State flag vessels to carry certain nuclear materials and technology and certain arms and related materiel to and from Iran; (ii) required inspection of vessels suspected of carrying banned conventional arms or sensitive nuclear or missile items and seizure and disposal of any such items; (iii) prohibitions against provision of bunkering and other services to Iranian-owned or contracted vessels suspected of carrying prohibited cargo; (iv) required freezing of assets of various designated persons, including certain en-

ties deemed to be owned, controlled by, or acting on behalf of the Islamic Republic of Iran Shipping Lines ("IRISL"); and (v) prohibitions against provision of financial services, including insurance or re-insurance, if there are reasonable grounds to believe that such services could contribute to Iran's proliferation activities.

The European Union, like the United States, has not only implemented the U.N. sanctions but gone further to impose additional broad restrictions on trade, financial services, energy, and transport, and additional designations for visa ban and asset freeze. One such measure prohibits provision of insurance and re-insurance to the Government of Iran or Iranian entities, directly or indirectly. Another measure requires written notification or prior authorization of funds transfers to or from Iran in excess of certain thresholds. In addition, and significantly, the sanctions added IRISL, many of its affiliates, and several Iranian banks to the list of entities subjected to asset freeze in the European Union. Thus, the effect of the new E.U. sanctions has been to restrict Iran's and IRISL's access to European financial and insurance markets, which had previously compensated for Iran's exclusion from U.S. markets.

Libya

At the time of submission of this update for publication, escalating political unrest had resulted in re-imposition of economic sanctions against Libya and additional measures appeared to be on the horizon as the international community continued to react to the evolving situation.

- Private Port Facility
- US Flag Tugs
- Fleet of ABS/Inland Barges available for domestic or international charter
- Fleet of Crawler Cranes available for rent including barge mounted ringers
- Kobelco Crane Distributor

866-313-9670
WWW.MOBROMARINE.COM



STANDARD OF EXCELLENCE

- GLOBAL SALES AND SUPPORT
- EXTENSIVE RANGE OF PRODUCTS AND SERVICES
- ONGOING PRODUCT DEVELOPMENT

CLOCKWISE FROM TOP LEFT

DAMEN STAN PATROL 4708 - BUILT UNDER LICENSE BY BOLLINGER SHIPYARDS

DAMEN PLATFORM SUPPLY VESSEL 7216

DAMEN STAN TUG 2909

DAMEN STAN PATROL 2600 - BUILT UNDER LICENSE BY BOLLINGER SHIPYARDS

DAMEN OFFSHORE PATROL VESSEL 950

DAMEN FAST CREW SUPPLIER 5009

DAMEN

DAMEN SHIPYARDS GORINCHEM

Industrieterrein Avelingen West 20
4202 MS Gorinchem

P.O. Box 1
4200 AA Gorinchem
The Netherlands

phone +31 (0)183 63 91 74
fax +31 (0)183 63 77 62

Member of the DAMEN SHIPYARDS GROUP



americas@damen.nl
www.damen.nl



Together, we can separate the good from the bad.



Bilgewater Membrane Separator

Bilge water effluent filtration systems from Racor - Village Marine Tec. deliver clean discharge water from dirty bilge water using our advanced Parker technologies with the best materials.

MEPC 107(49) CERTIFIED.

For greater economy, reliability, and less maintenance, partner with Racor and separate yourself from the rest.



ENGINEERING YOUR SUCCESS.

1-800 C-Parker
www.parker.com/racor
www.racorcustomers.com
www.villagemarine.com

U.S. Sanctions. The United States imposed the first sanctions on February 25, 2011 by blocking all property interests of designated persons that are in, or may come into the United States or the possession or control of U.S. persons. For purposes of these and other OFAC sanctions, "U.S. persons" include companies incorporated in the United States and their non-U.S. branches; any entity or individual in the United States, and U.S. citizens and permanent residents wherever located. The designated persons include the Government of Libya, its agencies, instrumentalities, and controlled entities, the Central Bank of Libya, and Muammar Qadhafi and his children and other individuals associated with his regime. U.S. persons are prohibited from engaging in any transaction directly or indirectly with, or for the benefit of, the designated persons. The only exceptions to this ban are (i) transactions with banks owned or controlled by the Government of Libya that are organized under the laws of a third country, provided the transactions do not otherwise involve the Government of Libya or any person whose property and interests in property are blocked, and (ii) provision of goods and services in the United States to the diplomatic missions of the Government of Libya to the United States and the United Nations and their employees, as well as payment for such goods and services, under certain conditions.

Following imposition of the OFAC sanctions, the U.S. Department of State's Directorate of Defense Trade Controls announced immediate suspension of all licenses for export to Libya of defense articles and technical data subject to the International Traffic in Arms Regulations, and effective March 3, 2011 all licenses issued by the U.S. Department of Commerce's Bureau of Industry and Security for exports or re-exports to Libya under the authority of the Export Administration Regulations were suspended indefinitely.

International Developments. On February 26, the U.N. Security Council imposed an arms embargo and other arms restrictions, introduced targeted sanctions against Qadhafi and certain members of his family and regime, called for international collaboration to provide humanitarian assistance, and referred the situation to the International Criminal Court. Then, on February 28, the European Union issued a Council Decision and on March 2 adopted a Council Regula-

tion implementing the U.N. sanctions in its member states and imposing additional restrictive measures, including (i) freezing of the assets of Muammar Qadhafi, five members of his family and twenty other individuals deemed responsible for violence against the civilian population, (ii) a comprehensive ban of the supply of arms, ammunition or related material to Libya, and (iii) prohibition of trade with Libya in equipment which could be used for internal repression.

North Korea

North Korea's continued resistance to international pressure to cease its nuclear proliferation efforts resulted in significant expansion of OFAC sanctions on August 30, 2010, this time targeting Kim Yong Chol and certain North Korean entities and agencies. All property and interests in property of the designated persons that come within the control of U.S. persons are blocked, and all trade and financial transactions by U.S. persons with the designated persons are prohibited.

Somalia

On April 13, 2010, the United States imposed economic sanctions against persons contributing to the deteriorating situation in Somalia, including acts of piracy offshore Somalia. Although the sanctions currently apply only to dealings by U.S. persons with the eleven individuals and one entity listed in the Executive Order imposing the sanctions, additional persons may be designated as subject to the Order. This power, coupled with the broad language of the Order, sparked concern within the maritime community about the impact of the Order on those making ransom payments to pirates to secure the release of crews and ships. Although two of the individuals designated under the Order have been identified as known supporters of piracy and the language of the Order may be sufficiently broad to permit future designation of persons involved in the paying of ransom to designated pirates, the Administration has not signaled any intention to pursue such designations at this time. Furthermore, in the absence of any U.S. nexus, the Order does not extend to payments made by non-U.S. shipowners in currency other than U.S. dollars.

ABOUT THE AUTHOR

Barbara Linney is a partner in the Washington D.C. office of Blank Rome LLP, practicing in the area of international trade and transactions. She regularly advises both U.S. and foreign clients regarding U.S. export controls and international economic sanctions, defense trade and security regulations, anti-bribery and anti-boycott regulations, and other international trade and business issues, including foreign investment review, mergers, acquisitions and financings. She represents clients before various federal agencies, including the Departments of Commerce, Defense, State, and Treasury (Office of Foreign Assets Control and Committee on Foreign Investment in the United States). Ms. Linney, who holds a masters degree in international law from Georgetown University, also serves as General Counsel to Women in Federal Law Enforcement and the Washington D.C. chapter of Women in International Trade, of which she is a past President.

TEL: 202.772.5935;

EMAIL: LINNEY@BLANKROME.COM

*This article reflects developments through March 7, 2011, the date of submission for publication. The views expressed herein are those of the authors, do not necessarily reflect the opinion of the firm or other members of the firm, and should not be construed as legal advice or opinion or a substitute for the advice of counsel. Please contact Barbara Linney (Linney@BlankRome.com) at (202) 772-5935 if you have questions or desire assistance.

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



Yale Loups

Yale manufactures LOUPS of Ultra High Molecular Weight Polyethylene. These become remarkably strong yet remain quite light and flexible. The LOUP pictured is rated at 200,000 lbs vertical and 1 million pounds breaking. Since it's not one big rope, but a series of smaller ropes inside, it's able to bend over small pins without damage. Depending on their service LOUPS may be protected with various chafe materials or can be made to float if an advantage. For a LOUP designed for your specific application contact Yale.

Four-Leg RIB Boat Slings

These slings were developed in conjunction with NSW Carderock Division to handle RIB Boats. The goal was to eliminate wire rope from existing slings,

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.



Yale's Uniline

Uniline is Yale's tried and true Polyester Parallel Core Rope. This rope is the precursor of Unitrex, and

reducing electronic interference, corrosion, wire fish hooks to engineer 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.



has been used extensively in many wet applications for the last 42 years. It retains the highest percentage of breaking strength, for the longest period of time of any rope we offer. It's not unusual to see residual break strengths in excess of 75% of new after 20 years of service at sea.



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.

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.

Cargo Securing

... in need of shoring up?



Jos Koning is senior project manager Trials & Monitoring at MARIN, the Maritime Research Institute Netherlands. Email: j.koning@marin.nl

Supported by the Dutch government, MARIN initiated the Lashing@Sea Joint Industry Project to obtain a snapshot of current cargo securing practices as a base for ongoing and future research and innovation.

Securing cargo has been a concern for as long as ships have sailed. And although technology has moved on, it is still a concern today. More and more cargo is being put on bigger and bigger ships and in turn, the time available to secure each unit is decreasing. The diversity of the issues surrounding lashing is illustrated by the fact that some shipping sectors are seeking reductions in lashing requirements, while other sectors are struggling to explain incidents with supposedly safe setups. Lashing@Sea therefore, focused on identifying reasons for unexplained cargo incidents involving multiple, collapsed container stacks and on the other hand, on reducing lashing in the RoRO and heavy lift transport sectors. As part of the project, interviews, crew questionnaires, incident reviews and measurement campaigns on five ships took place. In addition, model tests on a dynamic “shaker” test platform were carried out to investigate cargo-securing dynamics under controlled circumstances. Operational feedback and a review of current practice showed that there are often mismatches

between the “as designed” and “as loaded” cargo configuration. The reliability of cargo weights, cargo location, the operational stability of the vessel and additional accelerations because of hull flexibility, were particularly found to introduce uncertainties. Measurements and numerical analysis showed that none of these effects alone will exceed safety margins but unfortunate combinations may trigger dynamic interactions that can damage securing and even lead to the collapse of multiple container stacks.

RECOMMENDATIONS

The findings were forwarded to IACS and the IMO. A proposal for guidance on dealing with weather-dependent lashing was also put forward. Further recommendations included the need to increase the reliability of cargo stows by measuring and checking weights and to assist crews with handling extreme weather and nonlinear ship responses. Operator guidance to prevent hull deformation, fatigue and cargo damage, is addressed in the new TALLSHIP JIP. Lashing@Sea comprises 23 participants including ship operators, class societies, flag states, lashing gear manufacturers, training organisations and onboard systems suppliers.



Experience the progress.

Offshore Crane Technology

- Technology & Innovation
- Experience
- Competence
- Quality
- Service



VISIT US AT THE OTC
IN HOUSTON 02.-05. MAY 2011
AT OUR BOOTH NO.4527-4

Liebherr-Werk Nenzing GmbH
P.O. Box 10, A-6710 Nenzing/Austria
Tel.: +43 50809 41-481
Fax: +43 50809 41-625
offshore.crane@liebherr.com
www.liebherr.com

Liebherr Nenzing Crane Co.
7075 Bennington Street
Houston, Texas 77028 USA
Tel.: +1 713 636 4070
Fax: +1 713 636 4073
info.lnc@liebherr.com
www.liebherr.com

LIEBHERR
The Group

THIS IS NO PLACE TO LOSE POWER

EPD - Designing power systems for *any environment*.



World Leader in Integrated Diesel / Electric Power Systems

Electronic Power Design, Inc. (Houston) and EPD Asia Group (China) are considered among the top design/engineering and manufacturing companies in the world for marine diesel/electric power systems. With the expansion of EPD Singapore Services (Singapore) and the new EPD do Brasil (Rio de Janeiro), the EPD group of companies manufactures and supports customers' equipment worldwide.

Our Range of Services:

- Engineering
- Design
- Programming
- Manufacturing
- Commissioning
- Field Service



For more information contact
Sales@EPDLtd.com

EPD **ELECTRONIC POWER DESIGN, INC.**
ELECTRICAL SYSTEMS INTEGRATOR

EPD EPD A/IA GROUP, LTD.
ELECTRICAL SYSTEMS INTEGRATOR

EPD EPD SINGAPORE SERVICE, PTE. LTD.
ELECTRICAL SYSTEMS INTEGRATOR

EPD EPD CHINA GROUP, LTD.
ELECTRICAL SYSTEMS INTEGRATOR

EPD EPD DO BRASIL, LTDA.
ELECTRICAL SYSTEMS INTEGRATOR

New Sloshing Analysis Methodology

Class society ABS and Korea's Daewoo Shipbuilding & Marine Engineering (DSME) are concluding a one-year joint development program (JDP) examining

critical wave conditions for sloshing model tests and computational fluid dynamics (CFD) in the cargo tanks of floating liquefied natural gas (FLNG) vessels.

This was done to offer a new methodology to determine critical sloshing conditions more efficiently, with the aim to reduce the cost and time duration for



(Graphics courtesy of DSME)

sloshing test campaigns.

“Model tests can not cover all possible wave height, period, heading and filling levels since there are just too many combinations to determine the life time maximum sloshing loads,” said Yung Sup Shin, Head of the Containment System Group, ABS Corporate Technology. “However, we have developed a robust way to determine a finite number of critical sloshing conditions consistently and efficiently compared to other existing methods.” The methodology, explains Shin, consists of two main steps. A sloshing pseudo-response amplitude operator (RAO) is defined based on the total sloshing wave energy and, secondly, the concept of sloshing severity is introduced based on the area under the sloshing energy response spectrum curve. This advanced theoretical formulation represents ship motion and sloshing interaction calculating the energy of the liquid cargo in the tank. The numerical analysis of the fluid motion from this theoretical methodology has been validated by comparing the results to those from conventional sloshing tests for an FLNG cargo tank.

Shin points out that the validation is based on extensive sloshing model test data developed from a joint industry project (JIP) by DSME using Gas Transport & Technigaz (GTT NO 96) membrane containment system for an FLNG with a two-row cargo tank with centerline cofferdam arrangement. ABS was a participant in this two-row JIP along with other class societies and energy majors.

It is important to include any critical sea state in a sloshing test matrix, however, current state-of-the-art CFD codes have a limited value for evaluating the life time design sloshing pressures due mainly to the lack of computational efficiency. Shin says the total sloshing wave energy and severity computation developed jointly by ABS and DSME provides an alternative to selecting relevant sea states in sloshing model testing and analysis.

Visit us at OTC Booth 3665.
For more information, go to www.cnavnss.com.

POSITION YOURSELF FOR SUCCESS
QUALITY SERVICE 24/7



- Easy to use
- GPS/GLONASS
- Dual networks
- Updated QA/QC
- Precise-Stable-Reliable
- 10 cm accuracy worldwide



CONTACT US AT:

| LAFAYETTE - CORPORATE +1 (337) 210-0000 | HOUSTON +1 (713) 468-1536 | BRAZIL +55 (21) 21724000 |
| EUROPE +44 (1284) 703-800 | SINGAPORE +65 (62) 95-9738 | SOUTH AFRICA +27 (21) 705-2741 | ANGOLA +244 (222)330202 |

POWERFUL CORROSION PROTECTION & LUBRICATION

OFFSHORE • WORKBOAT • BARGE • DREDGE • FISHING VESSEL • DRYDOCK
BALLAST TANKS • VOIDS • RUDDERS • LOCKERS • CABLES

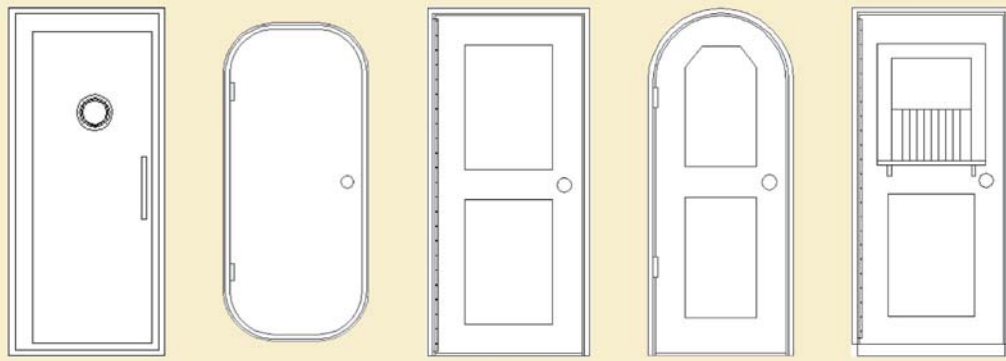
- | | |
|--|--|
| <input checked="" type="checkbox"/> Lanolin Base Formulation | <input checked="" type="checkbox"/> Minimum Surface Prep |
| <input checked="" type="checkbox"/> Eco-friendly | <input checked="" type="checkbox"/> No Blasting |
| <input checked="" type="checkbox"/> No Solvent Content | <input checked="" type="checkbox"/> One Coat Application |
| <input checked="" type="checkbox"/> Non Toxic | <input checked="" type="checkbox"/> Apply By Spray |
| <input checked="" type="checkbox"/> Non Hazardous | <input checked="" type="checkbox"/> Fill & Drain |
| <input checked="" type="checkbox"/> Easy to Apply | <input checked="" type="checkbox"/> Floatation |



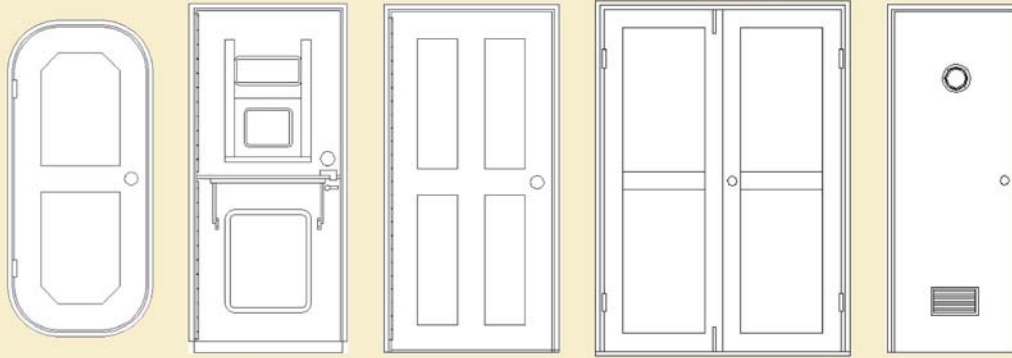
Fluid Film Special Coating System
IDEAL REPLACEMENT FOR SOLVENT COMPOUNDS

Meeting MIL-C-81309, Type II, and MIL-C-16173

Toll Free: 888-387-3522
www.fluid-film.com



Pick a Door... Any Door



At Técnico we manufacture and supply over 100 different doors for the US Navy, US Coast Guard and commercial ships. Discover what we can do for you at www.tecnicoCorp.com.



Marine & Industrial Contractors

Proud to be part of
AMERICAN MARITIME HOLDINGS

NORFOLK, VA • PANAMA CITY, FL • PHILADELPHIA, PA • MOBILE, AL • SAN DIEGO, CA | 757.545.4013 | www.tecnicoCorp.com

Supporting Fleet Readiness for Naval, Commercial and Offshore Marine Clients Worldwide



Strategic Marine
Maritime Solutions



sales@strategicmarine.com

www.strategicmarine.com

Maritime Professional

The Essential Quarterly Magazine

Register today for your FREE SUBSCRIPTION:
www.maritimeprofessional.com/subscribe.aspx

Q2 Edition 2011

Energy Transportation



Complete Rig and Marine Vessel Repair and Refurbishment



With over 60 years experience, Gulf Copper delivers complete repair, maintenance, conversion and emergency services for offshore rigs and marine vessels. Our trained and experienced team of professionals and all-inclusive facilities are at your service 24/7/365.

- Locations in Galveston, Port Arthur, Corpus Christi, San Diego and Guam
- Dry docks and deepwater slips
- ISO 9001 certified
- ASME, USCG, AWS, ABS certified welders
- ASME U, S and PP code stamps
- On-site emergency services

Whatever your requirements, Gulf Copper has the people, experience and facilities to get your job done on time and on budget. For a site visit or to schedule a project, call 281-599-8200 today or go to www.gulfcopper.com/rig.htm.

New Galveston
fabrication
facility now open



GULF COPPER

Employee Owned, Customer Driven

MARINE | INDUSTRIAL | GOVERNMENT

Engineering Ingenuity Helps

Ensure Success of Swecomex Project

By Robb Erickson, Vice President Sales, Heavy Marine Transport Worldwide, Dockwise

Dockwise has been providing worldwide transport solutions for more than 30 years and its vision is to become the contractor of choice throughout the Heavy Marine Transport (HMT), Transport & Installation (T&I), and Logistical Management services industry. Founded in 1959, Swecomex has provided process equipment for hundreds of plants worldwide, as well as been actively involved in both offshore fabrication and international offshore and onshore projects.

In 2010, Dockwise was awarded the contract for the Swecomex Independencia I, the first jack-up rig ever constructed in Mexico. The scope of work for Dockwise included the opportunity to conceive, engineer, manage, and execute this historic operation. As part of the Dockwise Group of Companies, Ocean Dynamics (ODL) is an engineering consulting company headquartered in Houston, Texas. Providing engineering and consulting services to the offshore industry, ODL specializes in the analysis

and design of various offshore structures (fixed and floating), marine analysis and design, mooring systems, and offshore transportation and installation.

The combination of ODL's engineering expertise, along with the project management experience within Dockwise, resulted in the load out of the Swecomex Independencia I jack-up rig being the first project to be entirely engineered and managed out of the Dockwise Houston office. The Dockwise scope of work for the Swecomex project included the load out of the Independencia I jack-up rig from the Swecomex fabrication yard into the Tuxpan River, directly in front of the Swecomex dock. Although a Dockwise vessel would have been preferred, the load-out location introduced depth restrictions that prevented the use of any vessel from the Dockwise fleet. Therefore, the load-out concept turned out not to be a simple one.

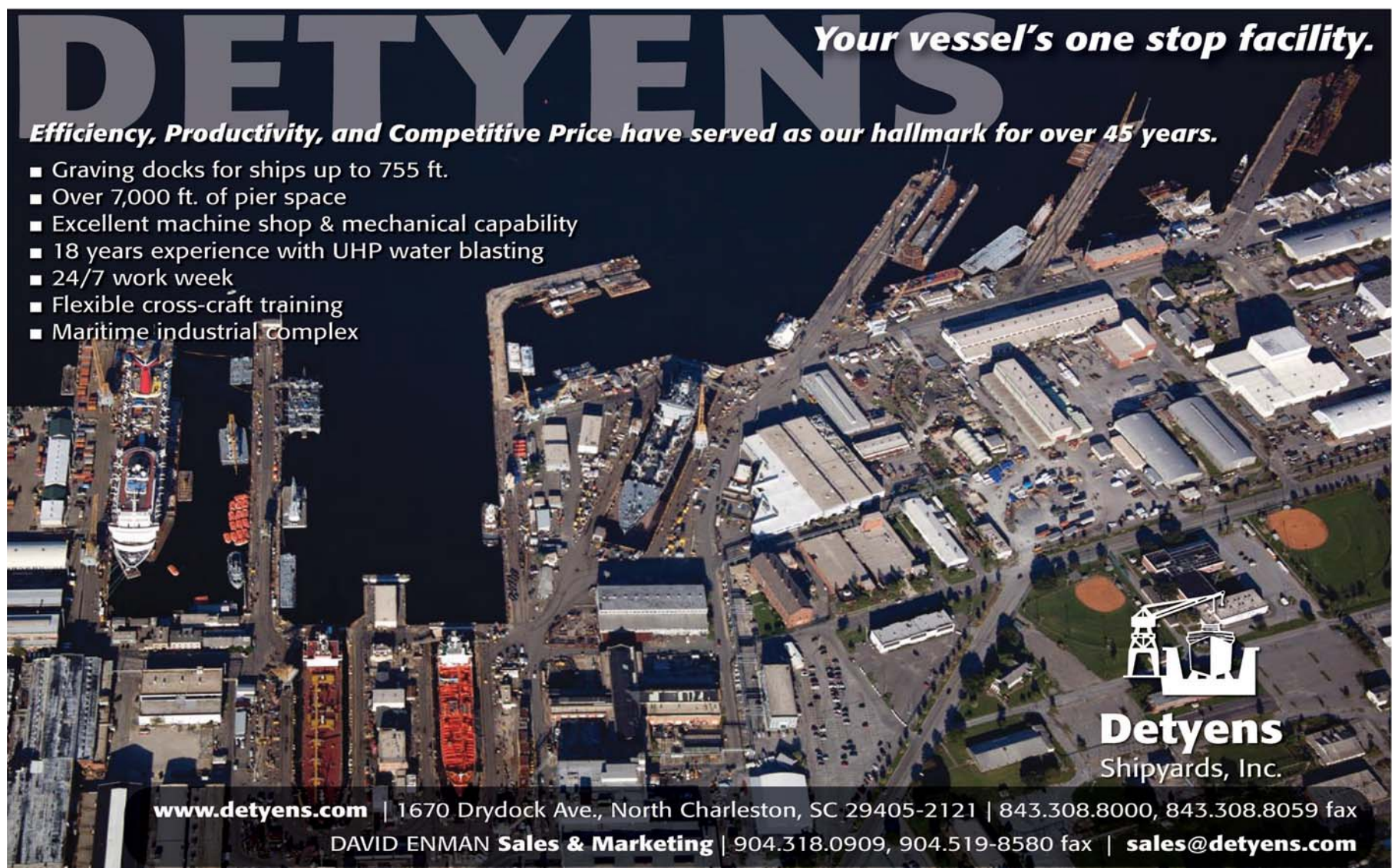
After various scenarios were considered, the relocation of the rig was ulti-

mately accomplished by loading out the jack-up transversely onto a 100-ft wide barge, rotating the assembly, and lowering each jack-up support leg on either side of the barge so that the rig would stand on its own. Finally, the barge was removed from the narrow space under the rig while avoiding any contact with the jack-up support legs.

With an invaluable opportunity to enter into the offshore market in Mexico, **Dockwise contracted a powerhouse team to safely and successfully execute the details of the operation. The heavy moving expertise of Mammoet was brought in to perform the skid-on and load out of the rig, while Crowley provided the ballast engineers as well as a barge that met all the size and strength requirements for the operation. SAAM Tugs, RK Consultants, Port Captains, and Port Authority of Tuxpan provided their expertise in executing the stability-critical rotation of the barge and rig.**

The project was not short of potential complications. Many management and engineering hours were spent deciphering and designing all the details of the operation to ensure a safe and successful load out. Beginning with the transverse load out of the 11,200 ton rig onto a 100-ft wide barge, where ODL strength calculations showed use of nearly all the capacity of the barge, to rotating the barge and rig together 180 degrees, which challenged all stability guidelines. These issues were mitigated with innovative engineering and design, which provided strengthening measures for the barge with a skid beam design that allowed the loads to be spread safely. An evaluation of the stability of the rotation maneuver resulted in draft and vertical center of gravity limitations that were then communicated to the client for the jack-up hull.

During the operation, a constant collaboration with the client and the subcontracted parties was paramount to



DETYENS *Your vessel's one stop facility.*

Efficiency, Productivity, and Competitive Price have served as our hallmark for over 45 years.

- Graving docks for ships up to 755 ft.
- Over 7,000 ft. of pier space
- Excellent machine shop & mechanical capability
- 18 years experience with UHP water blasting
- 24/7 work week
- Flexible cross-craft training
- Maritime industrial complex

Detyens
Shipyards, Inc.

www.detyens.com | 1670 Drydock Ave., North Charleston, SC 29405-2121 | 843.308.8000, 843.308.8059 fax
DAVID ENMAN Sales & Marketing | 904.318.0909, 904.519-8580 fax | sales@detyens.com

adjusting the precise engineering design with the field conditions provided. Coefficient of friction issues encountered were mitigated with good planning and cooperation of team members.

As depicted, each maneuver had to be precise and well planned. Safety and procedural meetings were held before every stage of the operation in order to provide clarity of communication lines and to ensure the utmost considerations were being given to the safety of every person involved in every procedure.

The complexity of combining the land transportation provided by Mammoet, along with the marine transportation interfaces provided by Dockwise, is a reflection of Dockwise's growing reputation as a skilled project manager, able to combine the proper marine transportation expertise with the necessary imagination required to successfully execute a "turn-key" logistics solution like the Swecomex project.

www.dockwise.com

Dockwise was awarded the contract for the Swecomex Independencia I, the first jack-up rig ever constructed in Mexico. The scope of work for Dockwise included the opportunity to conceive, engineer, manage, and execute this historic operation.



SALARY. BENEFITS. AND A LIFETIME OF BRAGGING RIGHTS.



We're not just building multiple ships. We're building multiple ships based on different designs. If you have experience designing or building ships, there's probably a place for you. Plus, it comes with a compensation package that's in a class of its own. Apply today at www.austaljobs.com.

NOW HIRING

- Engineering Manager
- Mechanical Project Engineers
- Deputy Program Engineer
- Project Coordinators & Managers
- ILS Warehouse Associate
- Sr. Estimator
- Process Engineer
- A-Class Marine Electricians
- Fitout Tradesmen
- Test & Activation Specialists
- Structural Planners
- Contracts/Subcontracts Administrator
- Mechanical, Structural & Fitout Designers & Engineers
- Pipe Foremen

Austal is an Equal Opportunity Employer



Siemens & Robichaux Automation & Control

Simple Solutions to Complex Problems

Fast-growing systems integrator making its maritime mark as sole-source for marine automation and electrical systems

For users troubleshooting systems with components, subsystems and software from different sources, "finger pointing" – the tendency of vendors to blame each other – has to be the most frustrating experience, sometimes a nightmare. But in the maritime industry, it can be much more than that: when a vessel's multi-vendor electrical and automation system goes down, thousands of dollars a day can be lost, and the blame game can extend troubleshooting from days to weeks.

Robichaux Automation and Control, Inc. (RAACI), a female owned small business and one of Louisiana's fastest growing marine systems integrators, knows all about the high stakes its clients face. In addition to the company's marine systems expertise and Defense Priority Rating, its status as a female owned small business helps the Navy and its other

Federal Government customers satisfy federally mandated small business goals. Among those clients are:

- **Bollinger Shipyards** where RAACI is manufacturing S-120 Siemens Active Front End (AFE) Bowthruster drives as well as Main, Emergency and Shore Power Switchboards (450V) for 34 USCG "Fast Response Cutter" vessels.

- **Montco Offshore** where RAACI is designing and building a complete Diesel Electric Propulsion System, which will include two 2,400 HP Siemens S-120 Active Front End Water-Cooled Drives for the world's largest cylindrical lift boat. The vessel's alarm and power management systems will include an auto paralleling 690V and 480V Switchboard with Siemens VL/WL Circuit Breakers. This 335-foot floating giant with three cranes has 15,400 square feet of deck and 1.5

million pounds of deck load capacity.

- **The U.S. Navy**, which is upgrading its machinery control system with a RAACI Machinery Control System comprising 6,500 I/O points on its USNS Seay, a 951-foot, 62,000-ton BOB HOPE-class supply ship.

- **U.S. Army Corps of Engineers** where RAACI is providing a complete Pump Control Panel, Automation and Controls System for a Louisiana flood control project, which is the world's largest, with pumps so powerful they can fill an Olympic-size pool in three seconds.

These clients and many others chose RAACI as a sole-source integrator for their projects' electrical and automation control systems because of its reputation for designing, engineering, building, commissioning and fully supporting cost-

effective, marine automation and control systems.

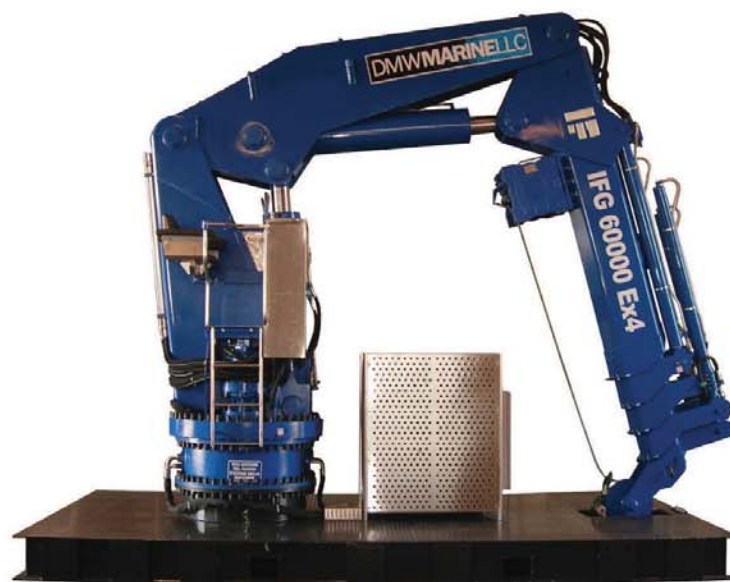
"Referrals are our best sources of new business," said RAACI President Trudy Robichaux. "Since we opened our doors in 2005, we've hardly advertised or even had a sales person. We've been fortunate in that regard, but it also speaks for our client service as well as the quality and execution of our work, which is consistently on-time and on-budget."

REDUCING RISK

Dennis Robichaux, the firm's vice-president, explains that a big value in being a sole source for integrated electrical and automation control systems in maritime applications is reducing the risk to vessel builders and owner/operators alike. "Risk in shipbuilding can take many forms," Mr. Robichaux said. "Will



**We supply the best cranes,
on time for the best price**



DMW Marine

102 Pickering Way Suite 503 Exton, PA 19341

ph 610.363.3846 • fax 610.363.6726 • www.dmwmarine.com



to us," said Mr. Robichaux.

Backed by a broad portfolio: RAACI is located west of New Orleans, in the heart of the Gulf's shipbuilding country. Collectively, its key people have more than 100 years of experience in providing electrical and automation systems. Both Mr. and Mrs. Robichaux agree that their business depends not only on that experience, but also having access to a broad portfolio of electrical and automation components.

"While all of our jobs are custom," Mrs. Robichaux says, "their maritime nature demands that every RAACI system is built to the most exacting requirements for vibration, size and weight, ruggedness, reliability and serviceability."

Mr. Robichaux says that's why RAACI chose to become a registered Siemens Systems Integrator partner. "The broad Siemens portfolio of electrical and automation devices as well as drives, circuit breakers and other components, gives us multiple advantages that we in turn bring our clients," he explains. "One is that each Siemens product family has a wide spectrum of sizes and capabilities, so when we have to design into tight spaces,

we can do so. Another is the quality of Siemens engineering and manufacturing translates into ironclad reliability."

To illustrate the portfolio's breadth, he points to the 6,500-point I/O control system for USNS Seay, which uses the Siemens S7-417H Programmable Logic Controller (PLC), its most powerful. "With the Siemens S7-417H PLC, we were able to incorporate eight different control systems into two redundant PLCs, replacing 14 proprietary single-board computer systems."

GREEN WATERS AHEAD

Mr. Robichaux adds that Siemens line of Variable Frequency Drives (VFDs), which come in a wide variety of sizes, both air-cooled and water-cooled, helps RAACI design energy-savings and a longer operational life into their drive system design. "Siemens VFDs allow motors to run at optimal speeds for varying demands placed on them," he says. "So instead of operating at maximum output for a less-than-maximum requirement, a VFD will match motor speed with the need. This not only saves energy and fuel, it also helps prolong the life of



the motor." In fact, RAACI is using Siemens SINAMICS S-120 Active Front End water-cooled VFDs for the twin 2,400 HP propulsion motors and the 536 hp bow thruster in Montco Offshore's huge lift boat. "These motors are as expensive as they're big," Mrs. Robichaux says. "The VFDs will help Montco save on fuel costs and on maintenance and periodic overhauls. What dwarfs these costs, however, is the costly down time that'd be required for major maintenance. With day rates of \$100,000 or more, it gets expensive fast."

the project get done on time? Will there be unforeseen delays and/or costs? Will it work as designed? Will it be reliable? If a system goes down, how long will it take to bring it back up? Ultimately," he adds, "these risk can translate into loss of our clients' money, damage to their own reputations for delivery and execution, and in some cases, even people's lives.

"Siemens is structured in such a way to allow RAACI the flexibility to work at the project design level where careful integration must take place; the technical support that Siemens provides early on in the design phase of a project is invaluable

267 Bay Shore Ave • Mobile, AL 36607
 Phone: (251) 473-2116 • Fax: (251) 450-5074
www.gulffastener.com

The highest quality fasteners, hardware, and components when you need them is our commitment to you. Qualified per MIL-I-45208A, MIL-STD-45662, ISO certified to 9001:2008 and SAE AS 9120:2002. Gulf Fastener is a certified SBA HUBZone company.

Mission Statement
 Gulf Fastener, Inc. endeavors to provide quality products and services that meet or exceed our customers' requirements first time, every time.

Are Weapons the Answer to *Piracy?*

by Andrew Kain, CEO and Ric Filon, Director Maritime Services, AKE Ltd

This article is intended to help inform the debate on the use of arms, in particular, armed Sea Marshals, in the protection of vessels conducting commercial business. At the outset AKE acknowledges an interest through its support to GAC Solutions in the provision of maritime security services and support to maritime clients. This article provides objective analysis of the situation confronting the maritime industry in respect of piracy, its growing effect on business, and the arming of ships. A better understanding of the factors that will affect the maritime adventure with the introduction of weapons to vessels is required. The following is a summary of those factors.

BACKGROUND

The underlying motivation to arm vessels is a genuine desire to protect crews, ships and cargo. However, the debate currently seems to be driven more by the following: **fear induced pressure on the stakeholders; the questionable authority of some proponents of arming ships; frustration throughout the industry at the apparent ease with which pirates can gain access and control of ships.**

There is also much confusion on the subject of arming vessels, with the polar-

ized views of the absolutely “No” lobby and the definitely “Yes” lobby, an uncertain legal environment, the effects of competing interests and the absence of real direction.

The effect of an over-dramatic media creates a perception of the frequency and impact of piracy attacks that is not borne out by statistics. Also, the argument for arming ships increasingly relies on the use of the strap line “No ship with armed escorts has been taken.” There are many equally true statements such as, “ships with particular funnel markings have not been taken.”

INTRODUCTION

While piracy is a global phenomenon, the main focus of concern is towards the Gulf of Aden/Indian Ocean and in particular Somali sponsored piracy.

In our view, the real debate should not be as to whether armed Sea Marshals are appropriate for defense of vessels, but how to better protect shipping on a global basis. However, within the scope of this article we will focus only on the issue of arms in protecting a maritime adventure.

Where the choice is “armed protection” or “no armed protection” we aim to provide clear guidelines as to how to evalu-

ate the likely efficacy of weapons deployed and the capabilities of those employed to use them.

We shall also provide some practical considerations in relation to rules of engagement and responsibility. In our view, the employment of armed guards does not, and should never allow the delegation of responsibility for their actions, or the accountability for the consequences from the employer.

THE RISK ASSESSMENT

The start point in the decision making process as to whether to employ armed support for a maritime adventure should be based on a full understanding of the risks that must be mitigated. In the context of this article this is piracy, or perhaps more accurately, the unauthorized access to a vessel of unknown persons with a view to detaining the crew, ship and cargo for ransom of some kind, or the removal of cargo and / or possessions of value. (This covers situations globally).

While this risk is not exclusive to the Gulf of Aden or Indian Ocean the issue, and in particular the cost to stakeholders, is more pronounced in this region; therefore, we will concentrate on Somali pirates and their modus operandi.

It is fundamentally important to understand the MO (modus operandi) of pirates and their training and equipment; indeed, without an understanding any decision is likely to be flawed. Also, and in relation to Somali pirates, the debate as to whether they are actually pirates or terrorists, in the context of defending against them, is purely academic and has more to do with political agendas than providing a solution to the problem, and has no place in the threat assessment other than help define their motivation.

The problem in the Gulf is primarily a land-based issue and will be resolved ultimately, if ever, with a political and economic solution in what is called Somalia. It is important to acknowledge that piracy is also an economic or commercial proposition and attacking its commerciality is important. Somali pirates range from the poorly equipped criminal opportunist to the highly organized groups employing mother ships and a variety of weapons and tactics. The fundamental issue is what can be done to protect the integrity of the maritime adventure in the most cost-effective way and which will be applicable in all risk areas.

In any risk assessment, it is advisable to look at the situation from the attacker’s

perspective. It is also important to understand the three elements that are necessary for any successful attack.

- **The motivation:** As stated above this is clearly a commercial proposition with large sums to be made.

- **Opportunity:** This is provided by the target market, i.e. ships; and in the case of transiting the Gulf of Aden it is fundamentally important to understand the opportunity a vessel presents to any potential attacker.

- **Capability:** This is the resource, expertise and the training required by pirates to be able to take advantage of any opportunity presented to them.

(With regards to motivation, if we are successful in removing the opportunities that exist and restrict the capabilities of the pirates it will become a less rewarding enterprise for pirates and in doing so we attack their motivation).

A brief example of this may be that if 20,000+ ships transit the Gulf of Aden each year, this provides 20,000 possible opportunities. While other obvious factors will remove some of these transiting vessels from the “opportunity” category many more vessels could remove themselves from it if their Master and crew understood and were confident in the defensive capabilities of their vessels.

Size, speed and freeboard are characteristics that, if supported by good procedures, should require no additional security and, properly utilised, will put many ships beyond the capabilities of the pirates. In principle, the identification and removal of as much opportunity as is possible (without affecting the commercial enterprise) and the restriction of the pirates capability to effectively deploy their resources combined with good procedures and their effective application will substantially mitigate the risk and will reduce the threat to shipping in general.

A statement of the blindingly obvious, but fundamentally important, is that to achieve their aim, pirates must gain access to the controls of the target vessel. Gaining access to the deck alone need not necessarily provide access to controls. In any attack, we need to look at it from the pirate’s perspective and the problems confronting them in achieving their objectives. They must come alongside the target vessel; they must climb the vessel to gain access to the deck; they have to traverse the deck and companionways to gain access to and take over the controls. They must make a transit to a safe port and then carry out the rest of their activities.

Resources they will require include a mother ship (particularly in exploiting op-

portunities that may exist out into the Indian Ocean), launches or skiffs to come alongside the target vessel, makeshift ladders or means to gain access to the handrails and thereafter the deck, and weapons (mainly to intimidate, such as RPG7s and AK47s).

Difficulties that will confront pirates are such as; sea states, bad weather, height and difficulty of freeboard to climb, speed of target vessel, wash and manoeuvring, as well as weapons effectiveness (they do not have the weapons with the capabilities of stopping the majority of ships unless their intimidating image prevails!).

A stationary vessel in a calm sea is a considerably easier prospect than one that is maneuvering at speed.

ALL MARINERS AND PIRATES KNOW THIS

Weapons and effects: Hollywood and the media have greatly exaggerated the destructive power of such weapons as the RPG7, while the AK47 has an iconic status. **The RPG7 is a rocket propelled grenade, with very limited capability and effect.** The AK47 is a superb close quarter battle weapon, ideal for insurgents, pirates and many others, because of its simplicity and functionality. However, it is a very inaccurate weapon, with little penetration capability. Both can, and do, create a situation of panic and fear in those with no understanding because of the noise effect and peoples unrealistic image of their capabilities. That said, the inherent inaccuracies of the weapons and their very limited effectiveness are not the main considerations in whether to arm Sea Marshalls or not, although they should contribute to the argument against arms in most cases.

From considerable experience in shooting, training and developing shooting techniques, we can testify to the difficulties experienced by most professional soldiers in achieving hits over 100, 200 and 300m, when firing from a stable ground platform against a stationary target fixed to a stable platform in a benign range environment. When you apply any movement at either end, the difficulty increases dramatically and when movement is at both ends, accuracy is replaced by luck. The chances of anyone firing from a moving skiff and hitting what they are aiming for, is very low. A hit with even an RPG7, to do any serious damage, would have to be luckiest shot in the world, and would certainly not be the result of deliberate aimed shot at a specific point on the vessel.

WEAPONS FOR DEFENSE

The use of weapons to counter piracy,



Specialty lubricants to endure the elements

For your critical marine applications, Klüber Lubrication has developed lubricants versatile enough to hold up under arctic cold, tropical storms and seawater exposure. Working closely with leading OEMs, we provide high-performance lubricants to preserve your anchor-handling winches, pulleys or propeller shafts for long life and optimum results. Our marine component lubricants have ensured trouble-free function for decades, extending service intervals and saving you money.

Specialty lubricants made by Klüber Lubrication: 80 years of experience and professional services to aid your success.

Klüber Lubrication North America L.P.
info@us.klueber.com / www.klueber.com

your global specialist

KLÜBER
LUBRICATION

Hollywood and the media have greatly exaggerated the destructive power of such weapons as the RPG7, while the AK47 has an iconic status. The RPG7 is a rocket propelled grenade, with very limited capability and effect.



(and there may be circumstances where some vessels and transits will require weapons as part of the defense) needs to be carefully thought through. The application of weapons should be a staged approach with the first being deterrence. For deterrence to be effective, knowledge of the weapon systems presence must be with the pirates. It must also be in their minds the fact that the weapon systems on board the vessel are more powerful than their own otherwise any deterrent effect is diminished.

To achieve this, the weapons systems on board have to be prominently displayed at least at the point of danger.

The next stage where deterrence has failed is to effectively neutralize an attack. The weapons must either be able to put down sufficient fire power as a demonstration to clearly convince pirates that further attack would not be in their interest; or be of sufficient accuracy to disable the power units of pirate vessels; ideally without endangering any of the occupants of the pirate vessel. This requires a category of weapons that can be described as “specialist.” Weapons such as pistols, shotguns and single shot rifles are not capable of providing a deterrent. Neither are they capable of effectively stopping a determined armed attack. Of equal importance is the expertise of those handling the weapons systems on board ship and this is an area where the shipping industry will find it most difficult to determine.

THIS CAN BE STATED WITH ABSOLUTE CERTAINTY

Having served in any branch of any military for any length of time will not,

on its own, illustrate the capability of security personnel with any weapons system.

Capability with any weapons system will, to a large extent, very much depend on currency (when did those tasked to use them last fire them?) which will be even more difficult to determine.

The production of CVs on its own is of little use!

There is no effective system of accreditation for security companies in the world.

RULES OF ENGAGEMENT

When the risks are fully understood, the appropriate weapons systems have been identified and are manned by those of requisite experience so that the advantage and control of situation clearly lies with the ship and its security there needs to be clear rules of engagement to cover every situation.

(Defining rules of engagement for all circumstances is not possible)

Perhaps two of the most difficult areas within the rules of engagement are:

- (1) Who has control of the situation? And;
- (2) What actually constitutes a risk to life whereby, pirates would be engaged with lethal force?

(The identification of actual pirates may not be that easy, as has been lethally demonstrated)

It is our view that in all circumstances the Master must have control (and this is probably the legal position), supported and advised by the Head of Security.

What constitutes a risk or a threat to life will, in many cases, be subjective and de-

pendent on the experience of those security operatives involved and this could increase dramatically the potential for criminal error.

SUMMARY

To achieve and then maintain control, the industry needs to institutionalize a better understanding of the actual risks confronting it. It must also have the means to communicate this knowledge to individual ships Masters, Officers and crews, so that all can and do understand the “actual” risks and how to mitigate them. In situations where it is considered appropriate to have weapons on board vessels, there needs to be a clear understanding of what constitutes appropriate weaponry that will effectively provide deterrence, and where deterrence fails be capable of effectively neutralizing an armed and determined attack.

Where weapons are deployed, it is absolutely critical that those employed to operate them have the appropriate skills and experience and are also current in weapon use. Finally, rules of engagement need to be appropriate and have to be realistic; and there must be absolute clarity as to who has control. The legal ramifications of this practical consideration are likely to be extensive.

Without proper consideration of the factors above, the deployment of weapons on vessels will do nothing to reduce the risk of piracy to shipping and could in fact „perversely “ add further and unnecessary risks to the industry at considerable extra cost.

The potential means of reducing the commercial return for pirates and of imposing considerable financial pressures on them currently exists within the power of the industry, without resort to arms.

About the Author

Andrew Kain (pictured) and Ric Filon, Director Maritime Services, AKE Ltd. Kain is CEO of AKE Ltd, fellow of RSA, President Mull Highland Games, awarded Royal Humane Society Testimonial for saving life, and former member of SAS.



AKE has been established since 1991 and has specialized in enabling clients to operate in challenging environments around the world. The specialist knowledge and experience of the authors derives from counter terrorism with UK Special Forces both land and maritime as well as from the commercial market and is supported by extensive understanding of maritime risk environment through its support for GAC Solutions. GAC Protective Solutions, powered by AKE, helps protect ships, cargoes and crew from the threat of piracy and kidnapping. It combines the resources and reach of the GAC Group with AKE's extensive experience in protecting people and organisations in hostile and difficult environments worldwide.

Your butterfly wafer valve *finally* arrived.

Too bad you needed a butterfly lug valve instead.



It's an easy mistake to make. After all, there are many different butterfly valves available today. And they come in a variety of configurations. That's why it's so important to order your replacement valves from World Wide Metric. Not only do we have thousands in stock, but our staff has the experience to know exactly which one is right for you. And we can ship it anywhere within 24 hours. For more information, call us at 855-CALL WWM (855.225.5996).

COMMERCIAL MARINE EXPO
Powering Atlantic Marine Industries
TUGS/BARGE • SHIP REPAIR & BUILDING • FISHING • FIRE/POLICE/SECURITY • FERRY • SHIPPING • MILITARY

Visit us at CME
on June 22-23, 2011
— Booth 227!



www.worldwidemetric.com

VALVES FLANGES FITTINGS TUBING COUPLINGS EXPANSION JOINTS METALS

GEA

Meeting the Oilfield's
Toughest Challenges



Tough problems demand tough machines from GEA Westfalia Separator.

Our disc type separators are built for effective solids removal and water de-oiling to well below 15ppm. These systems have been awarded type approval according to the IMO resolution MEPC 107 (49) and are preassembled for simple installation.

Our new drilling mud decanters are deep pond machines with high capacities. Benefits include low energy costs and reduced maintenance.

To learn more contact Bill DeChiara at 281-465-7911 or by email at William.DeChiara@geagroup.com.

See us at booth 4717 at the OTC show!



Liquids to Value

GEA Mechanical Equipment US, Inc.

GEA Westfalia Separator Division

100 Fairway Court • Northvale, NJ 07647

Phone: 201-767-3900 • Fax: 201-767-3901 • Toll-Free: 800-722-6622

24-Hour Technical Help: 800-509-9299

www.wsus.com

1514H

Rear Admiral Nevin Carr, Chief of Naval Research, is

At the Helm

of U.S. Naval Science & Technology

Through partnerships, Navy seeks “leap ahead” technology breakthroughs. An interview with Rear Admiral Nevin Carr, Chief of Naval Research, Office of Naval Research.

— by Edward Lundquist

Can you share with us your view of the importance of partnerships between the Navy, industry and academia?

Carr: Our relationships and partnerships within industry and academia are critical. Just to put them in context, we have approximately 1,000 touchpoints in industry, approximately 800 of which represent small business. Those are individual projects led by individual investigators. We have approximately 3,000 principle investors in academia; there are more projects, but they tend to be smaller. Under those 3,000 principle investigators are another 3,000 or so Ph.D. students who benefit from or support these efforts, which helps with our science, technology, engineering and mathematics (STEM) support and outreach. Now, “6.1” is our basic research, and the 6.1 funding is divided: approximately two-thirds go to academia and one-third to industry. By the time we get to “6.3,” developmental research, that ratio flips to approximately one-third to academia and the in-house labs and two-thirds to industry. Therefore, how we communicate our requirements and help industry prioritize their funding is very important.

We can never say with perfect certainty where we’re going or what the next big thing is going to be, but we do have directions and areas that we’re interested in. We’re in the business of taking those areas of interest and trying to mature them to where they become systems that transition to warfighters. However, because of the nature of science and technology, not everything transitions. That’s

an important point to remember when you consider that we can’t just say to industry, ‘Okay, do the following 10 things and I promise there will be a contract.’ We try to figure out which technologies are going to pay off, and it’s a continual two-way conversation. We communicate through our website and conferences, including our biannual Science and Technology partnership conference, which we held in November 2010 with 1,200 attendees, as well as the annual Office of the Secretary of Defense DOD-level conference and National Defense Industrial Association and American Society of Naval Engineers conferences. We participate in these events as part of our active, ongoing dialog with industry.

What about partnerships with ONR, Navy labs and oceanographic research institutes?

Carr: The Naval Research Laboratory (NRL) and ONR have always had a very close relationship with the oceanographic research institutes and the ocean community. The National Science Foundation was created in 1950, four years after ONR. For a few years after ONR’s creation, we performed a very key role in ocean sciences. Over time that has evolved so the National Science Foundation has a much larger budget than ours, but we still support ocean sciences. We have the Deep Submergence Vehicle Alvin that is operated by Woods Hole. We partner with the oceanographic community for a variety of projects. We are increasingly interested in the arctic,

where we do some work with the University of Washington and other schools. We essentially are the type commander for the University-National Oceanographic Laboratory System (UNOLS) fleet of Navy-built, commercially operated oceanographic research ships that are operated by universities. We have two new ones that are going to be built, contracted in fiscal year 2011-2012, to be operated by Scripps Institute of Oceanography and Woods Hole. There’s also the NRL branch co-located with the Navy’s Meteorological and Oceanographic community at the Stennis Space Center in Miss., and in Monterey, Calif. So, we have a very long, close association with the ocean and weather communities.

You mentioned risk earlier. Can you comment on efforts that do not have apparent tangible success?

Carr: That’s a key point to what we do. We try and balance risk and payoff, and sometimes the highest payoff comes with the highest risk. Our approach is to manage that risk, which sometimes means that technologies will fail. We have to be able to embrace that and learn from it and move on.

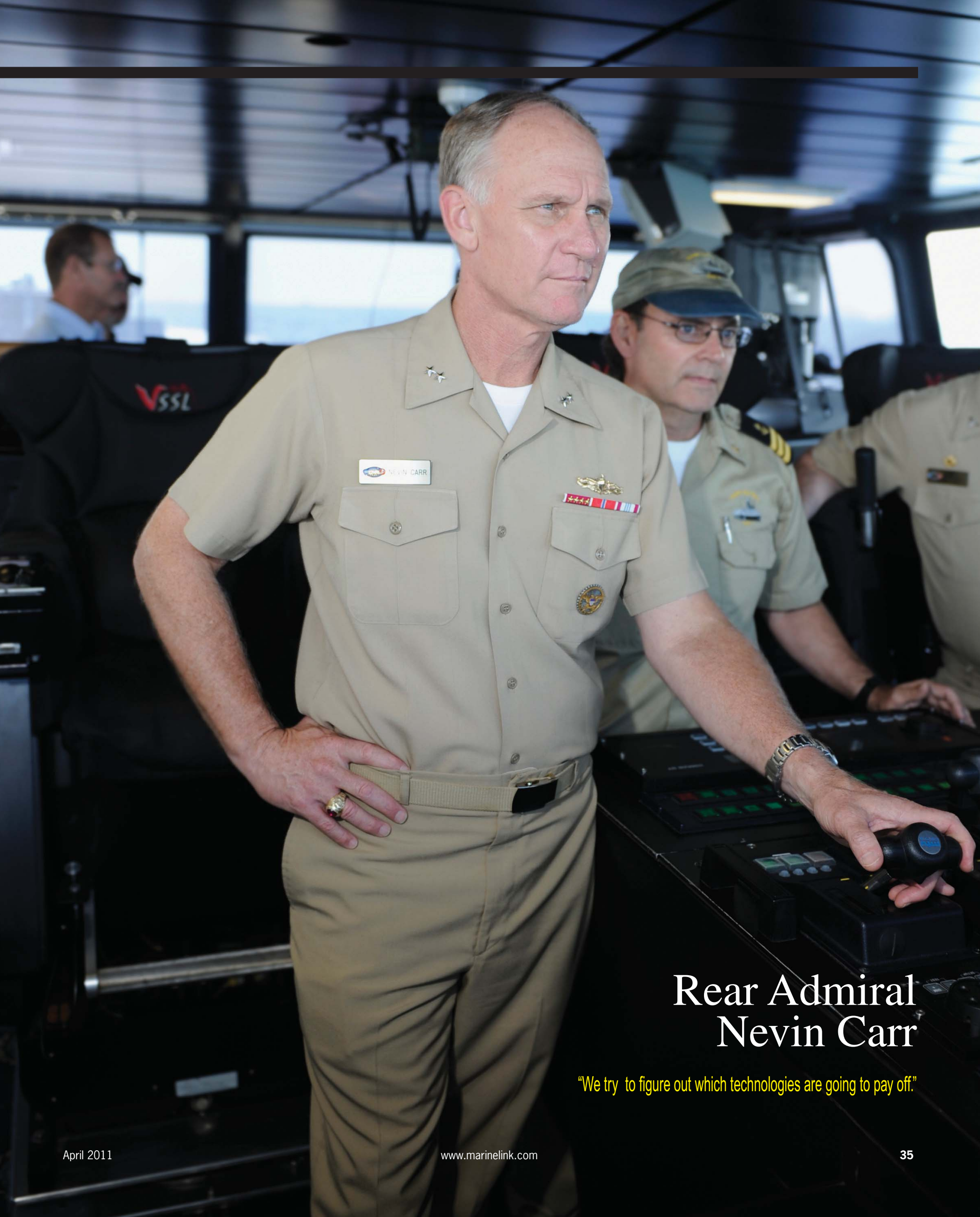
When you say “learn from it,” how would you characterize learning from failure?

Carr: Some of the basic research that we do is at a material science level. You may be developing a weapon or a gun barrel that fails when subjected to extreme loads. Well, you’ve learned something

that you can use about the material’s limits. Sometimes failing helps you find the edge.

Recently you’ve talked about some innovative and flexible hull designs. Where is this effort headed?

Carr: This is the concept that littoral combat ship (LCS) is beginning. LCS is an important step down the road to truly open, modular, flexible ships, where we can change combat systems or combat capability rapidly and affordably. The extreme example that I use is an aircraft carrier. The strike combat system on an aircraft carrier is the ultimate open system. When you want to change that combat system, you launch the old one off the front end, you land a new one on the back end, and you’ve just changed that ship’s combat capability. The interface is the flight deck, so if you can modernize ships and keep up with that ever-changing pace of technology without going into an overhaul and ripping everything out and starting over again, you’ve made modernization affordable. On the other end of the spectrum, the baseline 1 Aegis cruisers were magnificent warships, but they were built with a launcher that couldn’t be upgraded and couldn’t launch Tomahawk missiles and other kinds of ordnance. Those first five baseline 1 Aegis cruisers were eventually decommissioned because they couldn’t be affordably upgraded. Starting with baseline 2, we brought in the vertical launch system (VLS), and it was that open box that allowed us to affordably introduce differ-



Rear Admiral Nevin Carr

"We try to figure out which technologies are going to pay off."

The Man

Rear Adm. Nevin Carr is a surface warfare officer, a Naval Academy graduate and the Navy's chief innovation officer. Carr graduated from the U.S. Naval Academy with a bachelor's of science degree in naval architecture. He earned a master's of science degree in operations research from the Naval Postgraduate School and completed the Advanced Management Program at Harvard Business School.

He has spent his Navy career at sea in cruisers and destroyers, operating in the Mediterranean Sea, Black Sea, Indian Ocean, Arabian Gulf, North and South Atlantic, South Pacific and Baltic, Caribbean, Arctic and Red Seas. Shipboard tours included USS King (DDG 41); USS McCandless (FF 1084); USS Thomas S. Gates (CG 51); USS Vella Gulf (CG 72); Cruiser/Destroyer Group 8 staff embarked in USS Dwight D. Eisenhower (CVN 69); and the 2nd Fleet staff embarked in USS Mt. Whitney (LCC 20). He commanded USS Arleigh Burke (DDG 51) and USS Cape St. George (CG 71), winning Battle Efficiency Awards and Golden Anchors in both tours. While in command of Cape St. George, the ship participated in combat operations in support of Operation Iraqi Freedom in both the European and Central Command theaters.

Ashore, Carr has served in the Office of the Secretary of Defense where he worked on the Arleigh Burke, Ticonderoga and Seawolf programs and several Ballistic Missile Defense system programs. He later served in the Office of the Chief of Naval Operations as requirements officer for the Aegis Cruiser and Destroyer programs and was executive assistant to the commander, U.S. Fleet Forces Command. Following promotion to flag rank in 2006, he was assigned as the deputy director of surface warfare for combat systems and weapons and later as deputy assistant secretary of the Navy (international programs) and director, Navy International Program Office.

In December 2008, he became the 22nd chief of naval research with additional duties as director, test and evaluation and technology requirements.



ent weapons that fit through the interface.

What kind of research or technology development is ONR investing in to learn about how to make those open, adaptable ships?

Carr: There are several projects we have that are trying to do exactly that. One is called Integrated Topside (InTop), which seeks to get rid of all antennae on a ship and replace them with scaled apertures built into the superstructure. Instead of having one antenna for one specific bandwidth, you would be able to manage your use of the spectrum through a resource allocation manager that also manages in the time dimension. You can think of InTop as VLS for information dominance. It's the Velcro that allows us to readily adapt to meet the requirement. Additionally, InTop is contractually written in such a way that industry members are working together and partnering, and the contract can be easily handed off to acquisition at the end of the science and technology (S&T) cycle. It's a model program for open innovation.

What kind of research and development is the Navy engaged in regarding titanium ship structures, composites and new types of ship materials and designs?

Carr: Titanium is very expensive and very difficult to work with, so I'm not sure I see large-scale use of titanium for ship structures. We are very interested in composites. The deckhouse for the

Zumwalt-class destroyer is composite, and it's the Navy's first look at a composite deckhouse. We are interested in other technologies possibly for composite hulls up to 300 feet if the Navy were to be interested in a smaller class of ship to supplement the LCS, for example, or even smaller missions. But, if you could make a hull out of composites, you can do it in a very highly automated, repeatable way, which may help us save money in shipbuilding. It's an effort to look at technologies that may allow us to think about a new class of ship in the future, should the Navy decide to go that way.

How can small companies get involved with ONR research efforts?

Carr: That's a great question. As I mentioned, the vast majority of our research is done with small business. We really embrace small businesses. The best place to start is our website, www.onr.navy.mil, or one of the many conferences we host or participate in.

Some of our readers would be interested in market projections. Where will you be investing?

Carr: I've got a couple broad categories that you may think of as market projections. They are autonomy for unmanned systems, of course, and with autonomy you've got to have reliability. We need systems that operate autonomously with the necessary processing power. They need to be like a satellite: if you send

them off for months or years, they have to be very reliable and have robust, redundant systems. Power and energy is always of high interest. As Secretary of the Navy Ray Mabus has said, we need to treat power and energy as a strategic resource, reduce our dependence on foreign imports and lengthen our own legs.

What are some of the Navy's initiatives in the STEM disciplines?

Carr: STEM is a very important area for us because none of this happens without a healthy scientific, engineering and technical talent base. Today that talent may be in the fourth or fifth grade, and they need to be inspired to pursue the hard, important technical careers. Once inspired, they need to be assisted, nurtured and mentored. Right now, half of all college students that begin to major in a science or technology course of study don't complete it. Of the 2.5 million high school graduates that this country produces each year, approximately two million of them go to college, about one million begin to major in science and technology, approximately 480,000 graduate and only about 180,000 go on to advanced degrees. Two years ago, we awarded more advanced technical degrees to non-U.S. citizens than to U.S. citizens for the first time in U.S. history. Clearly, it's very important not just for the Navy but for the country that we have a healthy STEM base among the student population, so we help with that.

Rear Adm. Nevin Carr, Chief of Naval Research, discusses undersea science and technology with students from Wilson High School at the National Museum of the U.S. Navy at the Washington Navy Yard.



The Technology

The Department of the Navy's ONR provides the science and technology necessary to maintain the Navy and Marine Corps' technological advantage. Through its affiliates, ONR is a leader in science and technology with engagement in 50 states, 70 countries, 1,035 institutions of higher learning and 914 industry partners. ONR employs approximately 1,400 people, comprising uniformed, civilian and contract personnel with additional employees at the Naval Research Laboratory in Washington, D.C. To meet current and emerging warfighter needs and deliver future force capabilities, ONR invests 90 percent of its portfolio in mid- and long-term research while allowing for responsive, limited near-term technology insertions.

- Discovery and Invention consists of basic research (budget activity (BA) 6.1) and early applied research (BA 6.2) for future naval technologies and systems. The D&I portfolio by design has a broad focus, and programs are selected based on potential naval relevance and technology opportunity. D&I investments leverage other service, governmental, department, industry, international and general research community investments. The D&I portfolio supports sustained funding of the four National Naval Responsibilities: ocean acoustics, underwater weaponry, naval engineering and undersea medicine.

- Leap-Ahead Innovations include Innovative Naval Prototypes (INPs) and Swampworks and are technology investments that are potentially game changing or disruptive in nature. INPs achieve a level of technology suitable for transition in four to eight years. Swampworks efforts are smaller in scope than INPs and are intended to produce results in one to three years. This category is where ONR typically accepts higher risk in an effort to produce a higher payoff for the warfighters.

- Acquisition Enablers center on the Future Naval Capabilities (FNCs). These work to mature technology into requirements-driven, transition-oriented products in the late stages of applied research and advanced technology development (BA 6.3). FNCs provide enabling capabilities to fill gaps in Office of the Chief of Naval Operation and Marine Corps Combat Development Command requirements analyses identified in the Navy and Marine Corps strategies and Naval Power 21. In addition to FNCs, ONR also uses Small Business Innovative Research programs, Manufacturing Technology programs and Rapid Technology Transition to foster naval acquisition programs' success.

- Quick-Reaction S&T includes ONR Tech Solutions and Navy/Marine Corps Experimentation. These are quick-reaction projects responsive to the immediate needs identified by the fleet, operating forces or naval leadership.



(U.S. Navy photo/Released)

ONR tests its Large Vessel Interface Lift-on/Lift-off (LVI Lo/Lo) crane at Naval Station Norfolk. The demonstrator crane, which has been temporarily installed on MarAd's ship SS Flickertail State (T-ACS 5), uses motion-sensing technology to control standard 20-foot containers in all six degrees of freedom.



(U.S. Navy photo/Released)

The Office of Naval Research small water-plane area twin-hull oceanographic research ship R/V Kilo Moana takes part in the second Radiance in a Dynamic Ocean (RaDyO) program, an at-sea research experiment in Honolulu. Twenty-five researchers from the US, Canada, Poland and Australia participated in the RaDyO experiment. Results from this project are expected to enhance our knowledge of imaging through the air-sea interface and through-the-surface optical communications.

Source: ONR

10 years online over 2 million users
MaritimeJobs.com
 where employers and job seekers connect



Professional ECDIS solution

X

Professional Radar solution



JAN-2000

IMO Type Approved ECDIS



JMA-5300MKII

High-Performance Radar

Constaview™ digital signal processing

The most powerful processor ever

TEF™ multi-level target enhancement

Advanced technology for clear echo indication

Enhanced trail modes

Selectable trail length, great collision avoidance aid

Intuitive and advanced user interface

Clear and ergonomic on-screen information

Brushless motors

Extending the lifetime of motors

Intuitive user-interface

Featuring multi/wide-view mode

Real-Time AIS and Navtex overlay

Symbol and message indication

In-house technology

Anti-vibration design, silicon disk

Advanced route planning

Easy to edit, save and import routes

Flexible black box configuration

Suiting your type and size of vessel

Feel connected. Communicate further.



Since 1915

JRC Americas

(p) 205 654 5644

www.jrcamerica.com

*The abundance of deepwater O&G prospects, combined with the lack of oil transportation infrastructure in Brazil, has increasingly favored FPSOs as a production solution. Petrobras presently has more than 25 FPSOs in operation and this number is expected to double during the next decade. BW Offshore is a leader in FPSOs and FPSO operations. Although it has been quoting for jobs in Brazil for some years, the company finally established a local office in 2008. BW Offshore currently has three FPSOs operating in the Brazilian offshore and has another one slated to be delivered by the end of the year. The Rio de Janeiro office is headed by **General Manager Jon Harald Kilde M.S.c.**, who shared with Maritime Reporter the company's strategy and outlook.*

by **Claudio Paschoa**

Most Advanced FPSOs in Brazil • The Only FPSOs in GOM

BW Offshore

Jon Harald Kilde first came to Brazil in 1988 to work for Petrobras through Brasnord. Thereafter he returned a few times on business trips, but only moved again to Brazil in 1999. Over the years he has built a good and lasting business relationship with Petrobras executives, also learning how to do business in Brazil, having experienced various phases of growth in the Brazilian O&G market. In 2008 he returned to live in Brazil in order to negotiate contracts for BW Offshore and set up the company's main office in the country.

According to Kilde, "Only one month after opening the Rio de Janeiro office, we were awarded the contract operate the FPSO BW Cidade de São Vicente (BW

CdSV) at the Tupi (now re-named Lula) pre-salt field by Petrobras, it was a very good start." The FPSO will operate as a long term testing facility for the pre-salt reservoirs, starting with the TUPUI cluster and changing location annually.

The fact that BW Offshore was capable of delivering the BW CdSV in a record time of 11 months permitted Petrobras to fulfill its promise to the Brazilian government of producing oil from the pre-salt reservoirs within one year. This accomplishment placed BW Offshore in a position for future contracts with Petrobras, as a preferred FPSO supplier. The importance of the first oil in Tupi on May 1, 2009 to the Brazilian government, was illustrated by the enthusiastic celebration

led by then Brazilian President Luis Inacio "Lula" da Silva and highlights the importance given to the pre-salt discoveries throughout Brazil. "The customer relationship with Petrobras is excellent, which helps in the pursuit of further projects in and outside Brazil" says Kilde. He also emphasized the importance given by Petrobras to continuity, especially concerning the executives with whom they have contact and negotiate.

Could you tell us what changes have occurred in BW Offshore since mid 2010?

The main changes were the sale of our technology research division APL to National Oilwell Varco and our buy out of our direct competitor, Prosafe.

FPSO Cidade de São Vicente deck machinery.



(Photo Petrobras)



(Photo Claudio Paschoa)

“Brazil looks like it will become the largest FPSO market in the world and we want to participate. However, we need to evaluate the business prospects here in relation to other alternatives.”

**• Jon Harald Kilde M.S.c., GM,
BW Offshore**

How did the changes affect the company?

The changes influenced a lot of things here in Brazil, for example, Prosafe was double our size in Brazil, so now we have 250 employees and three FPSOs operating in Brazil, with another one due to arrive by the end of the year (The Papa-Terra FPSO).

So which FPSOs are operating in Brazil?

There is the Cidade de São Vicente FPSO, which was the first to work the pre-salt and was at the Tupi field EWT. There is the Polvo FPSO contracted to Devon. The Cidade de São Mateus FPSO which is working the Camarupim field for Petrobras. We are expecting the Papa Terra FPSO to be delivered from the shipyard where it is being built in Singapore, by the end of the year. It will be operating the Papa Terra field in the Campos Basin.

What about the BW Pioneer FPSO that was contracted by Petrobras for the Cascade & Chinook field in the Gulf of Mexico?

It is very close to begin production. The plan is to begin production by the end of next week (late March). **It will be the first FPSO on the American side of the GOM, we already have a large FPSO operating on the Mexican side (the largest FPSO in the world), therefore with the BW Pioneer starting operations we will have the only two FPSOs operating at the GOM.**

How many FPSOs does BW Offshore have operating in West Africa?

Many! Our total in Africa is 13 or 14 FPSOs in operation.

How did the acquisition of Prosafe affect BW Offshore's earnings?

With Prosafe we now have a truly global reach, for you to have an idea... we have a back log of \$8 billion. The forecast is for us to have yearly earnings of around \$400m.

What can you tell us about the APL sale?

The APL sale was really a win-win situation as now APL is owned by a business that has its same characteristics, such as mechanical and hydraulic technology, with a global infrastructure for these kinds of products and services. I think it will be good for them. They will have a bigger market.

We are a now a bigger company with Prosafe coming aboard but we still have technological agreements with APL, so I see the sale as a win-win for my company.

How do you see the business possibilities for your company in Brazil in the near future?

Brazil looks like it will become the largest FPSO market in the world and we want to participate. However, we need to evaluate the business prospects here in relation to other alternatives. Our preference would be for a more selective market in the future. One person might say that business is

Serving you

TODAY



Wilhelmsen Technical Solutions is a global provider of cost efficient, fully engineered solutions, equipment and services.

With expertise within the fields of environment, safety, HVAC-R and power, we can serve you for the entire lifetime of your vessel, rig or platform - starting with the needs you have today.

www.wilhelmsen.com/technicalsolutions





Left: YUUM K'AK'NÁAB FPSO (YKN) operating in Mexican side of the GOM.

Below: BW Pioneer cut-out showing STP turret.



(Image BW Offshore)

better here and another say that it is better elsewhere, but the final decision comes from our board of directors. My job in Brazil is to show the business possibilities here. For example, projects with Petrobras are long term solid contracts but all the demands, such as local content, makes things more complex. As a new and bigger company, after the acquisition of Prosafe, we definitely have a financial base strong enough to take on large projects. We still need to see what the future holds. We had to decline the last Petrobras tender as we already have four ongoing international projects and we are in the midst of integrating the companies. I explained this to Petrobras and they understood. Now we are preparing ourselves for future tenders.

How do you see the prospects for the worldwide FPSO market?

The FPSO market is also growing worldwide but no other region is growing more than Brazil. It's looking good, we have good prospects in major production areas such as Asia, Africa and the GOM, in the North Sea we also have prospects. In terms of quantity of FPSOs in demand, the forecast is very good for the next five to 10 years.

(See related story on page 49)

Which are the main challenges you face in Brazil? Do you still face major challenges in securing a specialized workforce or are things better now?

Unfortunately the problem with local workforce is even worse. Here in Brazil the local content demand and lack of resources, such as specialized workers and local manufacturing capacity makes for a complicated combination. You can demand local content but if these resources are not available it makes things very complicated. **That's why we are seeing a steep upward spiral in the O&G industry salaries, in Brazil. I have never seen anything like it. There are indexes for salary increases, but what is happening in the industry today is a salary rise way beyond the highest index figures.**

How do you deal with this local content problem?

Concerning local content, thank God we have three FPSOs operating at the same time in Brazil, which means we have a good base of Brazilian workers. But we are seeing that to guarantee the future in term of offshore workforce, we need to train them since school, we cannot just fight for workers with other companies and try to take their workers, as they will just go and try to take workers from us later.

You need to create new candidates and this will need to be done early, from when candidates begin technical school. We are forming partnerships with technical schools in various places. There is one project being negotiated with a school in Vitória, capital of the state of Espírito Santo, which looks promising and we are also looking at technical schools in Rio de Janeiro, in the city of Macaé. This is the first option, there are other alternatives but this is what we are doing now.

What new technologies are you currently working on?

We are working on an FLNG project, we believe this market will happen but not immediately because of various aspects concerning the gas market and also concerning technical aspects of the project, we are investing in the technologies involved and we believe in this market and that it will grow in Brazil too.

We have also done projects with extreme technologies, for example the FPSO on the Mexican side of the GOM is the largest in the world. The FPSO in the American side of the GOM is in the deepest water at 2,700 meters.

We have these technologies and now we want to be building on the technologies we already have, constantly looking for new things. In order to secure a definite profit it is better to work on continuity. We will always work with new technologies but our focus now is to give continuity to the technologies we already have.

Maritime Reporter & Engineering News

Which are your main clients in Brazil and worldwide?

Well, I told you about of \$8 billion backlog. 35% of this total is from Petrobras, which means that Petrobras is much bigger than any other client for us. Next in line comes Apache with 11%.

What about the OSX 1 FPSO?

Last year when we spoke, I commented on the possibility of working on this project and now we are doing this project for OSX. It isn't really a conversion, it was a new built FPSO, originally built for a company called Nexus, which invested and speculated in the FPSO market by making this generic project. When we bought APL in 2007, we were in a good position, as APL owned 50% of Nexus. What happened is that OSX basically bought the FPSO from the bank but with our technology aboard we got the contracts to adequate this new FPSO for the first OGX field, called Waimea. The FPSO is being fitted out in Singapore and will be completed in a few months, then it will sail to Brazil. It is a project where we are doing the engineering and project modifications but they will operate it.

How do you work with equipment suppliers here in Brazil?

In the Papa Terra project, for example, we

made a joint venture with Quip that is making modules in Brazil while we are making the modules outside Brazil.

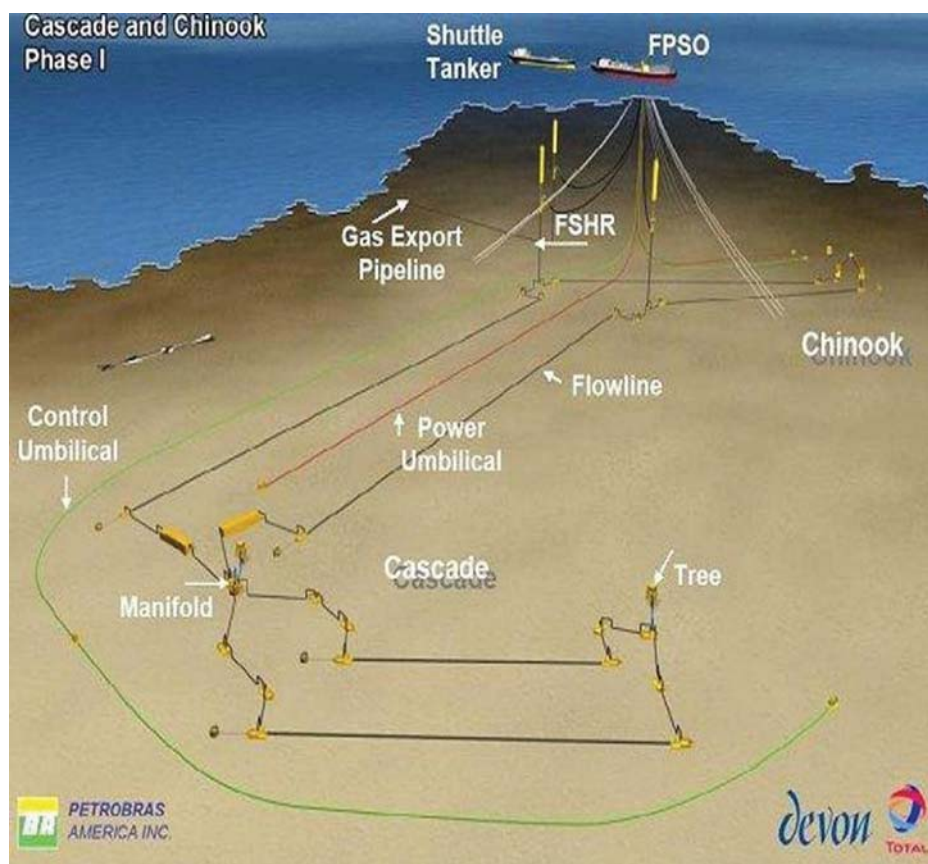
We have two teams working with suppliers, one for technical support, which works with a listing of companies specialized in offshore construction and various other services. The other team works with suppliers, buying supplies from companies in Brazil, as 85% of our supplies need to be bought in Brazil.

For now, we are not building new FPSOs in Brazil. We are open to it but for now we have no plans to build in Brazil. Our relation with Quip is very good and for now we are happy with them building in Brazil while we build in the foreign market. For new projects we will have to see the alternatives. There is still need for more development from EPC suppliers in Brazil, for processing plants for example. These need more development to compete internationally. Some areas of manufacture are competitive here in Brazil, but many areas still need more development in order to be competitive.

Who are your main competitors in Brazil?

Definitely SBM and Modec, other than these there is Teekay and Saipem. We are in third in size in Brazil, with SBM in first and Modec second, other companies only have one FPSO in operation in Brazil.

Cascade and Chinook Phase 1 with BW Pioneer FPSO.



MARINE
HydraWrap® Repair Kit

AVOID DOWNTIME
with the Marine HydraWrap® Carbon Fiber System

ABS Design Approved

Engineered to ASME Standards

Installed with common tools
in less than 30 minutes

No HOT WORK required

Avoid unplanned shutdowns

– the easy way to fix
leaking pipes... **FAST!**

Visit Us at OTC 2011
Booth #7431!

513.827.9169 | www.hydratechllc.com

Protecting you

TOMORROW

Through our global network covering more than 2 200 ports in 115 countries, Wilhelmsen Technical Solutions is a valuable partner in the maritime and offshore industry.

Our local presence serves your specific needs wherever and whenever you need it. Today and tomorrow.

www.wilhelmsen.com/technicalolutions

**Wilhelmsen
Technical Solutions**

BW Pioneer FPSO in the GOM.**How are you rated in the world market?**

It depends on how you define it. In size, we are officially second but if we count FPSOs in operation we are in first place but we still consider ourselves second, as SBM has more business related to FPSOs. **Our goal is to become number one in the world.**

What do you think of the Petrobras initiative to build FPSO at the Rio Grande Shipyard in south Brazil?

I think they will definitely make them with international quality. The problems will be with costs and deadlines. In reality, Brazil will have to choose between maintaining the production goals or maintaining the local content policy. It will be impossible to maintain both, it's impossible with this 75% local content requirement. There is no flexibility with this policy but at some point they will have to choose. I see no problem with this because Brazil has the opportunity to develop what is possible, to choose which

areas it wants to develop. I think there should be more focus in education. You can build shipyards and many other things but in reality school, starting from lower school, is being developed too slowly. The salaries currently offered to teachers in Brazil are incompatible with serious growth goals.

Are there any Brazilian companies able to competitively build FPSOs?

Yes, yes, our partner Quip is a possibility, maybe not in the short run, but there

are various companies capable, Odebrecht is another example. These 8 FPSOs to be built in Brazil from new hulls by GVA and Engevix, will give us a good idea of their capabilities. There is also OSX, which has bought two hulls for conversion and their shipyard is also being built. Their idea is to do the conversion and everything else in Brazil, we will see in time. I think that the 19 FPSOs that Eike Batista says he plans to build will also be incompatible with building everything in Brazil. For this reason, I be-

Samson, SWOS Team with Technip

Samson synthetic slings helped Technip install subsea hardware at Petrobras' Cascade & Chinook project. **Installing two pumping stations and two manifolds at Petrobras's Cascade and Chinook fields in the Gulf of Mexico at depths in excess of 2,500m** was accomplished with a "wet handshake" and the assistance of Samson's AmSteel-Blue fabricated into lifting slings for the operation. Technip was the contractor, and Deep Blue was the installation vessel. While formulating installation procedures, Southwest Ocean Services (SWOS) and Samson's offshore technical sales team were in contact with the operations and installation team at Technip, who intended to use the wet handshake technique to transfer loads from Deep Blue's overboard crane to the A&R winch in the moonpool to the seafloor. Since the handshake was to be accomplished with ROV's, the use of wire rope slings would have presented many rigging and handling issues due to the weight and stiffness of the wire. SWOS worked with Technip's design team to develop a synthetic solution, not only for the sling, but also for the custom chafing gear and the project specific ROV handling slings. Samson's AmSteel-Blue, a high-strength, lightweight Dyneema fiber rope was used to fabricate the slings. AmSteel-Blue is as strong as wire ropes the same size, yet is neutrally buoyant or slightly positive in seawater, making handling by ROV a simple matter requiring a minimum of power. Southwest Ocean Services, a Samson master distributor located in Houston, fabricated the slings to Technip's specifications from existing stock. The 3.625-in. (88-mm) diameter AmSteel-Blue was spliced into grommets 50m in length. Both eyes of each sling were fitted with Samson's DC Gard high-performance chafe gear, equipped with two small-diameter ROV handling grommets made from .5-in. Samson Quik-Splice, and a polypropylene rod inserted into the eye section of each small grommet. This resulted in a rigid eye section with positive buoyancy. A total of 16 slings rated at 190-metric-ton working loads were fabricated and tested for the installation of four hardware packages and four suction piles. At the time of the installation, the subsea hardware arrived via barge, with each of the hardware packages and suction piles pre-fitted with two high-performance synthetic slings. Deep Blue's 400-metric-ton outboard crane was used to lift the hardware packages using one of the two attached slings. The hardware was lowered to 100m, where an ROV captured a special grommet attached to the second lifting sling and ferried the eye of the sling to the hook of Deep Blue's moonpool A&R winch. With the load transferred to the A&R winch, the sling was freed from the hook of the outboard crane and the hardware lowered to the seafloor for installation. The wet handshake was complete.

www.samsonrope.com



(Photo Courtesy Samson Rope)

lieve that it will be a good opportunity for construction in Brazil and also making the most of the advantages offered by foreign shipyards where there are shorter delivery times and lower prices. I think a combination of these would be best.

How do you see the growth in the O&G market in Brazil for the next decade?

I think that says it all! In the next decade, up to 2020, to triple local production to over 6 billion barrels/year is a bonanza! I hope that the growth will be good and that it will not be like the gold rush, where things go crazy, people try to take personal advantage of the situation and lack of resources that can cause a spiral which will not help anyone. In a spiral like this, while the market is growing too quickly, Brazil would not have a competitive industry. I think that the long term goal must be that Brazil wants to have a competitive industry. As it is today with too many privileges given through local content, will not help at all. There should be local content, but always looking to be competitive internationally and this combination is very difficult to make.



Photo Petrobras

FPSO Cidade de São Vicente.

BW OFFSHORE Company History

BW Offshore was incorporated in Bermuda on June 7, 2005 in order to capitalize on the growing demand for FPSOs. The company is a provider of FPSOs and FSOs through operational lease agreements as well as an EPCI (Engineering, Procurement, Commissioning, Installation), contractor of turret mooring systems and offshore terminals. The floating production division of the company has assets operating in the offshore waters of Brazil, Malaysia, Russia, WA and on both sides of the GOM. BW Offshore has been a pioneer in many respects. It was the first company to operate an LPG FPSO with its operations in Angola. Later the company has converted and installed the first and only Arctic Oil FSO. In 2007, BW Offshore delivered the world's largest converted FPSO, with the biggest throughput capacity of any FPSO. Finally BW Offshore is now operating the first FPSO in the American side of the GOM, with the BW Pioneer.



OSX 1 FPSO.

There for you in

THE FUTURE



With 150 years of combined experience in the shipping and maritime industries, Wilhelmsen Technical Solutions is equipped to understand and meet your requirements.

Our global organisation is there for you every step of the way to ensure continuous improvement, quality and compliance. Today, tomorrow and in the future.

www.wilhelmsen.com/technicalolutions



Design Toolset of the Future for

Arctic Ship and Offshore Structures

By Andrew Safer

Developing tools to design ships and offshore structures for year-round Arctic operations is the focus of a \$7.2 million five-year applied R&D project at Memorial University of Newfoundland in St. John's, Newfoundland and Labrador, Canada. Husky Energy, Inc., American Bureau of Shipping (ABS), Samsung Heavy Industries Co. Ltd, Rolls-Royce Marine, and BMT Fleet Technology are the industry partners in the Sustainable Technology for Polar Ships and Structures (STePS2) project. The National Research Council's Institute for Ocean Technology (IOT-NRC) is a key technical partner in the project.

"One of our key challenges is year-round Arctic operations of very large vessels and structures, beyond current experience," reports Dr. Claude Daley, Professor of Engineering in the Ocean and Naval Architectural Engineering Group at Memorial University of Newfoundland in St. John's, and Principal Investigator of STePS2. "If we do the work needed to raise the level of our technology and lower the uncertainty, we can have a significant effect on whether Arctic oil and gas projects are seen as viable. This can help determine whether our Arctic is developed, and more importantly, how it's developed."

There is a 50 percent chance of finding 83 billion barrels of oil north of the Arctic Circle, according to the US Geological Survey. At \$100 per barrel, that is valued at \$8.3 trillion, plus the value of natural gas and minerals. The potential of the vast petroleum and mineral deposits in the Arctic make the business case for STePS2.

Static and dynamic ice-crushing experiments, and hydrodynamic ice-ship hull interaction tests will be conducted in the Faculty of Engineering structures lab to better understand the impact pressures ice exerts on steel. Based on these findings, the researchers will then develop numerical models that will be validated in a high-performance computing environment and modeled as full-scale field scenarios involving interactions between water, ice, and steel. "The ice class rules for ships include requirements to

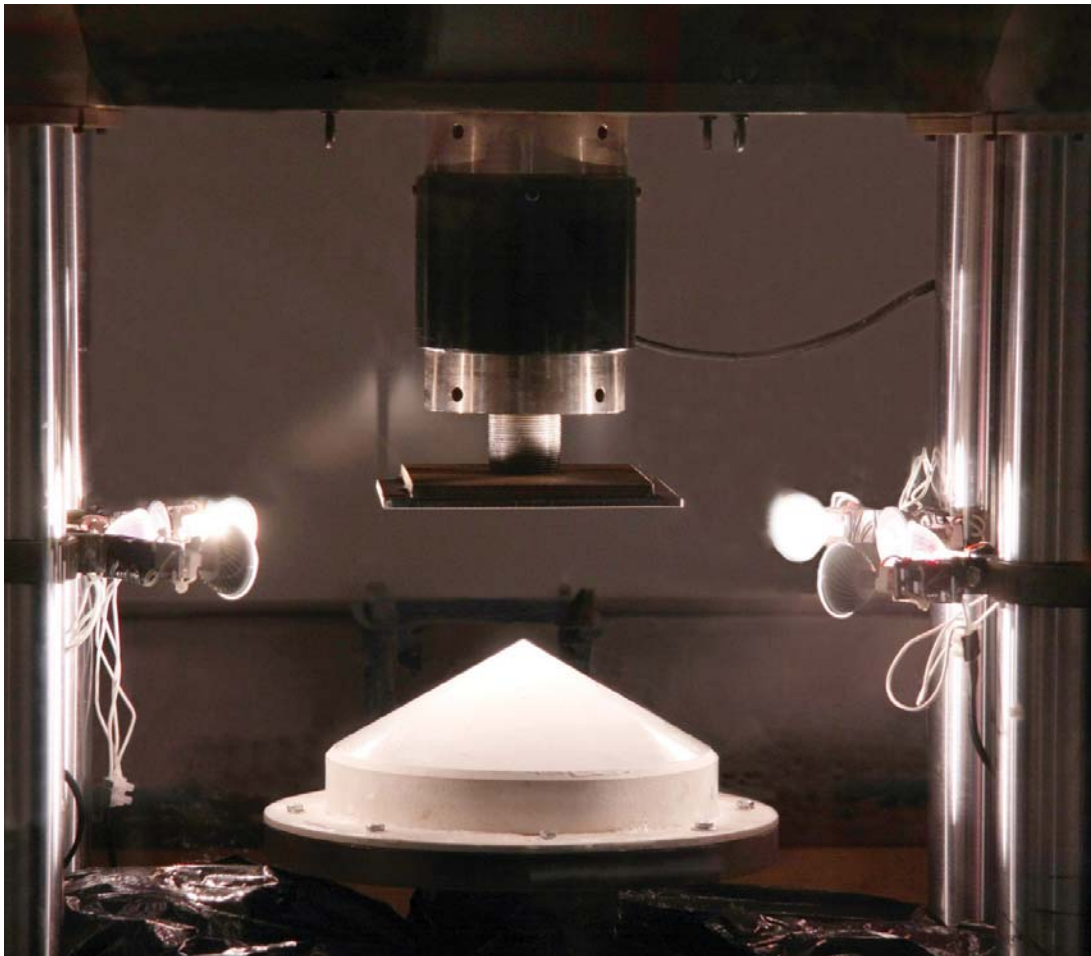


Dr. Claude Daley and the small double-pendulum ice impact apparatus.

strengthen the deep wet parts of a hull below the ice belt, and experience shows that without strengthening there will be damage in the deep areas," Daley notes, "but there is a lot of uncertainty about the precise cause of these ice loads."

ABS established a Harsh Environment Technology Center at Memorial University in 2009, and currently has a company researcher onsite working on STePS2. Dr. Roger Basu, Director of Shared Technology at Houston-based ABS, adds that "for traditional ships of a certain size and shape that have been operating in the Arctic, we're comfortable with the rules we have, but there are gaps in knowledge regarding significantly larger ships." An LNG ship that displaces ten times that of a small Arctic ship would be an example. "Where we don't have experience, we need tools to evaluate those kinds of ships and structures," Dr. Basu notes. "The more novel the concept, the bigger the physics component is. This is what STePS2 is addressing in a systematic, integrated way, and we find it very attractive." He adds that numerical tools have only become viable in the last five years or so, and sees their application in STePS2 as significant because they provide the flexibility in assessing a broad range of configuration of offshore structure. "If the work done on STePS2 proves these tools can be used, then industry might start to use them in a design tool mode," he observes. "That would give industry confidence in the applicability of using numerical tools directly for design purposes and designers wouldn't have to rely entirely on existing empirical models."

Now in its second year, 35 people are working on STePS2: that include 10 undergraduate students, 12 graduate students, five faculty members, and four staff. In addition IOT-NRC has four principal researchers participating in the project. An estimated 40 to 50 graduate and work-term students will be involved over the course of the project. So far, Dr. Daley's team of researchers has built a small double-pendulum ice impact apparatus and are now building one four times the size, to be operational within the next year. A new clear tank has been con-



(photo: Peter Seifert/Photo: Memorial University of Newfoundland)

25-cm diameter conical ice sample ready for a crushing test in the cold room.

The industry's premier
online news source

MarineLink.com

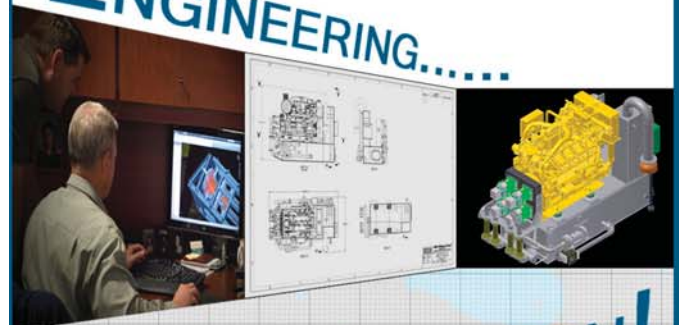
- contracts
- offshore
- security
- company news



Offshore Inland

Marine • Industrial • Oilfield

ENGINEERING.....



to... CONSTRUCTION!



24HR EMERGENCY REPAIR TEAMS
ANYWHERE...ANYTIME!



- STRUCTURAL ■ PIPING
- MECHANICAL
- SERVICES!**

Your...

"Shipyard at Sea"

pwebb@offshoreinland.com ~ 866.443.5550

WWW.OFFSHOREINLANDSERVICES.COM

**It Shouldn't Take
One Of These
To Find Out You
Should Have Specified
A Leslie Valve.**



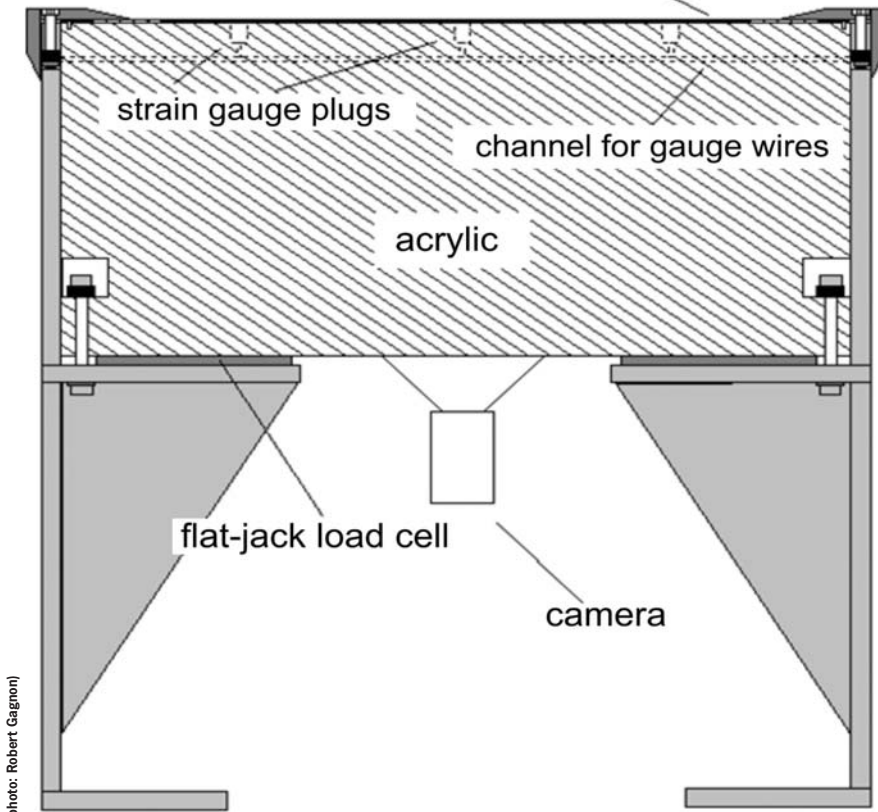
Does the sea have a place for maritime vessels with inferior valves? Ask the crew of an oil tanker caught in a storm with any of 50 different valves that could leave it at the mercy of a raging sea. Ask the passengers of a cruise ship adrift in the Atlantic waiting on repairs. Ask the captain of any U.S. Navy carrier, where Leslie valves power the catapult that launches their air defense. Ask the owner of a commercial fleet who must pay to replace a host of fluid controls after just two or three years. Ask yourself if you can afford anything less than a maintenance free Leslie control valve that can last two to three times longer than any other steam, diesel or gas turbine valve at sea today. Then call us. And avoid the alternatives. Specify Leslie.

LESLIE
LESLIE
CONTROLS, INC.
A Subsidiary of CH2M International, Inc.
Original Thinking

Leslie Controls, Inc. 12501 Telecom Drive, Tampa, FL 33637-0906 (813)978-1000
e-mail: sales@lesliecontrols.com www.lesliecontrols.com

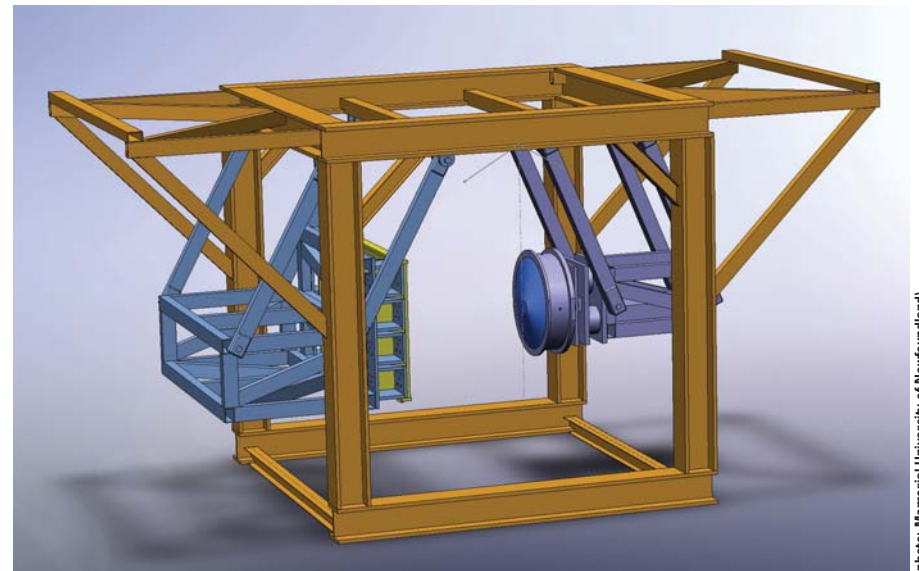
Ice Impact Module

high spatial resolution
pressure sensing technology



(photo: Robert Gagnon)

Students assisting with proof tests of the IOT/NRC Ice Impact Module in a high-capacity steel frame at Memorial's Structures Laboratory



(photo: Memorial University of Newfoundland)

Design drawing of the large double-pendulum ice impact apparatus. The apparatus is 12 feet tall and capable of impacting ship structural panels with a 1-meter diameter ice mass.

Partners in the (STePS2) Project

- Memorial University of Newfoundland in St. John's, Newfoundland and Labrador, Canada
- Husky Energy, Inc.
- American Bureau of Shipping (ABS)
- Samsung Heavy Industries Co. Ltd
- Rolls-Royce Marine
- BMT Fleet Technology

DDePS - Direct Design of Polar Ships

Case 2a Glancing Collision (Wedge Edge)

Ship Main Parameters		Ice Block Parameters	
Parameter	Value	Parameter	Value
Ship Name	ship1	Length	3000.0 m
Length	176.0 m	Beam	3000.0 m
Beam	27.00 m	Ice thickness	2.5 m
Draft	11.00 m	Density	900.0 Kg/m ³
Height	25.30 m	Draft	8.700 m
Block Coef	0.85 nd	Block Coef	1.000 nd
Waterplane Coef	0.7469 nd	Waterplane Coef	1.000 nd
Midship Coefficient	0.935 nd	Midship Coefficient	1.000 nd
Mass	45542 tonnes	Mass	2.025E+07 tonnes
Initial Values		Ma_ice	198450.000 MN
Ship Speed	Vs 1.5000 m/s		
sway speed	Vy 0.0000 m/s		
heave speed	Vz 0.0000 m/s		
roll speed	Vrot 0.0000 rad/s		
Pitch speed	Vpnt 0.0000 rad/s		
Yaw Speed	Vyaw 0.0000 rad/s		

User Input

Calculations

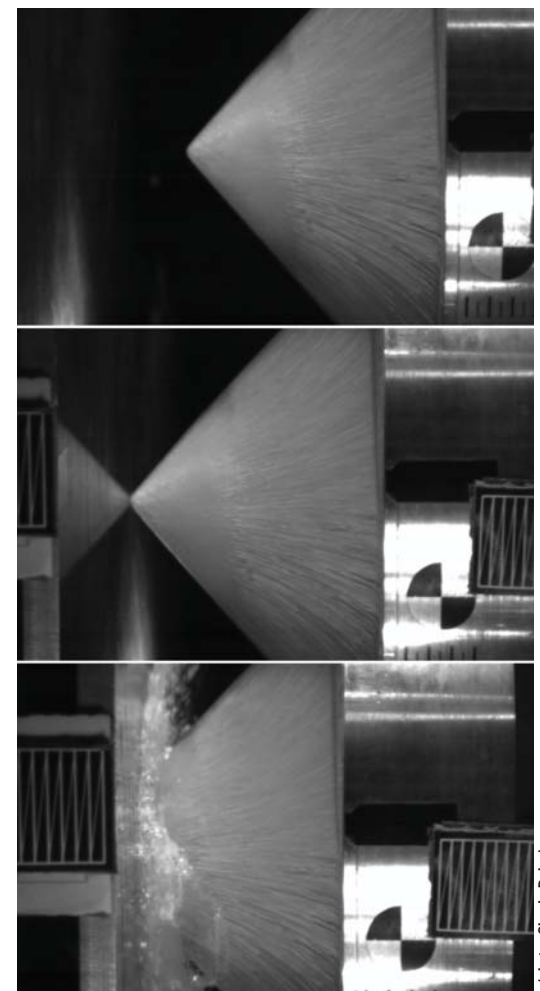
Parameter	Value
pen(crush)	1.063 m
Crush Force	19.981 MN
Impulse Fraction	1.000
pen(n)	1.063 m
Normal Force	19.981 MN
Average Pressure	0.960 Mpa
width of patch	w 8.115 m
Height of patch	h 5.132 m
Aspect Ratio	1.581

Load Patch Results

Parameter	Value
width of patch	wd 3.397
Height of patch	hd 2.140
Area	Ad 7.299
Force	F 19.981
Line Load	Q 5.881
Patch pressure	Pd 2.733

Scenario Tabs

The 'Direct Design of Polar Ships' (DDePS) spreadsheet program--used to evaluate ice loads in a variety of ship-ice interactions.



(photo: Claude Daley)

Series of high-speed images taken from the small double-pendulum ice impact test with 25-cm diameter ice cone.

structed that will permit the observation of underwater ice loading scenarios on ships. An extensive program of ice mechanics tests is underway. And on the computational front, several large numerical simulation tools are under development using modern cluster computers and 'massively parallel' GPU technology.

BMT Fleet Technology established the BMT Ocean and Arctic Structures Research Program at Memorial University and this funding has become one of the components of the STePS2 project. From an operational perspective, Andrew Kendrick, Chief Technical Officer of Kanata, Ontario-based BMT Fleet Technology, outlines some of the unknowns that oil companies face when contemplating Arctic projects. He points out that designers of floating production storage and offloading units and drillships still have difficulties identifying what load levels to design against. This impacts the types of mooring systems that may be required, the amount of thrust that propulsion and stationkeeping systems have to provide, and how much active ice management may be needed around these structures. "Estimates can be an order of magnitude different," he observes. "Someone says 2,000 tons and someone else says 20,000 tons. We're that far apart in our definable knowledge. There are still a lot of areas where our understanding is not really very mature." Another knowledge gap he identifies is the ability to create a finite element model of ice. "We have to keep it really simple to avoid making mistakes," Mr. Kendrick adds.

There are several oil companies that would be drilling in the Arctic right away if they could get permits, Mr. Kendrick reports, indicating there is an urgent need for better information to assist in project planning. "We can work with the information we have now, but what we can't do is work as cost-efficiently as we're sure we could if we knew more. It's all about reducing the cost of doing these projects." Compared to 30 years ago when oil companies conducted exploratory drilling in the Beaufort Sea, today—particularly after Deepwater Horizon—there are demands for enhanced safety, projects proceed with a significantly greater degree of caution, and regulations are more stringent, all of which equates to higher costs. Mr. Kendrick figures reducing the uncertainty by 100 percent could save 50 percent of the structural design costs, adding, "I hope that's where we may be able to get to with STePS2."

Between 1992 and 2008, Dr. Daley helped develop the structural standard for the polar class rules, an international

safety framework for ships operating in polar waters. STePS2 evolved as a result of large shipbuilding companies asking Dr. Daley and his colleagues to help them understand the structural capacity that would be needed to withstand ice loads

in the Arctic. "We said we can use the tools we have, but we need new tools," recalls Dr. Daley. "Developing new tools will let people evaluate the new concepts as per ABS's Novel Concepts Guide." He explains that for existing constructions,

the load is averaged over the structural layout, but there are only guidelines for designing ships and offshore structures to withstand substantially higher loads. What is unknown is whether the pressure zones get bigger as the loads increase.

Boll & Kirch Filter Type 6.64 The Next Filter Generation



For over 60 years, BOLLFILTERS have improved the efficiency and prolonged the life of ships' vital equipment throughout the world. Now we have taken it to the next step.



BOLLFILTER
Protection Systems

Boll Filter Corporation
www.bollfilter.com

Novi, MI 800-910-2655
boll@bollfilterusa.com

Is the **PRESSURE** Getting to You?



Call the Experts! High Pressure Watertight Closures by Walz & Krenzer



Walz & Krenzer, Inc.

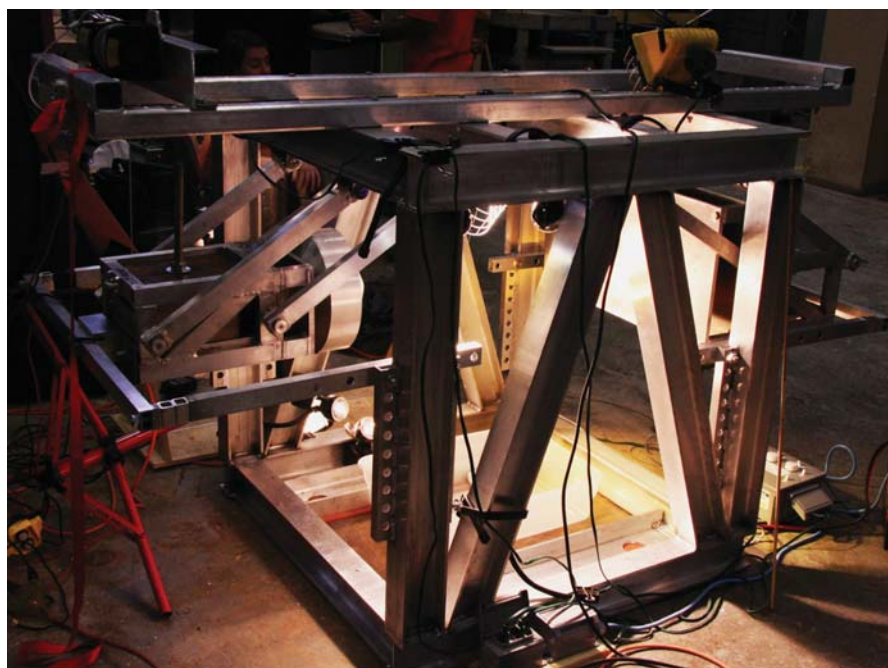
91 Willenbrock Rd., Unit B4, Oxford, CT 06478 • www.wkdoors.com
Tel: 203-267-5712 • Fax: 203-267-5716 • E-mail: sales@wkdoors.com

The current offshore code, he notes, is based on the premise that pressures won't increase in impacts above 100 mega Newtons. (For reference, the Hibernia platform offshore Newfoundland was designed for about 500 mega Newtons, and the highest controlled impact measured in a field program was about 17 mega Newtons.) "I believe that the whole event will scale up, and the total force will get larger, though I know there are differing views and healthy debate on the subject," he says.

Another view is that the size of the high-pressure zone is determined by the strength of the ice. "This is why we need to do research," Dr. Daley adds. "This needs to be sorted out."

In the 1980's, impacts were measured during major ice-loading events on platforms in the Beaufort Sea, but the high-pressure zones were not recorded due to the low spatial resolution technology that was available at the time. In STePS2, the ice-structure interactions will be measured using an advanced technology impact module capable of withstanding the loads and capturing the pressure distributions at high resolution.

Developed by physicist Dr. Robert Gagnon at the National Research Council's Institute for Ocean Technology (located next door to Memorial University's Ocean and Naval Architectural Engineering structures lab in St. John's), the im-



(Photo: Peter Seifert)

The small (3 feet tall) double-pendulum ice impact apparatus

act module consists of a high spatial resolution array of pressure sensors covered by a thin metal sheet, against which the force is applied.

These patented sensors rest on an 18-inch-thick block of clear acrylic that has a high-speed camera mounted behind it to capture the pressure information. Dr. Gagnon designed this unit following a field trial he and colleagues conducted offshore Newfoundland in 2001 that acquired data from 178 impacts on 18 ice masses ranging from 40-ton growlers

(chunks of ice less than one meter above the surface) to a 22,000-ton iceberg at ship speeds up to 13 knots for the smaller masses.

The impact module was developed in part to validate the design of a much larger impact panel intended to be mounted on the front of a vessel and rammed into icebergs during field trials. The impact module and preparations for the field study have cost about \$1,000,000. If the rest of the required funding is secured, Dr. Gagnon plans to

have the large impact panel mounted on the Canadian Coast Guard Services Terry Fox icebreaker for trials possibly in 2012, the centennial of the sinking of the Titanic. Dr. Gagnon has for several years been developing technologies for measuring load and pressure, formulating new experimental techniques to study ice crushing behavior and developing numerical simulations of ice/ship collisions. Dr. Daley was able to capitalize on these strong and complementary backgrounds when drafting the proposal.

In the experiments using the double-pendulum apparatus, the impact module will measure the impact force and pressure distribution when a five-ton steel pendulum collides with another equally massive one that has a 1-metre diameter ice sample attached to it, with forces up to 5 mega Newtons and at speeds up to 15 knots. The impact module will also record the stationary experiments, in which ice blocks will be crushed against a steel frame.

In addition to the \$1.2 million private-sector investment, STePS2 has also received \$3 million through the Atlantic Canada Opportunities Agency's Atlantic Innovation Fund.

The Research and Development Corporation Newfoundland and Labrador is investing \$800,000 through the Collaborative R&D Academic Program. Memorial University is contributing approximately \$130,000 for student bursaries through the School of Graduate Studies. Research funding agencies such as MITACS and NSERC are expected to provide approximately \$500,000 through various programs that fund graduate student support. IOT-NRC is a research partner. In-kind partner contributions total \$1.59 million.

When the project concludes in 2015, the deliverable will be a design tool that enables Arctic ship and offshore structure designers, operators, and engineers to model a range of scenarios involving water, ice, and steel interactions, to specify optimal design parameters.

Reflecting on STePS2, Mr. Kendrick said, "I think St. John's is a really exciting place for this type of work right now. Nobody that I know of is doing directly comparable things. Others are looking at aspects of the same problems in similar ways, but what Claude (Daley) is doing is, to my knowledge, unique."



SEE US AT OTC BOOTH 8017
IN THE RELIANT ARENA

AmSteel-Blue,
88-mm diameter,
190 metric ton
working load
slings.

Samson takes the HEAVY out of heavylift slings

LIGHTWEIGHT PLUS FASTER, SAFER, AND MORE EFFICIENT

Heavylift slings made with Samson lightweight, high-strength, high-performance synthetic ropes are proven to make complex installations safer and more efficient. Hookups are generally faster, requiring no additional handling equipment.

Neutrally buoyant, flexible slings make ROV handling much easier and faster, requiring less power to manipulate. Best of all, they typically outlast cable-laid slings or other synthetics by a wide margin.

Samson partners with your design team to configure and certify slings tailored to your application. We bring to the table experience and knowledge gained from successful projects and extensive testing.

For more information and product specifications visit SamsonRope.com/Offshore

Dyneema® is a registered trademark of Royal DSM N.V.
Dyneema® is DSM's high-performance polyethylene product.

WITH
Dyneema®



HEAVYLIFT SLINGS | WINCH LINES | WORKING LINES | TETHERS

Floating Production Systems

120 to 175 Forecast Over Next Five Years

The number of floating production systems in service continues to grow. There are now more than double the number of units ten years ago – 250 units now vs. 120 units in 2001. Order backlog, which now stands at 47 units, will increase the inventory by another 20 percent over the next several years.

Planned Projects

In a new in-depth analysis of the floating production sector, IMA identifies 194 projects in the planning stage that are likely to require a floating production system for development. Fifty-five of these projects are at the bidding/final design stage, with equipment orders likely over the next 12 to 18 months. Another 139 projects are in the planning/study stage, with orders likely in the 2013 to 2019 timeframe.

Floater Order Forecast

Overall, IMA expects orders for production floaters to average 24 to 35 units annually over the next five years. Around 80 percent of the units will be FPSOs. Capex thrown off by floater orders is expected to total \$80 to 115 billion between 2011 and 2016. The forecast range reflects three potential crude pricing scenarios.

The base scenario assumes oil stays in the \$90-110 range, a price range IMA sees most likely over the foreseeable future.

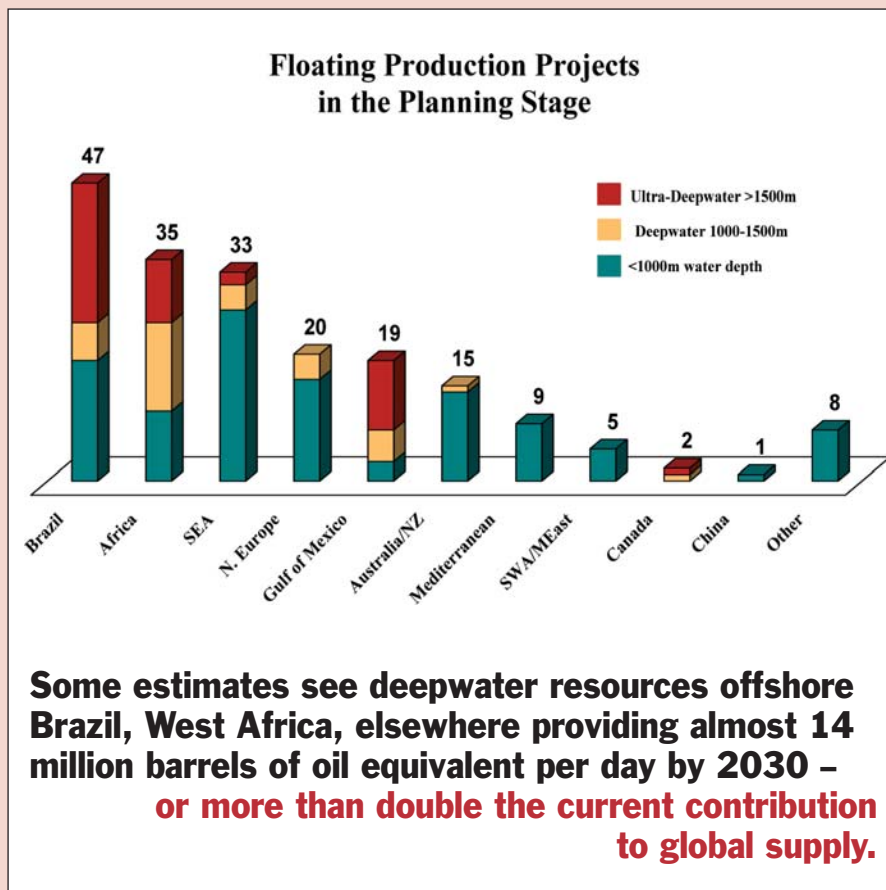
Long term outlook

There is no indication of future slowdown in this sector. Deepwater fields are among the major sources of hydrocar-

bons yet to be found or developed. While no one knows the full extent of deepwater potential, the magnitude is undoubtedly huge. In Brazil alone, deepwater pre-salt resources are estimated at 70 billion barrels of oil equivalent, a figure that is likely to grow as more finds are confirmed. Some estimates see deepwater resources offshore Brazil, West Africa, elsewhere providing almost 14 million barrels of oil equivalent per day by 2030 – more than double the current contribution to global supply.

According to Jim McCaul, head of IMA, “future growth indicators in the floating production sector are hugely positive. Global demand for oil continues to grow, the market is again threatened by MENA supply disruptions, oil prices have pierced \$100 and virtually every major field operator has announced plans to increase offshore E&D expenditures. Deepwater drilling rigs now being built will add 38 percent to available drilling capacity, removing constraints on deepwater exploration.” McCaul adds “if there is another business sector more strategically positioned for future growth, I’d like to know about it.”

Email: imaassoc@msn.com
www.imastudies.com



ABS

The Time Is Now for FLNG

ABS VP of Global Gas William J. Sember said ABS is in advanced stages of design review for a number of Floating LNG (FLNG) concepts, as this technology moves closer to reality. He said that as recently as five years ago, floating solutions for the import and export of LNG were still considered new and novel concepts. “Today emerging proprietary technologies and transport designs have come of age and industry is poised for the first projects. With more than one-third of global gas reserves stranded by their location or field size without commercially viable access to world markets the attractiveness of FLNG cannot be denied.” Major projects in progress include Shell’s Prelude field in the Browse Basin off Western Australia, which gained environmental approval in late 2010 and has a target production start date of 2016. Also being closely followed are several projects offshore Papua New Guinea and Inpex’s Abadi Field gas project offshore Indonesia. **“From a class society perspective there are no technology showstoppers for FLNG.”**

Marine Grade Aluminum at Competitive Prices

Profitability is the #1 goal for our customers. That's why we have developed a system for securing a wide range of aluminum materials at the absolute lowest cost.

- Sheet
- Plate
- Mill Finish
- Coil
- Alloys: 5083, 5086, 5052, 5456, 5059
- Nationwide Delivery

Protect Your Profit Margin!!
Call 888-540-0066 • 877-752-5052

dmalik@mandelmetals.com • 888-540-0066 • (fax) 440-286-2229
 jayson@mandelmetals.com • 877-752-5052 • (fax) 214-905-3900
www.mandelmetals.com • www.mandelmetalsvideo.info

HEAVY LIFTERS

The ability to quickly, efficiently and safely handle large loads – on ship, at-sea and in the off-shore environment – increasingly depends on the capabilities of ever-larger cranes. MR examines recent developments in the heavy lift arena.

(Pictured is a massive 1,600-ton Heavy Lift Offshore Crane was delivered from Liebherr)



Markey Machinery announced that it is creating an international network of factory-trained sales and service centers. The long-tenured manufacturer is currently evaluating candidate companies around the world, focusing on qualified system integration/service companies, located in key markets distant from Markey's U.S. facility. Though the Markey name and brand is well established for more than a century, a series of recent success stories has placed Markey directly center stage in the international maritime spotlight. Proof-of-concept of Markey Render/Recover Regeneration is displayed by Foss Maritime's fully hybrid Carolynn Dorothy. The "hard data" from the world's first fully hybrid tug is hard to ignore, as the Markey winches can return wasted energy, helping to reduce the cost of operation, while adding a higher level of winch control when op-

erating "on a short leash."

Last year's dramatic rescue of the Carnival Splendor off the west coast of Mexico provides further proof of the strength of Markey Electric Winch Drive Technology. "We make no claim on the skill or bravery of the crew," said Markey President Blaine Dempke, "but it's rewarding to know that they had enough confidence in our winch to do what they did."

Dempke also clarifies Markey's role aboard the Carolynn Dorothy. "In developing the Carolynn Dorothy, Foss sought to maximize their chances of success by making low risk decisions where they could. First, they chose a tug design that had proven itself in nine previous conventional builds; second, they utilized their own Rainier Shipyard to tackle the project; and finally, they chose Markey Machinery to apply render/recover tech-



(Photo Courtesy Markey Machinery)

Last year's dramatic rescue of the Carnival Splendor off the west coast of Mexico helped exhibit the strength of Markey Electric Winch Drive Technology.




**Visit us at OTC May 2-5, 2011
Booth #315**

TUBE-MAC INDUSTRIES:

A Global Supplier of Non-Welded Piping Systems

**BENEFITS of a
TMI Non-Welded Piping System versus Welded System**

- **Actual flaring or swaging time in "seconds" vs. "hours" for a welded joint.**
- **No special skilled labour required vs. qualified welder.**
- **No special hot work permits**
- **No fire watch personnel required.**
- **No leaks from stress fatigues in welds.**
- **No x-ray required vs. time and money to x-ray welds.**
- **No acid flush chemicals and neutralizers required.**
- **No environmental costs or issues regarding the disposal of chemical wastes.**
- **Commissioning is fast with reduced downtime.**

**Toll-Free USA: 1.888.285.9243
Toll-Free Canada: 1.877.643.8823**

www.tube-mac.com



**On-course with quality workmanship
that stands the test of time.**

Century Ship Service, Ltd. provides electrical and mechanical services to the marine industry.

- Marine Electricians and High Voltage Termination Teams
- Marine Mechanics and Certified Welding Teams

We work with cruise line operators, shipyards, architects, general contractors, and ship owners. Century has the experience to handle anything from simple support service labor and conversion projects to complete electrical and electronic installation on new builds and refits.

We provide project management and installation services allowing us to offer turn-key solutions. We have regional teams for quick mobilization and worldwide services eliminating costly delays.

Visit our website for more information:
www.centuryshipservice.com
US Partner Firm: Century Ship Service, Inc. **+1 954 989 2067**

nology in a regenerative application.”

Liebherr delivered last year the second heavy lift offshore crane type MTC 78000, one of the biggest offshore slewing cranes worldwide, with a maximum dynamic torque of 78,000 mt. To date, four units of the new heavy lift crane

have been ordered. Despite its size, the MTC 78000 has been designed as a slewing crane and is supported by traditional large diameter antifriction bearings. With a weight of 70 tons, the swing ring has a diameter of approximately 9 m. The manufacturing of such large mechanical parts

can only be accomplished through complicated custom processes as conventional gear cutting machines are only available for large diameter antifriction bearings up to a diameter of 5m. Therefore, Liebherr has acquired correspondingly sized machines and equipment

specifically for the mechanical machining of these flanges.

The onsite erection and assembly of the large size crane on the heavy load vessel OSA Sampson (pictured on page 50) presented Liebherr engineers with special challenges – for example, the planning of the individual hoists so that the maximum permitted ground pressure of the pier was not exceeded. As the assembly starting date depended on the arrival of the heavy load vessel and the required lifting equipment needed to be ready on short notice, Liebherr exclusively used its own cranes for the assembly. Two large LHM 600 mobile harbor cranes were used in tandem operation for the heavy duty lifts. Both cranes with their maximum load capacity of 208 tons each enabled parts weighing up to 400 tons to be mounted in tandem operation. The assembly of the MTC 78000 required several spectacular heavy duty lifts. First, the slewing platform was mounted – at 370t, the heaviest of the components. Thereafter, the machinery compartment with the drive components (approximately 240t), the mast lower section (about 250t) and the mast upper section (around 160 t) of which the lowest point needed to be hoisted up to over 43m above the pier level. This hoisting height was made possible by equipping the mobile harbour cranes with two corresponding tower extensions. A big challenge posed the rope assembly of four 1.6-km long boom hoist winch and lifting ropes which was handled with special auxiliary devices and high work input to finally fit the crane with the 60 t main hook. The MTC 78000 achieves a maximum lifting capacity of 1,600t at up to 35m radius. This corresponds to a maximum dynamic moment of 78,000 mt, the crane still being able to slew over 360°. At a maximum radius of 74m for the main hoist the crane achieves a lifting capacity of almost 530t. The boom length of the crane currently delivered is 87m. In addition to the main hoist, the MTC 78000 offers two auxiliary hoists with lifting capacities of up to 500 t and 50 t respectively. The deadweight of the new heavy-lift offshore crane is 1,420 t without the base column which weighs approximately another 300 t - depending on its design.

A new Boxrunner straddle carrier from **Konecranes** is designed to be a flexible link between ship-to-shore cranes and automated yard cranes. The new straddle carrier offers container handling performance to two distinct container handling operations. The first is represented by large container terminal operators that are adopting automation technology for greater efficiency. The second is represented by a potentially diverse range of

➤ BERGEN NORWAY
➤ SINGAPORE
➤ ANTWERP BELGIUM
➤ HOUSTON USA

THE BEST SOLUTIONS FOR SURFACE PREPARATION AT SEA.

* Rustibus® is designed to de-scale and power brush ship decks, hatch covers, tank tops, etc. free from paint and rust.

RUSTIBUS®
maintaining your values

www.rustibus.com
houston@rustibus.com
1-832-203-7170

VALUABLE RENTAL PROGRAMS AVAILABLE

APV's for motion compensation – up to 2600 litres

Multi-pack design and production

Cylinder re-testing services, including in-situ

CHESTERFIELD SPECIAL CYLINDERS
High-pressure gas containment specialists

info@chesterfieldcylinders.com
Tel: +44 (0) 114 242 7500 Fax: +44 (0) 114 242 7501
www.chesterfieldcylinders.com

A Pressure Technologies group company **PT**

We're there... apply our experience

High Performance Electric & Hydraulic Winches:



- Oceanographic Research Winches
- Traction Winch Systems
- Winches for Fishing



- Towing & Other Work Boat Winches



- Heavy Lift Winches
- Mooring Winch Systems



- ROV-Winches
- Winch Drive Conversions



- PTS Pentagon Winch Control Systems with Active Heave Compensation



**Celebrating
OTC, Houston,
MAY 2-5 —
See you at
booth # 5041,
Norwegian
Pavilion**

Rapp Hydema U.S.Inc.
Tel + 1 206 286 8162
Rapp Hydema Subsea LLC, U.S.
Tel + 1 281 679 9888
Rapp Hydema AS, Norway
Tel + 47 75 55 01 00
Rapp Ecosse UK Ltd., UK
Tel + 44 (0) 1779 490044
Rapp Iberia, S.L. - Spain
Tel + 34 986 246 122
www.rappmarine.com

companies that do not have container handling as a core competence, and yet handle incoming and outgoing materials in containers – often using trucks and trailers or custom-engineered, stationary gantry cranes. The Boxrunner is designed to give large container terminal operators a flexible and efficient means of moving containers from ship-to-shore (STS) cranes to the automated stacking cranes (ASCs). Konecranes designs and manufactures Boxrunner's key components in-

house. Powered by a diesel-electric (DE) drive and rope hoist system, the Boxrunner is offered as a 50 t twin twenty lift machine and as a 40t single lift machine that can travel at 30 km/h with a 25 m/min. hoist speed. "Boxrunner is a technologically advanced machine that is truly driver-friendly and maintenance-friendly," said Jost Dämmgen, Sales Manager, Port Cranes. "We want to deliver high-performance, high-quality vehicles to our customers. The Boxrunner

exceeds expectations for drive feel and performance, and meets expectations for reliability, safety and maintenance."

Measurement Technology North-West (MTNW) announced an award from Adamac, a Nigerian Oil & Gas Services company, for a project that called for nine running line tensiometers, displays, and software to monitor the anchor winch lines for a pipe-laying barge. "The Gulf of Guinea off of Nigeria is one of the fastest growing new oil patches. It

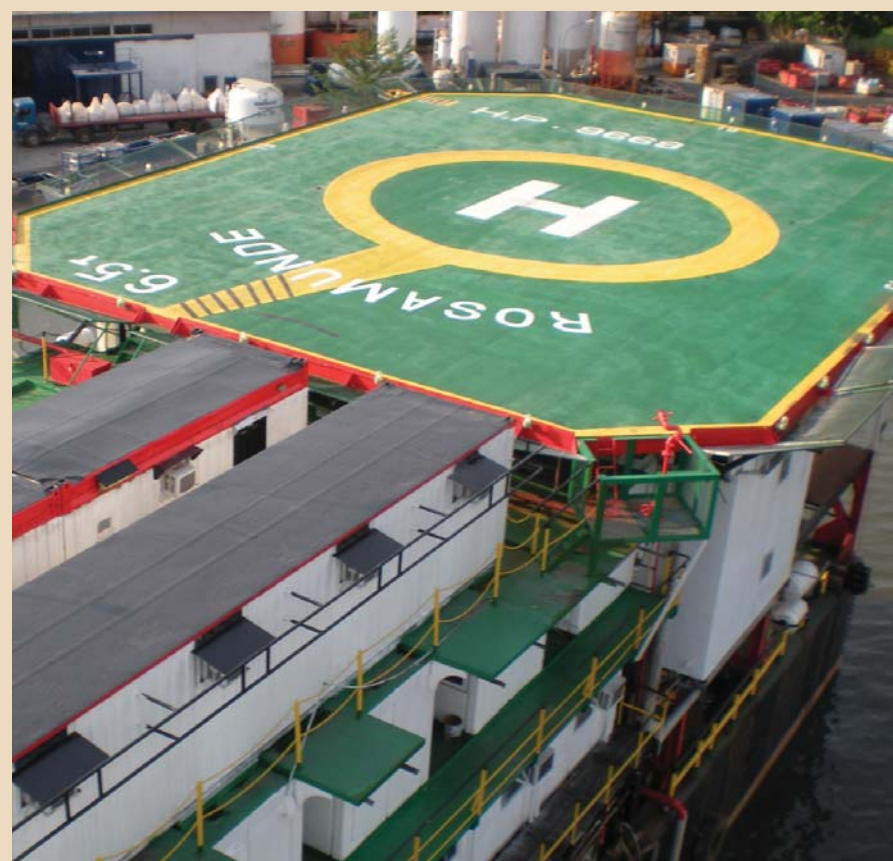
is becoming as criss-crossed with sub-sea pipes as any ocean in the world," said Tom Rezanka, Managing Director of MTNW. "Oil companies operating in sub-sea environments have to be very careful about where they place their anchors for mooring. They need to know immediately if one of their anchors is slipping and could potentially pull through other nearby pipelines, or disrupt the laying of their own pipe."

"Adamac is a fast growing Oil & Gas



(Photo: Konecranes Oyj Abp)

Konecranes Boxrunner – container handling flexibility, speed and safety at your fingertips.



Measurement Technology NorthWest (MTNW) announced an award from Adamac, a Nigerian Oil & Gas Services company, for a project that called for nine running line tensiometers, displays, and software to monitor the anchor winch lines for a pipe-laying barge.



(Photos Courtesy Measurement Technology NorthWest (MTNW))



(Photo Courtesy Cargotec)

Cargotec is to deliver MacGregor anchor-handling systems for two 12,000 BHP anchor-handling tug supply/oil recovery vessels in China.

room, and remotely through the PC increases the safety factor beyond other currently available systems. With historical data-logging of tension loads that MTNW's WinchDAC software provides, vessel owner and managers have the capability to demonstrate and certify performance to their customers.

Cargotec is to deliver a MacGregor anchor-handling systems for two 12,000 bhp anchor-handling tug supply/oil recovery vessels in China for a Singaporean owner. The anchor-handling equipment is scheduled for delivery at the end of 2011 and it will be manufactured at Cargotec's facilities for offshore load handling in Singapore and China.

The new order comprises the following MacGregor equipment: anchor-handling/towing winches; anchor windlass mooring winches; tugger winches; capstans; storage reels; shark jaws/towing pins; telescopic deck cranes. The anchor-handling towing winches have a 380 tons,

a line pull and a 500 ton static brake. The bollard pull of these ABS classed vessels is 150 – 160 tons.

Cargotec secured an interesting order late last year to outfit four new LNG-powered RoPax ferries, destined for service in the Norwegian fjords, with a suite of MacGregor RoRo access equipment. The order came from from Gdansk Shiprepair Yard Remontowa in Poland to deliver for four 4,200gt RoPax ferries. The new 93m-long LNG-powered ferries will have capacity to carry 390 passengers and 120 cars at service speeds between 12 and 17 knots. They will be operated by Torghatten Nord and are intended for the inner and outer Vestfjord crossings in northern Norway.

Each of the vessels will feature the following MacGregor cargo access equipment: bow visor and door with folding ramp; stern door and ramp; two hatch covers; and, engine service hatch and two power-packs.

Lankhorst Ropes Offshore Division recently invested \$2.8m in a synthetic fiber rope test machine that is designed to enable naval architects to run 'what if

Services firm, working with the largest energy producers in the world," said Kehinde Onibokun, Assistant General Manager of Adamac's Pipelines Unit. "Part of our responsibility for personnel, equipment and environmental safety is to ensure that our own pipeline laying equipment is outfitted with the latest technology for monitoring. MTNW's an-

chor winch monitoring technology provides instant feedback to the vessel operators for immediate decision-making and also has data-logging for long-term, after-action review and analysis."

Rezanka said that having technology continuously monitor anchor winch tension trends and historical peak loads locally at the winch station, in the control

BUILT TO LAST
 RUGGED, DEPENDABLE MACHINERY FOR THE MARITIME INDUSTRY

ISO9001:2008 KEMA CERTIFIED

SIM SUPERIOR LIDGERWOOD MUNDY
 Superior-Lidgerwood-Mundy, Corp.
 Ph: (715)394-4444
 Fax: (715)394-6199
 sales@lidgerwood.com
 http://www.lidgerwood.com

- HOISTS
- GYPSY WINCHES
- CAPSTANS
- DECK MACHINERY
- UNREP/CONREP EQUIPMENT

HOLLAND
 Moving & Rigging Supplies 1+641-585-3630

HOLLAND DOLLIES
 Barges
 Tugs

HOLLAND PLATFORM DOLLIES
 Oil Field Pipe

HMRSupplies.com Watch us on YouTube
 YouTube.com/HollandDollies

APPLETON MARINE, INC.
 Manufacturer of Marine Cranes, Winches, Windlasses, & Capstans

3030 E. Pershing St.
 Appleton, WI 54911 USA
 sales@appletonmarine.com
 www.appletonmarine.com
 Phone: (920) 738-5432
 Fax: (920) 738-5435

Visit us
 Booth #4336 at
 OTC 2011

10 years online over 2 million users

MaritimeJobs.com
 where employers and job seekers connect

Selecting the Correct Load Maneuvering System

There are many factors to decide on when trying to determine the solution for a load maneuvering system. One of these decisions is "What is the life expectancy that I require for this system?" This plays a significant factor in initial costs, as well as the design and manufacture of your deck equipment. For instance, should you or your customer require a robust piece of equipment for a harsh environment in a no redundancy (backup) system, there will be a greater lead time and upfront costs. On the other hand, if you are working on a limited budget with less rigid guidelines for specific longevity of your equipment, a commercial "off the shelf" version of deck machinery may be compatible. While the less expensive option is appealing, focusing on the true requirements for your project helps ensure you and your customer are satisfied when the job is complete. Superior-Lidgerwood-Mundy Corporation provides the combination of design, fabrication, machining, assembly, and testing all at one facility.

www.lidgerwood.com

scenarios to simulate the effects of storms and hurricanes on deepwater mooring lines. Located at Lankhorst Ropes' fiber rope production facility in Portugal, the rope test machine will be used to test the mechanical performance and fatigue behavior for a range of new materials and rope constructions for deepwater mooring and single point mooring (SPM) systems.

The machine can test 20m ropes with loads up to 1,200 tons and a stroke length up to 4.5 m. In addition, the machine features a precise mechanical control system designed to maintain peak load such that target loads can be maintained within 10kN during testing.

Given concerns about the rising cost of performing deepwater installations, the test machine is expected to have wider benefits in optimizing installation scenarios. Deepwater ropes are routinely loaded to approximately 40% of MBL to pre-stretch the rope during installation. More accurate information on the degree of pre-loading required will avoid the high cost and safety issues surrounding excessive pre-loading during offshore installation.

Lankhorst Ropes' new rope test machine for 'what if' mooring scenarios.



Photo Courtesy Lankhorst Ropes

Appleton Marine FPSO Equipment

Appleton Marine's extensive product line of equipment for the offshore floater market includes fixed and knuckle boom pedestal cranes; anchor pre-tensioning, riser pull-in, and auxiliary winches; hydraulic power units; and deck sheaves. As a leading supplier, Appleton Marine has equipment installed worldwide on more than 40 FPSO/FSOs with additional equipment currently in production.

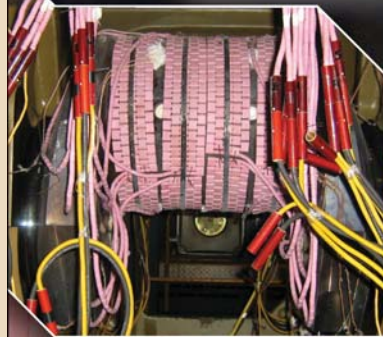
www.appletonmarine.com



QUALITY MACHINING IN-PLACE



... ANY PLACE IN THE WORLD



Crankshaft Repair

Inspection
Straightening
Annealing
Machining
Grinding/Superfinishing

Engine, Rudder & Stern Tube Boring

Foundation & Joint Machining

Metalstitch® Cold Cast Iron Repair

Optical & Laser Alignment



—The Only USA Representative of Metalock International
—In-Port or Voyage Repairs

help@inplace.com ■ 414.562.2000 (phone)
www.inplace.com ■ 414.562.2932 (fax)

OceanTech Expo

Explore the business of
Ocean Technology
Back in & on the water
Newport, R.I. May 17-19, 2011



GET YOUR HANDS ON THE LATEST GEAR.

The premier interactive ocean technology event of North America in 2011! Early registration for Ocean Tech Expo is now open. Register online @ www.oceantechexpo.com by April 29th and **SAVE \$25**

REGISTER TO ATTEND!

Contact Rob Howard for more information on exhibiting.
(561)732-4368 howard@marinelink.com

Produced by:
MARINE
TECHNOLOGY
EXPOS

A Twin for 'Svenja'

SAL Aims For Bigger Piece of Heavy Lift Service



Lars Rolner, co-owner SAL, on board of MV Lone.



SAL puts heavy lifter Lone into service.

SAL Schifffahrtskontor Altes Land has put the newbuilding MV Lone into service, just three months after the German-based heavy-lift shipping company sent sister vessel MV Svenja – reported to be the world's largest heavy-lift vessel – on its maiden voyage.

The order for the two heavy lifters is worth a total of \$168m, financed jointly by SAL, HSH Nordbank and the City of Hamburg.

Just like its sister vessel, the heavy lifter was built at Sietas shipyard in Hamburg in only six months, and it has a lifting ca-

capacity of 2,000 tons and a speed of 20 knots. While the MV Svenja features a Dynamic Positioning System 1 (DP1), the MV Lone is equipped with a DP2; according to the owner it is only the fourth heavy-lift vessel in the world to be equipped with DP2.

Outfitted with DP2, its 20-knot speed and its high crane capacity, the Lone is suited to service demanding offshore projects within the oil and gas industry as it is to assist in the installation of foundations for offshore wind parks.

On its maiden voyage, the MV Lone

called the loading ports of Rostock, Aabenraa in southern Denmark and Uddevalla in Sweden, where it loaded cranes and equipment for the oil and gas industry with destination Korea. Subsequently, the new building will carry reactors weighing up to 1,800 tons from the Far East to South America.

"With her and the Svenja, we now have two ships in our fleet that have a lifting capacity of 2,000 tons," said Lars Rolner, co-owner, SAL. "Over the past few years, the number of heavy-lift vessels has grown, particularly those in the segment of 500- to 800-tons lifting capacity. The segment comprising vessels with a lifting capacity of over 1,000 tons is, however, less well served while the demand for these larger capacity vessels, particularly from the oil, gas and offshore industries, is growing constantly. SAL is in a strong position to meet this growth in demand."

Furthermore, the company has seen a

recovery in the heavy-lift vessel market parallel with the global financial recovery.

"Apart from trading on a regular semi-liner service between Europe, Asia and Australia, a range of SAL vessels are currently involved in various long-term projects of up to four months," said Rolner. "This development can be seen as a departure from the previous year and is an indicator of the strengthening economic upward trend across the globe. Countries such as China, Korea, Brazil and Australia, as well as North Africa, are amongst the important growth markets investing in industrial plants."

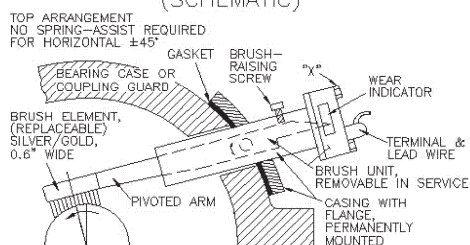
MV 'LONE': FOR CHALLENGING O&G PROJECTS

With the DP2, MV Lone possesses the tools to undertake complex projects for the oil and gas industry, as well as for the offshore sector in general.

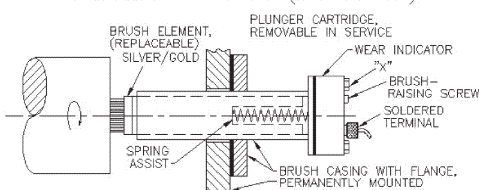
Are Stray Currents Destroying Your Machinery?

- Sohre SHAFT GROUNDING (EARTHING) BRUSHES are used on propeller shafts, turbines, generators, electric motors, gears, pumps, etc. Failure to properly ground (earth) rotating shafts can result in expensive damage to seals, bearings, and other critical components.
- Self Cleaning. Operate dry or with oil. Gold/silver composite bristles.
- Working parts removable during operation without contacting adjacent parts.

"TOOTHBRUSH" TYPES "LW," "L" & "S" (SCHEMATIC)



"PLUNGER" TYPE "A" (SCHEMATIC)



© 2006 SOHRE TURBOMACHINERY® INC.

ABS TYPE APPROVAL B-568026

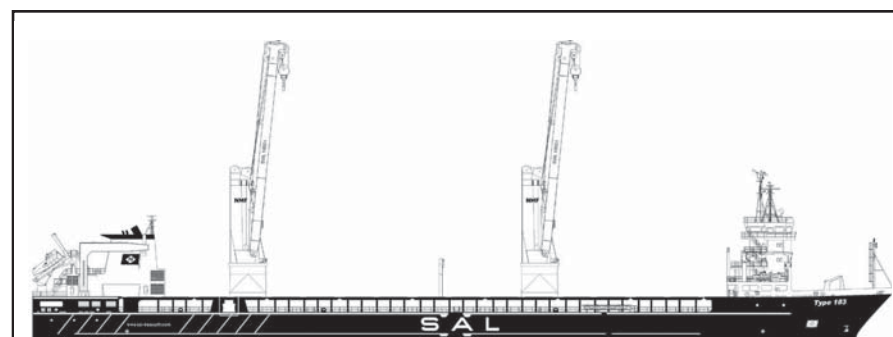
SOHRE TURBOMACHINERY® INC.

MONSON, MASSACHUSETTS, USA 01057

TEL: (413) 267-0590 FAX: (413) 267-0592

TSOHRE@SOHRETURBO.COM WWW.SOHRETURBO.COM

- Brush internals are insulated from casing.
- Provision to raise brush from shaft during operation and to inactivate if contact is not desired.
- Brush is suitable for transmission of instrument signals from the rotor **without the need of special slip rings.**
- Voltage and current monitors available.
- Little or no maintenance.



Type	Heavy Lift Ship
Classification	GL+100 A5, General Cargo Ship, BWI, Heavy Lift Ship, Environmental Passport, Equipped for carriage of containers, Strengthened for Heavy Cargo, SOLAS II-2, Reg. 19, MC AUT, DP-2
Builders	J. J. Sietas KG Schiffswerft GmbH & Co.
Deadweight	12,500 mtons
Tonnage	15,000 GT/4,600 NT
Length, o.a.	160.5 m
Breadth	27.5 m
Deck	128.5 x 27.5 m
Hold	107.1 x 17 x 13.7 m
Hold Capacity	11,850 cu. m.

Cranes	2 x 1,000 mtons SWL
	combinable up to 2,000 mtons SWL
Crane outreach (Crane I & II):	
	16 m – 1,000 mtons
	25 m – 800 mtons
	38 m – 500 mtons
Main Engine	MAN 9L 58/64 Diesel Engine
Output	12,600 kW
Thrusters	2 x 1200 kW bowthrusters
Sternthruster	800 kW
Retractable azimuth thrusters	2 x 1,200 kW
Service Speed	20 knots
Dynamic Positioning	Kongsberg (DP2)

The ship's diesel engine, with its 12,600 kW and its capability of generating a speed of 20 knots, comes from the MAN Group. In addition, MV Lone can operate as an open-top/open hatch ship when transporting cargo of very large dimensions. Apart from its high performance, MV Lone also possesses an Environmental Passport, which means it meets the highest environmental standards. It is also ISO 14001 and OHSAS 18001 HSE certified. The heavy lifter measures 160.5 m x 27.5 m, with a loading capacity of 11,000 tons and 40,000 cu. m. freight volume.

Both ships sails under the German flag. The captain is Lothar Rietzschel, commanding a 21-member crew comprised of seven officers, four cadets and ten crew members from Germany, Portugal and the Philippines.

SAL SCHIFFFAHRTSKONTOR ALTES LAND GMBH & CO. KG

SAL Schiffahrtskontor Altes Land, a joint venture between owning families Heinrich and Rolner and Japan's "K" Line Group, ranks among the world's leading heavy lift shipping companies. Founded in 1980 but with roots that stretch back to a first ship delivery in 1865, the company is based at Steinkirchen in Germany. From its head office in the Altes Land area between Hamburg and Stade, SAL operates an international network of agencies and maintains its own offices in Japan, China, the United Kingdom, Italy, the United States, Finland, Australia, France and Singapore. The company has a total of 570 employees across the world. It operates a fleet of 16 heavy lift ships, financed through its own means and through banks. The vessels' management is fully handled in-house. SAL's internal engineering department deals with all technical load-related matters, while developing innovative transportation solutions for individual customer needs.

www.sal-heavylift.com

WW Launches Advanced RoRo

The Wilh. Wilhelmsen group has launched its 150th anniversary vessel, MV Tønsberg, into operation; the Mark V class which the company touts as the most sophisticated ever built in the RoRo segment.

"We expect that Mark V will strengthen our position as the global market leader within deep sea roll-on roll-off transport," said Jan Eyvin Wang, president and CEO of Wilh. Wilhelmsen ASA, representing the owner of the vessel. "The Mark V class is the most sophisticated RoRo vessels ever built, with major innovative design criteria such as high ramp capacity, deck strength and

height, low fuel consumption, good transportation economy and safe cargo handling. Together with Mitsubishi Heavy Industries, we have constructed a class of environmentally friendly vessels with several unique features." The Mark V measures 869 ft. (265m) long offering a cargo volume of 138 000 cu. m. over six fixed and three hoistable decks. The ship is built at Mitsubishi Heavy Industries in Nagasaki, Japan, and four Mark V vessels will be delivered to Wilh. Wilhelmsen ASA and its partner Wallenius Lines. The second is due in August, with two more in 2012. With a width of 39.3 ft. (12m) and safe working load of 505 tons, the vessel's stern ramp offers customers the possibility to ship larger units than ever before. The clear height of the main deck, 23.3 ft. (7.1m), is also unprecedented for this kind of vessel.

Sustainability: The Mark V will use 15 to 20% less fuel per transported unit than its predecessors, thanks to a optimized hull form and a number of energy saving features such as the streamlined rudder design and duck tail. In the engine room an advanced turbo generator produces electricity from the waste, exhaust heat. A Unitor ballast water treatment system avoids harmful transfer of microorganisms to the sea. Further, all fuel oil tanks are protected to minimize the risk of leakage in case of grounding or collision.

MV Tønsberg is the fourth vessel with this name in the Wilh. Wilhelmsen fleet. It is named after the coastal town in Norway where Wilh. Wilhelmsen was founded in 1861. MV Tønsberg is the Wilh. Wilhelmsen group's 150th anniversary vessel. Manning and technical management will be performed by Wilhelmsen Ship Management Norway. MV Tønsberg will fly the Maltese flag, and be owned by Wilhelmsen Lines Shipowning Malta, which is owned by Wilh. Wilhelmsen ASA.



(Photo courtesy Wilh. Wilhelmsen Group)

Asset Management
Purchasing
Stock Control
Maintenance
Personnel Management
Quality & Safety Management
Consultancy & Training

SpecTec:
We Maintain Your Energy!

Working together for efficiency, productivity and profitable asset management

AMOS
Business Suite
Software & Consultancy Solutions

www.spectec.net • info@spectec.net

SpecTec
Leading the way

HATLAPA
MARINE EQUIPMENT

Reliability in any condition

DECK MACHINERY
OFFSHORE POWER
COMPRESSORS
STEERING GEAR
FLEET SUPPORT

HATLAPA
world-wide service
info@hatlapa.de
www.hatlapa.de

Electric Propulsion Drive for OSV



Alewijnse Marine Systems is to design and install a new electric propulsion drive using a DC bus system for the main electric installation in three vessels to be built at Shipkits B.V. Designed by Vuyk Engineering Groningen, the three vessels will measure 107 x 16 m, and are designed for an offshore service role including the installation and support of wind farms. The bow contains the accommodation with extensive work decks located aft. A DC bus system has implications for the entire design of a vessel. With an increased number of smaller components replacing what traditionally was fewer, much larger pieces of machinery, naval architects are freed from a major constraint when it comes to utilizing the interior volume, and the options for optimizing a ship for a particular role are greatly increased. Jaguar Shipping will take delivery of the first of the new ships in March 2012. The vessels will be certified DP1 and can be upgraded to DP2 if required.

Strategic Marine's Compact Crew Boat

A recent visit to Strategic Marine's Singapore shipyard revealed their compact 91.8 x 23-ft. version ready for work while three sisters were taking shape in the building shed. With a molded depth of 9.9 ft, the Peacock Satu has capacity for up to 60 passengers and accommodation for eight. The aft deck provides 39.3 ft. of length and nearly the full beam for deck cargos. The vessel's total design deadweight is 13 tons. A pair of Cummins KTA38-M3 main engines, each producing 1350 hp at 1900 rpm, turn open propellers through Twin Disc MGX669-SC gears with 2.47:1 ratios. The IMO Tier 2 compliant propulsion package will give the vessel a light running speed of 22 knots. The well laid out engine room also contains a pair of Cummins 6BTA5.9(D)M powered 91 kW generator sets. A Cummins 6CTA 8.3-liter engine, generating 430 HP at 2600 RPM, provides 600 cubic meters of water per hour to a SKUM fire monitor mounted on the cabin top aft of the wheelhouse.

Huntington Ingalls "Opens" for Business

Huntington Ingalls Industries, Inc. has begun operating as a new, independent and publicly traded company as trading of its shares commenced March 31, 2011. Huntington Ingalls Industries, which is the United States' largest military shipbuilder, was previously a business sector of Northrop Grumman until effectively separating on March 31, 2011, in a spinoff. "Our strategy," said Mike Petters, president and CEO of Huntington Ingalls Industries, "is to better align our business with the U.S. Navy's priorities and to continue improving our shipbuilding performance while meeting our customer commitments. Operating as an independent company will allow us greater focus and agility to accomplish these important objectives, which should create significant value for our shareholders."

The Huntington Ingalls Industries name reflects the long-standing legacies of the two shipbuilding business divisions of the new entity: Newport News Shipbuilding and Ingalls Shipbuilding. Collis P. Huntington founded Newport News Shipbuilding in 1886, and Ingalls Shipbuilding was established in 1938 by the Ingalls Iron Works of Birmingham, Ala., a company founded by the Ingalls family.

Work today at Huntington Ingalls includes the construction of the Gerald R. Ford-class aircraft carriers, the refueling and complex overhaul of Nimitz-class aircraft carriers, construction of Virginia-class submarines, submarine design and life-cycle management, as well as fleet services for naval ships all over the world. The company is also constructing San Antonio-class amphibious transport dock ships and an America-class multipurpose amphibious assault ship and has built 28 of 62 Arleigh Burke-class destroyers with long-lead materials awarded on the first two ships in the continuation of the program. Recently, the company was awarded a fourth National Security Cutter construction contract for the U.S. Coast Guard, with the third ship



Mike Petters (center), president and CEO of Huntington Ingalls Industries, Inc. (NYSE: HII), holds a ceremonial HII stock certificate on the floor of the New York Stock Exchange. HII, America's largest military shipbuilder, separated from Northrop Grumman Corp. March 31, 2011, in a spinoff and has begun operating as a new, independent and publicly traded company. Also pictured are Barbara A. Niland (left), HII's corporate vice president of business management and CFO, and James Balducci, vice president and NYSE specialist with Spear, Leeds & Kellogg.

expected to be complete by year's end.

Huntington Ingalls Industries (HII) designs, builds and maintains nuclear and non-nuclear ships for the U.S. Navy and Coast Guard and provides after-market services for military ships around the globe. For more than a century, HII has built more ships in more ship classes than any other U.S. naval shipbuilder. Employing nearly 38,000 in Virginia, Mississippi, Louisiana and California, its primary business divisions are Newport News Shipbuilding and Ingalls Shipbuilding.

www.huntingtoningalls.com

PSV REM Hrist Delivered



Project manager Ronny Dimmen at Ulstein Verft handed over yard number 288 'Rem Hrist' to captain Ole Petter Nygjerde at Remøy Shipping.

Rem Hrist is Remøy Shipping's first vessel from Ulstein Verft. Her sister vessel, Rem Mist, yard number 289, is under construction and will be delivered later this spring. The vessel is a large PSV, and is equipped with multi cargo tanks for dry media and liquids. There is a 360 degree view from the bridge, due to the exhaust system. The exhaust is led through the ship side, and escapes at the water

surface instead of going through the wheelhouse roof. The PX105 design from ULSTEIN is one of the most popular, and captain Ole Petter Nygjerde from Remøy Shipping is looking forward to taking the vessel to the North Sea. The vessel has entered an eight year contract with Statoil.

Incat Crowther's 28m Wave Piercing Crewboat

Incat Crowther are designing a second 28m Wave Piercing Catamaran Crewboat to support offshore oil and gas operations. Incat Crowther has worked with Topaz to develop a 24-hour version of the innovative crew boat. The new vessel shares the same hull configuration, as well as the aft cargo deck and forward loading arrangement. The accommodation-friendly vessel adds a bathroom to each of the two hull crew cabins. There is also an additional officer's cabin on the main deck. The entire wheelhouse module, including aft control stations, is common to both designs. As with the earlier vessel, the 24 hour boat will be fitted with a FFS 250x350HD FiFi and fore-

deck mounted fire monitor as well as a Sormec M18/FB/4S deck crane. The aft deck has over 50 sq. m. of usable deck space, forward of which is a protected passenger boarding area. The vessel will be powered by a pair of Caterpillar C32 Acert engines, each producing 1193kW at 2100 rpm.



Main Particulars

Length, o.a.	90.6 ft. (27.6m)
Length, w.l.	75.5 ft. (23m)
Beam	24.6 ft. (7.5m)
Draft (hull)	4.6 ft. (1.4m)
Depth	10.5 ft. (3.2m)
Construction	Marine grade aluminium
Fuel Oil	3680 gal.
Fresh Water	1320 gal.
Sullage	130 gal.
Passengers	39
Crew	8
Speed (Service)	.28 knots
Speed (Max)	.32 knots
Main Engines	2 x Caterpillar C32 Acert D Rating

Nongsa Jaya Buana Tugs for All Jobs

Tucked into a sheltered cove on the northwest corner of Batam Island, Nongsa Jay Buana Shipyard is approached via a short causeway and a road built into the reddish earth of Indonesia's Batam Island. On entering the yard, the car passes an area of land that is dominated by a series of barges under construction and then on past a double row of eight tugs also under construction.

A modern two-story office block stands proudly at the end of the road. In the office, Yard Manager Mr. Anguan explained that the yard builds these tugs for its own towing company but they are often sold on to other users. At the same time, Branch Manager Budiyanto of the Indonesian Cummins distributor Pr. Altrak 1978 explained the yard uses Cummins engines exclusively.

The eight 23.5 by 7.3-m tugs, that we saw on the way into the yard, are each powered by a pair of Cummins KTA19-M3 diesels with a combined 1200 hp. The engines turn 1.8 x 1.7-m 4-blade propellers through 7:1 reduction gears. This power delivers a 10-knot free running speed and a bollard pull of about 12-tons. These tugs will typically employ a towing hook with 200m of 10-in. circumference nylon towline linked to a single 250 x 70-ft. 4500 dwt barge. Prior to the construction of these eight tugs, designed by well known Sarawak-based Paul Wong, 15 sisters of the same design have been delivered.

The barges and the eight tugs are impressive but they can hardly prepare the visitor for the massive building of tugs in the rest of the yard.

Under a traveling crane in a covered building area behind the office block, three tug hulls are being completed in readiness for turning and completion in the outer yard. In that outer yard, three 16.52 x 6.1-m tugs are each powered by a single Cummins KTA19 M3 engines at the 500 hp power rating. These engines turn a single 1.4-m propeller through a 5:1 reduction to give the tugs around a six-tonne bollard pull. Two sister vessels are alongside the company pier finishing their outfitting.

Towering over these tugs a 31 x 9-m tug was taking shape. It will, like two sisters already launched and fitting out alongside, be powered by a pair of Cummins KTA38-M2 main engines each rated for 1200 hp at 1800 rpm. Classed Germanischer Lloyd as +100 A5 Tug +M these vessels are also built to a design from East Malaysia's Wong's Shipbuilding Contractor & Designer.

Opposite these vessels a fourth set of tugs is taking shape to an attractive low profile 20.9-m design. These twin-screw boats, are each powered by a pair of Cummins 855 engines of 350 hp each for a bollard pull of about eight tonnes. All of the tugs building at the yard are fitted with Cummins powered generator sets



Company founder Herman Suparman with 23.5-meter tugs.



Eight 23.5-m tugs under construction at the Nongsa Jaya shipyard.



(l to r) Altrak's Mr. Budiyanto, Nongsa Jaya's yard manager Mr. Anguan and Altrak's sales engineer Dananang Bayuaji.



WATER IS LIFE

ENWA WATER MAKERS

- From sea water to fresh water through reverse osmosis (RO)
- Scandinavian quality
- Standard models ranging from 1,5 m³/d to 200 m³/d





Norway: post@enwa.com

Sweden: info@enwa.se

www.enwa.com

Sanitary Systems – made to please



The patented Vacuumator™ pump is the most compact, efficient and reliable vacuum generator available for vacuum toilet systems.





www.jetsgroup.com

JETS Sanitary Systems – made to please

JETS VACUUM AS, Myravegen 1, 6060 Hareid, Norway. Tel. + 47 70 03 91 00. Fax + 47 70 03 91 01. E-mail: post@jets.no

Electric Deepwell Pumps Make their Mark

Electrically-driven systems are having an impact on the offshore market, and fluids handling specialist Hamworthy is benefiting when it comes to the electrically-driven cargo pumps it supplies to the specialized floating production storage and offloading vessel (FPSO) sector.

In January, the company announced that its electrically-driven deepwell cargo pump technology had been accepted in a significant new shipbuilding market, following a breakthrough contract in Brazil.

Its cargo pump systems have been specified for eight FPSOs by Brazilian shipyard Engevix Construções Oceânicas S.A.. The equipment will be delivered between 2012 and 2014.

Lars Fischer, Hamworthy Svanehøj Offshore Sales Director said, “Ship owners have recognized the benefits of electrically-driven deepwell systems for many years but now FPSO operators are becoming increasingly convinced.”

Earmarked as a strong area for growth by the company, the latest order sees Hamworthy quickly following up on a string of contracts for FPSO delivery into Brazilian waters from overseas shipyards.

Earlier this year, Gusto BV specified seawater lift pumps and electric fire pumps from Hamworthy for installation on board the Cidade de Paraty FPSO, initially converted from a VLCC at the Kappel yard, Singapore, and due for delivery in 2013 after completion in Brazil. The run of contracts also saw Hamworthy selected to supply cargo pump room systems equipment for the Papa Terra FPSO, for BW Offshore, converted at COSCO Dalian. The latest eight FPSOs, each having the storage capacity of 1,600,000 barrels of oil, are in principle assigned to various field developments in the pre-salt area of Santos Basin. Hamworthy said that, for each FPSO, it would deliver 12 cargo pumps, two slop pumps, two ballast pumps and two emergency pumps, including switchboards and electric motors. Fischer said, “We have built up a reasonable reference list. Now, an increasing number of operators are coming to see the benefits of electrically-driven pumps.”

The breakthrough in supplying electrically-driven FPSO deepwell pumps to feature electric drives came in 2004 when Hamworthy was chosen to supply the cargo handling system for the 900,000-barrel storage capacity FPSO Nganhurra, built by Samsung for the Australian oil company Woodside, which is now oper-



ating at the Enfield oilfield in Australia.

Among its growing FPSO reference list have been a number of Chinese-built vessels, including the circular type FPSO and Drilling unit from Sevan Marine and several conversions from COSCO. Hamworthy also supplied pumps for BW Offshore FPSO operation in the Gulf of Mexico as well as a shipset of 12 deepwell pumps for the 750,000 bbl MODEC vessel Stybarrow Venture MV16, built at Samsung.

EFFICIENCY STUDIED

Hamworthy's progress in the offshore sector has been built on a study by well-known technology consultancy Delta-

marin, which compared the relative cost and performance benefits of electric versus hydraulic cargo pump arrangements on board a FPSO with a nominal offloading rate of 1 million barrels per day.

Deltamarin's study concluded that, installed on tankers, electric pump systems used energy more efficiently than their hydraulic counterparts, with fuel savings of approximately 23%.

The study also concluded that control problems once associated with electrical systems were a thing of the past. “One additional benefit of having frequency converters to control the motor is that they can be programmed to be soft starters,” Delatamarin said. “This means

that electric motor and pump can be started from zero speed and gradually increased. This reduces wear and tear of all system component as well as reducing generators ratings onboard diesel-mechanical ships.”

According to Fischer, when comparing electric and hydraulic solutions: “On-board maintenance is also lower when it comes to the electric system because of the shaft lubrication system used, the fact that the pump house is easily dismantled and cards on converters are easily interchanged.” It was also the case that there are no limits onboard a diesel electric ship to the number of pumps being operated concurrently, whereas the size of power packs limits the number of hydraulic pumps being operated concurrently. Fischer added that concern for the marine environment was also driving the market towards electric drives.

“In the operational phase, electric equipment is more environmentally friendly, because CO₂ emissions are minimal due to higher efficiency and lower power utilization and there is no hydraulic oil spillage risk. There are also fewer parts to wear out and the components that do suffer wear and tear are cheaper to replace.”

CONTINUOUS DEVELOPMENT

Electrically-driven pumps are also showing themselves to be amenable to further development to meet the requirements of the offshore operators of today and tomorrow.

Hamworthy Svanehøj recently launched the first of what will become an entirely new range of combined sea water lift and fire pumps that meet the requirements of the offshore market.

The new deepwell seawater lifting pumps and fire pumps 'DWS' will eventually be available ranging in capacity from 700 m³/hr to 1700 m³/hr and with a differential pressure up to 180 mlc. In the first instance, Hamworthy has developed two new DWS pumps with a capacity of 950 and 1425 m³/hr.

“Combined with our existing pump technology we can now deliver sea water lift pumps up to a capacity of 2600 m³/h and meeting API610 requirements,” said Fischer.

These pumps are driven by a dry mounted electric motor in explosion-proof execution, through a pipe stack with transmission shaft and cargo lubricated bearings. These pumps are in addition to in-line Hamworthy pumps already



available for seawater lift and firewater applications. He said that, the pump head had been designed for optimum efficiency using the company's design experience, computational fluid dynamics and full scale tests. Impellers have been trimmed to provide 15% higher head per flow unit, while the semi-radial design provide a more stable performance curve at higher capacities. After finite element analysis, molded intermediate chambers had been selected to maximise stiffness, with the result that weight across the new range had been reduced by 30% compared to similarly constructed units featuring welded chambers.

Considerable attention has also been given to bearing performance. The use of conical thrust bearings in the upper drive shaft arrangement minimizes vibrations. Furthermore the thrust bearing arrangement has been designed with oil circulation for American Petroleum Institute (API) compliance and increased lifespan. The distance between the transmission shaft bearings is in accordance to API610 in order to assure stable operation under all service conditions.

The pump can be delivered either with a labyrinth seal or mechanical seal. The mechanical seal is of the cartridge type and as an option it can be delivered in compliance with API682.

For sea water lift pumps and fire pumps installed in caissons, Hamworthy Svanehøj can supply its patented inflatable intermediate support system. The support system is developed in order to secure proper installation and support of the pump in the caisson. Fischer said that the new DWS pumps will be available in a wide range of materials, such as AISI 316L, Duplex and Super Duplex. Optionally the pumps can be delivered with strainer, galvanic protection and anti fouling system. The company is also in the process of rolling out a new range of offshore process and cargo pumps (OPCs), which are also API 610 compliant. Featuring an explosion-proof electric motor on deck, oil-lubricated transmission shaft/bearings with oil circulation and filtration, a double mechanical seal with liquid-filled cofferdam, the new range has been specifically designed to be suitable for liquids containing solids, abrasive liquids or aggressive chemicals.

Other significant design features picked out by Fischer included the fact that Hamworthy's new range of OPCs are capable of at least a 5 % head increase at rated conditions by replacement of the impeller with one of larger diameter. Furthermore, "The wear ring clearance is according to API 610 and designed in such

a way that there is no contact between impeller and stator," said Mr Fischer. "Wear rings are available in different materials in order to prevent galling, secure a hardness difference of minimum 50 Brinell and low abrasive wear. The thrust

bearing is also designed according to API610, oil-lubricated, with a minimum life expectancy of 25,000 hours."

He added, "With our strong focus on the offshore industry, we are fulfilling overall objective to develop a series of

sea water lift and fire pumps and OPCs that meet the requirements of API610 and NFPA-20, secure long mean time between repair, and reliable and efficient operation."

Email: info@hamworthy.com



Bug-O / Magswitch



A new way to improve productivity.



Compact and super strong.



Stays clean. Turn off Magswitch and debris falls away.

Bug-O Systems - Invested Partner in Magswitch.



Strong grip to flat and pipe surfaces.



Easy on/off operation. Locking handle.

Bug-O Systems proudly announces a new line of Bug-O Magswitch on-off magnet bars, lifting magnets and accessories.

Magswitch Advantages:

- Saves time and money.
- Faster/easier grinding.
- Replaces clamps.
- Welding angles that stay clean.
- Super strong, controllable hold.
- Fast and easy material handling.
- Fast, precise positioning and workholding.

Call: 1-800-245-3186
Visit: www.bugo.com



On/Off Rail Magnet



BUG-O SYSTEMS
161 Hillpointe Drive
Canonsburg, PA 15317 USA
<http://www.bugo.com> CE

Connecting people and businesses at sea





Sealink™ by Marlink
Premium class maritime VSAT satellite communications solutions

- Dedicated and guaranteed premium class bandwidth
- Customized network and voice solutions for ship operation, client and crew
- Installation and spare parts worldwide
- 24/7 global customer support





www.marlink.com

Every 4th vessel at sea which requires on-demand satellite communications uses Marlink; you can join them by contacting any of our regional offices or email information@marlink.com

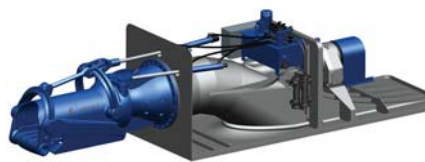
Tel (24/7) +32 70 233 220 · Fax +32 2 332 33 27



OSLO · LONDON · HAMBURG · BRUSSELS · ATHENS · DUBAI · MUMBAI · SINGAPORE · TOKYO · WASHINGTON DC · HOUSTON

New Waterjet Series

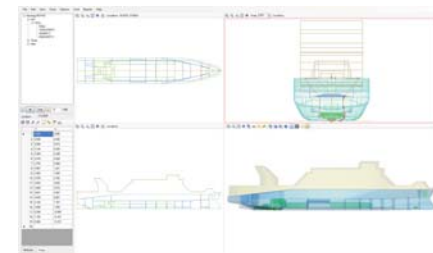
Wärtsilä introduced a new series of waterjet solutions, a midsize series designed to enhance its range of stainless steel jets to include all sizes from 510 mm to 3250 mm. The new series is aimed at the high speed ferry, high speed patrol craft, and customized yachting segments. They are



built with the wide use of stainless steel in the jet construction. The new series of

waterjet comes in a "plug & play" installation module that is designed to offer owners and shipyards lower installation costs and simplified build schedules. The packaged delivery (pictured left) has inlet duct shapes optimized for different hull forms, thus freeing the yard from the responsibilities of inlet duct construction.

Autohydro Pro Hydrostatics and Stability Software



Passenger Vessel in Modelmaker 7

Autoship Systems Corporation supplied Incat Crowther USA, upgrades to its Autohydro Pro hydrostatics and stability software. Autohydro provides naval architects with tools for assessment and approval of passenger vessel designs. Autohydro 6.4 included an update to handle the SOLAS 2009 probabilistic rules for cargo and passenger vessels. With soon to be released version 6.5, assessment of intermediate stages of flooding per the probabilistic rules will be added and Modelmaker will be enabled to allow the user to graphically see penetrations and to print penetration calculations. Other features in Autohydro 6.4 and 6.5 include: autoballast feature, introduction to a new reporting tool, update to free-surface-moment, Modelmaker comes with new and improved interface, part plot tool re-written and is now a menu item in Modelmaker, automatic import of IGES models, user able to export bulkhead definitions for Autohydro to use in its calculations and compatibility with Windows 7.

Email: info@autoship.com

Floating Platform Held Tight with Dyneema



ConocoPhillips FPSO NanHai KaiTuo secured by back-up lines with Dyneema.

Ropes made with Dyneema are being used to secure rigs, Mobile Offshore Drilling Units (MODUs), Buoyant Turret Mooring (BTM) systems and similar constructions in the offshore oil and gas industry. DSM Dyneema cites the example of the Chinese Floating Production, Storage and Offloading vessel (FPSO), the NanHai KaiTuo. The vessel operated in the Xijiang Oil Field at the mouth of Pearl River about 130km from Hong Kong in the South China Sea. The oil

(Photos DSM Dyneema, DYNPR191)

Proven Fuel Savings with FloScan



"I have used FloScan for over 15 years to identify our most fuel efficient towing speed. We monitor our GPS speed once we get strung out on the towline and then start backing off the throttles until

we see a 20% drop in fuel usage. Running more efficiently also helps to reduce our carbon footprint."

Dana L Brodie - Foss Maritime

Capture Your FloScan Data! Remote Monitoring Now Available

- Instantly receive fuel usage data by e-mail.
- Comprehensive spreadsheet reports can be sent at pre-determined intervals.

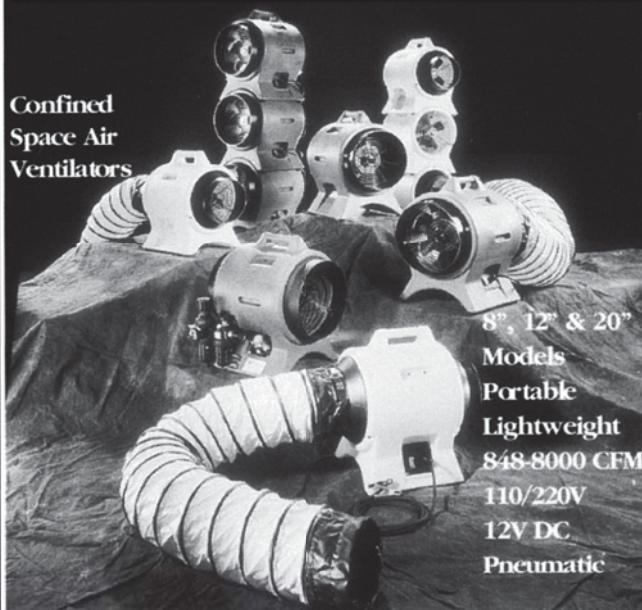


www.floscan.com
Seattle, WA USA
206-524-6625

- Available for diesels up to 6000 hp.
- Flowmeters priced from \$1000 to \$6000 based on engine details.
- Software quotes available on request.
- Call 206-524-6625 or e-mail sales@floscan.com for quotes.

Serious Air For Serious Places

Confined Space Air Ventilators



8", 12" & 20" Models
Portable
Lightweight
848-8000 CFM
110/220V
12V DC
Pneumatic



Americ Corporation

785 Bonnie Lane
Elk Grove Village, IL 60007
For more information, call 800-364-4642 or Fax 847-364-4695

www.americ.com



SMITH BERGER MARINE, INC. OFFERS A COMPLETE LINE OF

SHARK JAWS



SAFE - RELIABLE - ECONOMICAL

Smith Berger Marine, Inc. builds a full range of Shark Jaws for Anchor Handling Tug Supply vessels. Standard ratings are 100, 200, 350, 500 and 750 metric tons and all units have Quick Release at the rated load. Smith Berger flexibility allows us to customize our equipment to suit the operating characteristics of your vessel. Third party certification, load tests, release tests and load monitoring systems are available options.

Rely on the 100 year history of Smith Berger to outfit your vessel with our rugged and dependable equipment.

SHARK JAWS • TOWING PINS • STERN ROLLERS

Smith Berger Marine, Inc. 7915 10th Ave., S., Seattle, WA 98108 USA
Tel. 206.764.4650 • Toll Free 888.726.1688 • Fax 206.764.4653
E-mail: sales@smithberger.com • Web: www.smithberger.com



Visit us at OTC Booth 1917

creating seaworthy software

www.autoship.com

- Autoload® Cargo Operations
- Onboard Stability for all Vessel Types
- Customized Cargo and Voyage Planning
- World-Wide Service & Support

Catch information as it happens.



field is operated by ConocoPhillips and the China National Offshore Oil Corporation, CNOOC.

An inspection of the NanHai KaiTuo by an ROV (Remotely Operated Vehicle) found broken wires on two of the SWR mooring legs of its BTM system. SBM Services, a service provider to the offshore industry, was requested by ConocoPhillips to design and supply a back-up system consisting of a special connector to fit a positively buoyant back-up line made with Dyneema. Installation of this back-up system was required in case of a SWR failure in one of the damaged composite anchor legs.

The back-up system is designed to be capable of retaining the FPSO in position and maintaining production, gaining time for ConocoPhillips to mobilize the required vessels and equipment to replace the broken wire leg, in case one of the wires fails due to its reduced strength.

SBM Services verified that the connector and the back-up line in its new configuration could withstand a load of 580 tonnes, the maximum likely in the event of a broken leg.

www.dyneema.com

Tier-III-Compliant, 2-Stroke Engine Debuts in Japan

MAN Diesel & Turbo confirmed that MAN B&W 6S46MC-C8 engine with integrated SCR fulfils the IMO's strictest emission standards. The engine, an MAN B&W 6S46MC-C8 type capable of an output of almost 7 MW, was constructed in autumn 2010 by Hitachi Zosen Corporation at its Ariake works in southern Japan. The engine is bound for a general cargo carrier, to be built at the Nakai shipyard and scheduled to enter active service later this year. The vessel was ordered by Japanese customer, BOT Lease Co. Ltd., and is operated by Nissho Shipping Co. Ltd. The first engine-start took place in January 2011. In connection with this, MAN Diesel & Turbo dispatched a team to Japan to commission the engine-control system – the first in a series of planned visits. The team also optimised the integration of the SCR system that removes NOx from the engine's exhaust gas. The SCR system features:

- more than 80% NOx reduction based on the load cycle
- more than 70% NOx reduction on each load point in the load cycle
- easy switching between on/off modes for optimal emission performance on high seas and coastal waters.

“We haven't just provided an engine and added an SCR system to it,” said Søren Jensen – Vice President Research & Development, Marine Low-Speed MAN Diesel & Turbo. “On the contrary, we have delivered a bespoke system. As engine designer, builder and catalyst designer, MAN Diesel & Turbo and Hitachi Zosen comprise a group of specialists that have delivered an optimized propulsion/emissions package of engine, engine-control system and SCR system. To achieve the desired, higher exhaust-gas temperature and maximize NOx removal, the different elements of the emissions package are laid out in series, with the SCR system placed before the turbocharger.



(Photo courtesy MAN Diesel & Turbo)

United in Excellence

We are pleased to announce the formation of a new marine consortium
Advanced Marine Technologies Group

By combining the engineering capabilities, manufacturing expertise and service support of three well established marine equipment manufacturers, AMT Group is structured to deliver innovative marine solutions on a global scale.

Diamond Sea Glaze

An industry leader in the design and manufacture of marine windows, doors, hatches and custom glass.

www.diamondseaglaze.com

Manly

Carrying forward a tradition of proven weathertight and watertight marine closure systems.

www.manly.com

Steelhead

An innovative manufacturer of world class davits, yacht cranes and passerelles.

www.steelheadmarine.net



Three day course

Fatigue and Fracture Analysis of Ship Structures



Houston, Texas, October 25 - 27, 2011

Register now!

The course reviews fatigue and fracture problems observed in marine structures and how they have been addressed, provides an introduction to material characterization assessment as well as quantitative procedures for fatigue and fracture. The course is geared to naval architects, ship superintendents and engineers responsible for design, material specification, welding, operational safety and maintenance.

For detailed course content, visit our web site at www.fleetech.com. To register, email training@fleetech.com.

Accredited to the RINA for Continuing Professional Development and by SNAME for compliance with NYSED guidelines for Continuing Professional Competency.



training@fleetech.com
www.fleetech.com

pima VALVE, INC.



Quality Marine Valves



Supplying the U.S. Navy, U.S. Coast Guard and Major Shipbuilders for over 40 years.

Phone: (520)796-1095 Fax: (520)796-4012

Check out our new website at:

pimavalve.com

ExxonMobil Marine Lubricants Introduces Mobilgear SHC MT 68

Mobilgear SHC MT 68, a fully synthetic extreme pressure (EP) marine gear oil, is formulated to optimize the performance of equipment operating under extreme conditions. The new product re-

sists micropitting while protecting marine thruster gear drives against conventional forms of wear and corrosion. The oil is approved by Brunvoll AS. All gear oils are made from base oils and various

additives to enhance performance. Mobilgear SHC MT 68's synthetic base oils and proprietary combination of additives are balanced to minimize wear and enhance the performance of all critical



gearbox components—including gears, bearings and seals. Mobilgear SHC MT 68 is recommended for enclosed marine gear drives including steel-on-steel spur, helical and bevel gears operating at bulk oil temperatures up to 100°C (212°F). It is particularly suitable for gear sets working under heavy or shock loads. The product meets or exceeds AGMA 9005-E02-EP, DIN 51517 CLP (Part 3) and ISO 12925-1 Type CKD.

www.portsandservices.exxonmobil.com

Reduced Enviro Impact, Costs for NCL

Norwegian Cruise Line applied biocide free, Intersleek foul release coatings to the 78,309 GRT Norwegian Sun when it was built in Germany in 2001. Ten years later, the Intersleek system has only needed touch-up repairs, significantly reducing overall paint volume, packaging, waste and VOC emissions. Because full coats were not necessary, drydocking time and costs were also reduced. During Norwegian Sun's drydock in the Bahamas in January 2011, it was noted that the Intersleek system had performed well and was in good condition with no animal or weed fouling. "We are very pleased with the performance of the Intersleek system. At Norwegian Sun's two interim dry-docks, we only applied a total of 600 liters of Intersleek," said Brian Swensen, Senior Vice President, Technical Operations, Norwegian Cruise Line. "For a standard antifouling system, we would have used approximately 6,000 liters. This has resulted in a 90% reduction in VOC emissions and a 100% reduction in biocide release. The fact that no full coats were required meant that the dockings in 2004 and 2007 were completed ahead of schedule with lower paint and application costs than expected."

www.international-marine.com

USA, Inc. THETA

4-Band Precision Radio Direction Finder
RT-500-M

To locate and decode **COSPAS-SARSAT** signals on 406 MHz

- Extended range with high reception sensitivity
- High bearing accuracy
- 88 marine and coastal radio channels (156.000 to 162.025 MHz)
- VHF 121.500 MHz (118.000 to 122.975 MHz)
- UHF 243.000 MHz (240.000 to 245.975 MHz)
- COSPAS-SARSAT (400.000 to 409.975 MHz)
- Relative and true bearing
- Automatic monitoring of all emergency frequencies
- Slave display with 100% functionality
- IP 67 protection rating
- NMEA, RS-232 and LAN interfaces
- Easy installation, no RF cable connection required

OTC Houston
Come see us - Booth #6720

Contact us to learn about other RHOTHETA RDFs!
435-578-1270 • info@rhotthetausa.com • www.rhotthetausa.com

Meteorological Instruments

R.M. YOUNG COMPANY
2801 Aero Park Drive
Traverse City, Michigan 49686 USA
TEL: (231) 946-3980 FAX: (231) 946-4772
Web Site: www.youngusa.com

From Freezer To Finish In Minutes

Moldable Epoxy Chocking Material For Engine and Component Installation

- Eliminates the need for Mirror Surface Grinding
- Reduces Chock installation time by more than 50%
- Close tolerance EXACT FIT
- Proven Track Record of over 20 years on US Navy LCAC, MHC-51 Mine Hunter and other Naval Shipping

Available in two-part system or pre-catalyzed frozen sheets or cut shapes

Contact Michael Peck at 817-335-0862 or email at pmpeck@dynamold.com

DYNAMOLD, INC.
www.dynamold.com • Fax 817-877-5203

Now more than ever, Skookum signifies value in today's cost-conscious world.

You've known us for quality rigging products since 1890. Our comprehensive block, fairlead, sheave and alloy forging lines have met the challenges of the most demanding applications around the world. And in the process, we've proudly taken part in the shaping of American history; from salvage operations at Pearl Harbor and construction of the Grand Coulee Dam to San Francisco's BART and the space shuttle.

Whatever your applications, we're committed to serving you with the finest in standard and custom engineered products. For further information contact your nearest dealer or call us at: **503/651-3175**

Skookum
PO Box 280, Hubbard, OR 97032
FAX 503/651-3409

SKOOKUM®
Blocks & Rigging
AN ULVEN COMPANY
1-800-547-8211 • www.skookumco.com

TCA44: Turbocharger Family New Arrival

Revealed in January 2011 and weighing 1,970 kg, the TCA44 recently underwent an extensive test program on MAN Diesel & Turbo's turbocharger test bed in Augsburg. The TCA44 completes MAN's TCA turbocharger range for two-stroke engines at its lower end. Stefan Mayr, Project Engineer responsible for the TCA44, said: "This new turbocharger has been specifically designed to meet the needs of small-bore, two-stroke engines and provides optimized turbocharging solutions for engines that exceed the capacity limits of the smaller TCR22 turbocharger."

Until now, the TCA55 with a small turbine and compressor wheel has been used for such engines.



Though thermodynamically feasible, the TCA55 suffered by its larger size and weight, which was a decisive disadvantage on the cost side. In contrast, the TCA44 is some 40% smaller

and lighter. With the predicted development of the Chinese short-sea and coastal operation and the growing demand for small-bore, two-stroke engines, the TCA44 is coming to the market just in time to enhance these applications.

Demand for the TCA44 has been strong and MAN Diesel & Turbo has already taken in a significant number of orders from its two-stroke licensees. The company reports that serial deliveries will start in the second half of 2011.

The TCA44 follows the principal design philosophy of the TCA series, but with some major innovations that facilitate production, installation and maintenance.

Radio Holland Debuts Sailor 6248

The VHF Sailor RT-2048 VHF that has been in the market since 1987 and of which more than 100,000 units have been sold, is reaching its end of life. Radio Holland, Sailor distributor, introduces its successor: the Sailor RT-6248 VHF, which will become available in the second half of this year. The Sailor 6248 VHF will include all the well-known, reliable features of the Sailor RT-2048, and more. This non-class VHF is based upon the new Sailor 6222 VHF DSC Class A. Amongst others, the Sailor 6248 will include both the Sailor Replay function and the LAN option for ThraneLINK, a uniform communication protocol that connects all Sailor equipment in a network.

The Sailor 6248 will be a solid, innovative replacement for the highly regarded Sailor RT-2048 VHF.

www.imtechmarine.com

ICC Cable

Since 2005, ICC Cable Corporation has

been leading the way as a supplier and manufacturer for world class wire and cable. Its product lines meet worldwide regulatory body approvals for Marine & Offshore Wire and Cables. Its stock in its Gulfport, MS warehouse IEEE45/P1580 type P, LSE, LSX Cable along with

UL1309 standard for Type P, Type T/N, Type X shipboard constructions. We also manufacture Mil-DTL 24643 cables. ICC Cable Corp., is a single source solution for quality wire and cable products, at competitive pricing.

Email: sales@icccable.com

Shock Mitigating, Marine-Coated Seating for Comfort and Performance

Made in the USA

Pacifica Pilot with Floor Slide JX-190 Jockey Seat for RIB Boats Pacifica with Torsion 580 Suspension

TGIC Polyester Powder Coat
E-Coat Primer
Non-Chrome Sealant
Zinc Phosphate Coating
Water-based Cleaning of Bare Metal

Multi-coat Marine Finishing System

- All SeaPost® seats include superior protection against corrosion, abrasion and impact
- 1000-Hour Salt Spray test proof

H.O. Bostrom Company
TEL 262-542-0222 • FAX 262-542-3784
Waukesha, WI USA
Hamburg, Germany • Shanghai, China

sales@hobostrom.com

www.hobostrom.com

GUIDO PERLA & ASSOCIATES, INC.

Offshore Vessels - Workboats - Passenger Vessels - Fishing Vessels

**Ideas
Engineered Into
Reality!**

GPA PROFESSIONAL SERVICES

- Conceptual and preliminary design
- Bid packages and regulatory design
- Scientific and engineering analysis
- Feasibility studies
- Production engineering
- Construction management
- Owner representation
- Expert witness services

Naval Architects / Marine, Mechanical & Electrical Engineers
Columbia Tower, 701 5th Avenue, Suite 1200, Seattle, WA 98104
Phone: 206.768.1515 Fax: 206.768.9700
gpa@gpai.com / www.gpai.com

COASTAL MARINE EQUIPMENT, INC.

GULFPORT, MS (228) 832-7655
www.coastalmarineequipment.com

DEPENDABLE.

RUGGED.

AMERICAN MADE.

**ANCHOR WINDLASSES
ANCHOR WINCHES
STORAGE REELS
MOORING WINCHES
CAPSTANS
ESCORT WINCHES**

DECK MACHINERY BUILT TO LAST.

**Where ever you are
we are near.**

more than you expected

HELKAMA

www.helkamabica.fi

New Ship Simulator for Offshore Industry



Marine Simulation released its latest product, vSHIP, which is specifically designed to train and prepare ship-board personnel for the ever growing roles and responsibilities they face in support of the offshore industry. Available as a desktop PC based simulator, vSHIP is designed to interface with marine electronics and navigation software via industry standard interfaces, as well as with other vSHIP and ROVsim Pro installations, providing a real world, coordinated operation simulation. Potential training applications include: offshore mooring and support operations, coordinated bridge / ROV team operations, naval mine and ordnance sweeping and clearance, as well as complex mission rehearsal.

<http://www.marinesimulation.com>

GHOST: New Anti-Piracy Security Platform

Juliet Marine Systems, Inc. developed and built a marine platform called GHOST specifically designed to deal with piracy. The new class of vessel has been compared by many working in the US Navy to an attack helicopter on the water. It is designed with the ability to conduct long range security patrols at very high speeds and to loiter for several days. GHOST can utilize non-lethal or lethal weapons depending on situational requirements. It is designed to be sea-based in squadrons from a larger ship that would act as home base for the security patrols and could be placed offshore close to the area of operations. "Sea-basing is the best means for conducting pirate patrols. If GHOST is land-based, this would present a host of international treaty issues and additional security needs," said Gregory Sancoff.

Juliet Marine Systems is discussing with the shipping industry the use of GHOST boats to provide private security patrols for their ships and insurance customers.

Email: info@julietmarine.com

Oil Spill Detection Radar

The Oil Spill Radar by Consilium Marine & Safety was tested with the Norwegian Coastal Administration and the Norwegian Clean Seas Association for Operative Companies (NOFO). The key feature of the Oil Spill Radar is said to be the possibility to integrate a complete Oil Spill Detection function into Consilium's standard type approved IMO/Solas Navigational radar. Furthermore, the new advanced radar processing unit is supported by a special Consilium radar sensor and by its capability to increase the rotation speed of the antenna to up to 44 revolutions per minute. For shipowners, a major benefit is the reduced maintenance costs in terms of installation, service and spare parts, due to the fact that Consilium is represented by local offices in 18 countries worldwide for both navigational bridge equipment and Oil Spill Detection systems. Thanks to advanced real-time signal processing, the Consilium Oil Spill Detection Radar is able to highlight the dampening of the reflected microwave radiation on the radar display and to overlay the same on the Consilium ECDIS. This integration is allowing Consilium to offer an integrated oil spill response and management bridge system.

www.consilium.se

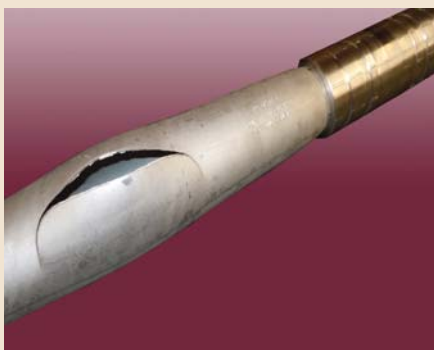


(Photo Courtesy Consilium)

Tube-Mac Industries

PYPLOK fittings, from Tube-Mac Industries Ltd., Stoney Creek, Ontario, Canada rely on a non-welded, 360 radial swage method for joining tube and pipe sized from 1/4 in. to 3 in. rated for pressures up to 9000 psi. As the photograph shows, these pressures can exceed the burst pressure of the tubes being joined.

www.pyplok.com



EPA Tier 3 Engines for ASD Tugs

Signet Maritime installed the Cat C175 ACERT 16-cylinder main propulsion diesel engines rated at 3417 bhp each on its two support/escort tugs being built in Gulfport, Miss. These engines represent the next generation in technology for addressing the needs of emissions and hazardous location applications and meet offshore emissions requirements, including EPA Tier 3, EU Stage IIIA, and IMO Marine Tier II. The Robert Allan Ltd. designed RAstar 3100 class tugs are slated for an October 2011 delivery, and will provide marine services for Angola LNG Supply Services (ALSS) vessels into the Port of Pascagoula.

Marine Pressure Transducer: Model: PX2471

The Model PX2471 Marine Pressure Transducer has been designed to meet the stringent requirements of military standard MIL-T-24742(SH) and when invoked ASTM specification F2070-00. This product is directly interchangeable with other existing pressure transducers designed to MIL-P-24212C(SH) when used with mounting plate assembly A019852. The Model PX2471 marine pressure transducer is a light weight 18 oz (510 gm) transducer, available in pressure ranges from 15 to 10,000 psi. The output is a loop powered 4 to 20 mA (2 wire current) signal. Applications include naval shipboard use, both surface and sub-surface vessels, as well as general maritime uses. Media compatible with sea water, steam, oil, fresh water, condensate and other gases.



Email: Info@omegadyne.com

Rhothetha Displays SAR, Tracking Solutions

Rhothetha is exhibiting at LAAD 2011 in Rio de Janeiro, Brazil. The company provides Search & Rescue (SAR) and Tracking solutions, and specializes in the development, manufacture, and integration of professional products for ATC, SAR, COSPAS SARSAT, VTS, Surveillance, and Tracking of RF transmitters in general. Rhothetha products are installed in special mission aircraft, helicopters, boats, vehicles and towers worldwide. In addition to tracking SAR, Man over board (MOB) and person in the water (PIW) radio beacons, Rhothetha's state-of-the-art radio direction finders can track theft recovery and tactical covert transmitters. Operational frequencies are available for: VHF Air, Marine, UHF Air, Amateur Radio, Law Enforcement and all COSPAS SARSAT 406 MHz channels.

Email: info@rhothethaamerica.com

Smart FPS Series of Automated Fuel Polishing

ALGAE-X introduces the SMART FPS Series, what it dubs as a new era of fuel polishing and onboard fuel quality optimization for the marine industry. By combining fully automated control and monitoring with fuel decontamination, water and sediment removal, the SMART FPS is designed to revolutionize fuel polishing. The new series of compact, industrial quality Smart FPS Systems cover a wide range of flow capacity and tank sizes. They promote safety, increase reliability, and protect your engines. When taking on fuel in unfamiliar places, the Smart FPS will automatically ensure that your fuel is being optimized before it is used. It functions as an on-board tank cleaning system and when used to transfer fuel, it will supply completely clean and dry fuel to your day tanks.

www.algae-x.net



AutoChief C20 Propulsion Control System

Kongsberg Maritime announced Factory Acceptance Test (FAT) number 3000 for its propulsion control system, AutoChief C20. The FAT took place March 8, 2011 at Kongsberg Maritime Korea's facility in Busan, South Korea, with representatives from Hyundai Heavy Industries (HHI) and a Lloyd's Register surveyor present. Following the successful FAT, the system will be delivered to Hyundai Heavy Industry Engine Maker Division, for use on a large 2-stroke engine aboard HHI new building no. H2180, for shipowner Seaspan. HHI has been an important part of the AutoChief C20 story, having been the first customer to shop test the system, on a MAN B&W 6S70ME engine for a Sovcomflot vessel in November 2004.

www.km.kongsberg.com



Jotun Launches Hull Performance Solution

Jotun Marine Coatings launched new Hull Performance Solutions, a concept which the manufacturer claims significantly reduces fuel consumption by combining its premium antifouling SeaQuantum X200 and monitoring tools. **Jotun's Hull Performance Solutions (HPS) combines premium antifouling, priority technical service and tools to measure hull performance over time and offer a unique money-back guarantee.** "HPS represents a genuine game-changer in the marine coatings segment," said Geir Boe, Divisional Vice President, Marine Coatings. "Jotun is the industry's first marine coatings manufacturer to back fuel reductions claims with a guarantee, based on verifiable results. We believe HPS represents the new hull performance standard in the marine coatings industry."



Following an intensive three-year study, Jotun has developed the monitoring tools and analysis method to prove SeaQuantum X200's ability to dramatically lower fuel costs over time. "By using sensors to capture information from different data points, we have a basis to calculate fuel savings over time," said Boe. "Based on these data, Jotun can offer HPS customers a guarantee that SeaQuantum X200 will provide a clean hull and less than 1.5 percent speed loss or a maximum 4.5 percent increase in fuel consumption over 60 months, compared to the condition of the vessel after dry-dock. Either we deliver on high performance, or we return the additional investment in SeaQuantum X200."

Dr. Morten Eikenes, Jotun's HPS Concept Development Director, said HPS is made up of four components; Jotun's SeaQuantum X200, based on next-generation silyl methacrylate binder technology, premium technical service complete with a dedicated project manager, a reliable and transparent method of measuring, quantifying and reporting the relationship between hull performance and fuel HPS is supported by a measuring and analysis system, developed by Jotun. HPS customers install sensors to measure shaft power, vessel speed, wind and draft. Once the data is collected, Jotun can plot the speed deviation relative to the vessel's speed performance after dry-dock.

www.jotun.com/hps

Maritime
Professional

The Essential
Quarterly Magazine

Q2 2011 • ENERGY TRANSPORTATION

Region Focus:

Dubai Maritime Cluster

Regulatory Review:

The View from the Top

Risk:

Petroleum Loss Control, Cargo
Inspection

Maritime Security:

Protecting Volatile Cargoes

SUBSCRIBE

Register for your FREE subscription:

<http://www.maritimeprofessional.com/magazine/subscribe.aspx>



90% Engine Mechanical Wear
Occurs At Cranking
**ONLY PRELUBE HELPS
ELIMINATE THE DAMAGE**

Prelube Marine

Applications To:

\$ **Increases Efficiency**

\$ **Extend Overhaul**

Intervals & LIFE of

Equipment

\$ **Protects Investment**

TURNKEY PUMPS/MOTORS

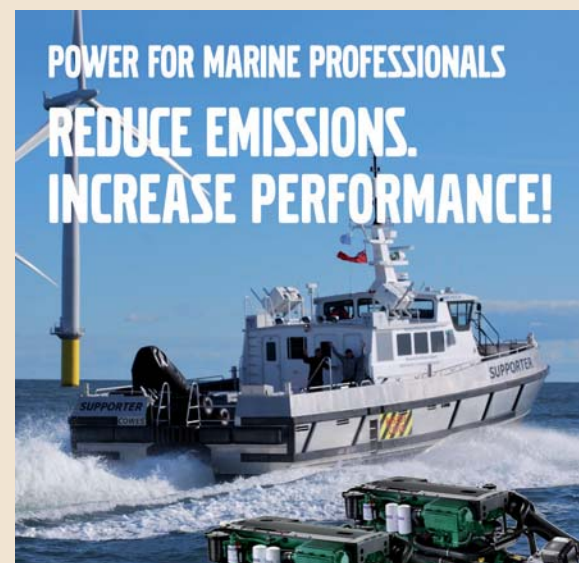
CONTROL SOLUTIONS



VARNA Products

www.VARNAProducts.com

530-676-7770



POWER FOR MARINE PROFESSIONALS
**REDUCE EMISSIONS.
INCREASE PERFORMANCE!**

Volvo Penta IPS.

The leading pod-
system for planing boats.

Compared to inboard shafts,
you can expect:

- 30 % lower CO₂ emissions
- 30 % better fuel economy
- Superior performance and handling
- Integrated joystick docking

Volvo Penta IPS. Twin, triple or quad installation.



VOLVO PENTA IPS.
ANOTHER EXAMPLE OF THE
VOLVO PENTA GREEN COMMITMENT.

**VOLVO
PENTA**

www.volvopenta.com

SIGN COMPLIANCE

We can Design, Produce, & Install
your complete sign system

We make every sign you'll ever need

www.MarineSigns.com
maritime@MarineSigns.com

Call 775-832-2422



Maritime Associates, Inc.



Gemak goes offshore...



Gemak Shipbuilding Industry and Trading S.A.
Istanbul, Turkey • www.gemak.com

SUNY Maritime: Admiral's Scholarship Dinner May 3

State University of New York (SUNY) Maritime College's annual Admiral's Scholarship Dinner will be held on Tuesday, May 3, 2011, on the College's Throgs Neck, Bronx, New York campus. During the Admiral's Scholarship Dinner, SUNY Maritime College will salute two Maritime graduates, Mark Barker, president, The Interlake Steamship Company, Cleveland, Ohio as well as Thomas Merrell, president, General Dynamics, American Overseas Marine (AMSEA), in Quincy, Mass. The chemical tanker owner, BLT Chembulk Group headquartered in Southport, Conn., will also be honored that evening. Jack Noonan, CEO, will accept the honor for the company that evening. BLT Chembulk is a subsidiary of Berlian Laju Tankers of Jakarta, Indonesia, and includes the company formerly known as Chembulk Tankers. Gary Jobson, ESPN Sailing Analyst (and a SUNY Maritime graduate) broadcaster/producer, lecturer, writer and former All-American collegiate sailor, who won the America's Cup in 1977 as tactician for Ted Turner, will serve as the Master of Ceremonies for the event. Tickets for the 2010 Admiral's Scholarship Dinner are \$300 per person and benefit the State University of New York Maritime College Scholarship Fund. For information, call: 718-409-4983, or

Email:

admiralsdinner@sunymaritime.edu

Colonna's Appoints Sutton

Colonna's Shipyard, Inc. of Norfolk, Va., appointed Charlie Sutton as Director of Operations for its Colonna Down River Division, a rapid response ship repair service. Sutton is a Norfolk native and longtime waterfront veteran having recently worked as Program Manager at Earl Industries. Colonna Down River Division is professionally staffed with qualified shipfitters, welders, electricians, pipefitters and expert supervision to respond to any emergency repair on a 24/7 basis.



Bentley Honored by Historical Society

Helen Delich Bentley is scheduled to be honored at the National Maritime Historical Society's Washington Annual Award Dinner beginning at 6 p.m. Wednesday, April 13, at the National Press Club, 529 14th St., NW, Washington, DC, 20045. A former chairman of the Federal Maritime Commission and five-term U.S. Congresswoman representing Maryland's 2nd Congressional District, Bentley's history of advocacy for the Port of Baltimore was highlighted in 2006 when the Port was officially renamed The Helen Delich Bentley Port of Baltimore by Maryland Governor Robert Ehrlich. Joining her as nominees at the award dinner will be Admiral John C. Harvey, Jr., USN, Com-

mander, U.S. Fleet Forces Command, and CDR Everett Alvarez USN (Ret.), representing all prisoners of war as the first Naval aviator shot down in Vietnam, subsequently held as a POW for more than eight years. Alvarez holds numerous military decorations, including the Silver Star, two Legions of Merit, two Purple Hearts and the Distinguished Flying Cross.

Harvey, who prompted the Navy to establish an office to commemorate the upcoming bicentennial of the War of 1812 and has assumed a lead role in the celebration, called Bentley a "mentor" because of her pioneering television series "The Port That Built a City."



Photo courtesy BSY Associates Inc.

Obituary: William B. Hamilton, Jr.

William B. Hamilton, Jr., of Ponte Vedra Beach, Fla., and formerly Executive Vice President of Sea-Land Service, Inc., and President and CEO of its affiliate, Monterey Transportation Co., Inc., died February 18, 2011. He was a member of The American Bureau of Shipping, The New York Yacht Club and a past member of The Society of Naval Architects and Marine Engineers, The American Society of Certified Public Accountants, a director of J. J. Henry Co., Inc., and was a founding member of The Club at The World Trade Center. He is survived by his wife of 60 years, Jean Patteson Hamilton, two daughters, Jean L. Hamilton of Houston, Texas and Ann E. Hamilton of Putnam Hall, Fla., one son, William B. Hamilton, III, wife Rachael and granddaughter Aron S. Hamilton, all of Greenville, Ind.

ClassNK's Ueda Addresses CMA

ClassNK Chairman and President Noboru Ueda spoke at the CMA Shipping 2011 held in Stamford, Conn. He spoke as the Chairman of IACS on the topic of Achieving a Balance in Maritime Regulation: Environmental Regulations, and his talk reviewed current regulatory trends to reduce greenhouse gas emissions and the contributions being made by IACS in this important area. Ueda spoke during a conference session which also included presentations by the top people of the four industry organizations BIMCO, ICS, INTERTANKO, and InterManager. During his presentation, Ueda said that "ClassNK is also contributing to the improvement of safety at sea and the

prevention of marine pollution through its involvement in the many activities of IACS aimed at addressing environmental issues."

KPI Bridge Oil Belekos to NY Office

KPI Bridge Oil appointed George Belekos as Marine Fuel and Lubricants Trader in its New York office. Belekos has several years professional experience in sales and marine lubricants trading and has spent three years working for a well known lubricant trader in Greece.



MAMA Gets New COO

Mid-Atlantic Maritime Academy's President and CEO, Arthur Goldman, said that Unlimited Master Ed Nanartowich will be the Chief Operating Officer of the school. Captain Nanartowich joined Mid-Atlantic Maritime as an advanced course instructor following his retirement as a Senior Master with the Navy's Military Sealift Command. Captain Nanartowich sailed as Master from 1981 to 2008 with 24 commands within the diversified MSC fleet.

His commands as civilian shipmaster included tankers, cargo ships, cable-layers, scientific support ships, ocean-going tugs and others.

The most meaningful command for him was the humanitarian outreach mission of the USS Comfort. A number of honors were bestowed on him at his retirement from this distinguished career of over 34 years. He has an MBA from

LaSalle University and Bachelors from the State University of New York's Maritime Academy.

Kittiwake Appoints Dr. Dye

Kittiwake Developments appointed Dr. Steve Dye as its first dedicated Business Development Manager, which closely follows the appointment of Peter Pilon as CEO of Kittiwake's U.S. operations. Dye's previous roles have included European and Asia sales director for Source Photonics and Northlight Optonics.

Ship Equip Opens Rotterdam Office



Ship Equip opened an office in Rotterdam, The Netherlands. The activity increase comes as a result of the steady growth of customers in the region, as well as the high number of ships calling by Rotterdam as a destination or enroute. The Rotterdam office will primarily handle service issues, but with its location in a major shipping hub it is a convenient location for other parts of the Ship Equip organization. The office will be handled by Service Manager Kenneth Borgen and on-site Station Manager Roger Sandnes.

www.ship-equip.com

Orbit Expands Global Presence

ORBIT Communication Systems, a Satellite Communications, Tracking & Telemetry, and Communications Management Systems provider, appointed Michel Rieken as its new regional sales directors in Europe and Latin America for its Satellite Communications (Sat-Com) Business Unit. Silene Alcoba was named Director of Sales and Business Development for Latin America and will be based in Rio de Janeiro, Brazil.

New Executive VP for Van der Velden

Paul van Maanen, 48, has joined Van der Velden Marine Systems as Executive Vice President. He brings with him years of experience as a Managing Director in the shipbuilding and aircraft industries. Van Maanen started his career as Area Sales Manager at Stork (industrial products & services). In 1993 he moved to Shipyard Peters, where he worked as Vice President and CEO.



Eniram Supports Environmental Performance Program, Green Marine

Eniram, provider of advanced decision support systems for the shipping industry, joined the Green Marine program as a supporting partner. Green Marine is a joint Canada-U.S. voluntary program that aims to improve its participants' environmental performance beyond regulatory compliance by introducing best practices, reduction targets and new technologies. Eniram's dynamic trimming technology monitors and optimizes trim in real time and has enabled customers to save on fuel costs and reduce carbon output.

www.green-marine.org

Fatigue and Fracture Analysis of Ship Structures

BMT Fleet Technology Limited, a subsidiary of BMT Group Ltd, announced the next Fatigue and Fracture Analysis workshop for Fall 2011. This three-day workshop will be of interest to Naval Architects, Engineers and Ship Superintendents who are responsible for vessel design, maintenance and operation. The workshop presents tools and techniques for quantitative fatigue and fracture assessment of ship structures considering the materials, structural geometry and loading. Practical application examples are used to reveal the value of this technology in supporting safe and cost-effective material, design and maintenance decisions.

www.fleetech.com

Email: training@fleetech.com

MPT to Invest \$1.5m in Training Program

Maritime Professional Training (MPT), a DNV Approved Maritime Training Center and an ISO 9001:2008 Company, has committed another \$1.5m to enhance its "Project 2010 & Beyond." This project was envisioned as a means to update a wide range of its courses and enhance the learning experience and cost effectiveness for its students.

MPT said the funds will be spent almost exclusively as part of their ongoing expansion of its simulation facility, the S.M.A.R.T. Campus. The facility conducts Simulation for Maritime Assessment Research and Training and has long been used for both regulatory course compliance as well as research projects for port development

and familiarization training.

The facility upgrades will include a fourth Full Mission Ship Simulator Bridge designed for Advanced Dynamic Positioning and AHTS training as well as enhanced features allowing for the conduct of T.O.A.R. programs. The upgrades will also include an additional ECDIS lab featuring the newest version of MFD ECDIS displays. This new lab will allow students to train on the newest equipment whilst fulfilling the regulatory requirements for the training. The installation of a new DP Lab for both Basic and Advanced Course offerings will round out the upgrades slated for completion.

www.MPTusa.com

ACMA, Iceberg Project Services Form Alliance

Alan C. McClure Associates (ACMA) formed a professional alliance with Iceberg Project Services (IPS) (www.icebergps.com). When supplemental support is required, ACMA will provide engineering services to IPS and IPS will provide ACMA project management assistance. "In today's market, most customers are looking for a complete project service package that has a tendency to favor the larger Engineer, Procure, Install and Construct (EPIC) companies," said ACMA's Vice President Darrel Harvey.

"This alliance of equals puts both AMCA and IPS a step closer to providing those turnkey solutions to our customers on a worldwide basis."

OTC 2011 Distinguished Achievement Awards

The Offshore Technology Conference (OTC) will present its 2011 Distinguished Achievement Awards on May 1 to **Cortis (Cort) Cooper** for his pioneering work in metocean research, and to BP Norway for the Life of Field seismic reservoir surveillance project. ExxonMobil Development Company will receive a special citation for its deepwater project implementation in Angola. Cort Cooper, a metocean specialist in Chevron's Energy Technology Company and a Chevron Fellow, is being honored for his contributions in metocean research and his leadership of joint industry efforts to address oceanographic challenges. Cooper's work includes research that identified a link between hurricane severity and the Loop Current, investigated the causes for the recent severe hurricanes, the possible impacts of global warming on hurricane severity, and provided a post-assessment of metocean conditions during hurricane Ivan. BP Norway is being recognized for the Life of Field seismic reservoir surveillance project, which demonstrated the practicality of implementing an entirely new way of seismic surveillance of producing hydrocarbon reservoirs. The project's permanent installation of seismic cables covering 45 sq. km of the Valhall field allows for very cost effective repeat seismic surveys, and the system provides 4D data with unique repeatability compared to standard streamer data.

NABRICO OFFSHORE

Capstans Electric or Hydraulic			Watertight Doors
		Anchor/Mooring/Towing/Winch	

1250 Gateway Drive • Gallatin, TN 37066
Ph: 615-442-1300 • www.nabrico-marine.com • Fax: 615-442-1313

ANCHORS

ANCHOR MARINE



CHAINS

LARGEST INVENTORY OF NEW & USED IN THE U.S.A.

FAX: 713/644-1185
WATTS: 800/233-8014
PHONE: 713/644-1183

P.O. BOX 58645
HOUSTON, TX 77258

ALL TYPE ANCHORS & CHAIN
ABS, LLOYDS
GRADE 2, 3, K-4
CHAIN & FITTINGS

sales@anchormarinehouston.com
www.anchormarinehouston.com



CMA CGM Group Launches its Eco-Calculator

CMA CGM Group, starting in April, will launch an eco-calculator accessible to all its customers via its e-business platform. The tool produces an accurate calculation of the carbon footprint of a journey, based on real data including points of departure and arrival, volume of freight, fuel consumption and vessel speed. Developed according to the methodology of an international body, the CCWG (Clean Cargo Working Group), this eco-calculator will be the first to be verified by the BV. The launching of this tool is in line with the group's commitment to fighting climate change, one that has already seen a 26% drop in CO2 emissions between 2007 and 2010 (from 107 to 85 grams/km-teu). The target is 80g/km-teu by the end of 2012, a reduction of 30% in five years.

www.cma-cgm.com/environment

Ship Equip Acquired by Inmarsat

Ship Equip International AS and Inmarsat announced an agreement for Inmarsat, to acquire Ship Equip for a total consideration of \$163m.

Inmarsat is a provider of global mobile satellite communications services. Ship Equip is a provider of VSAT maritime communications services. Ship Equip is to be acquired by Inmarsat Solutions and will operate as a separate subsidiary alongside Inmarsat's Stratos and Segovia businesses. Closing of the transaction is subject to certain regulatory approvals which are expected to be completed in a matter of weeks. Inmarsat expects to finance the transaction from current available liquidity.

UBS acted as sole financial advisor to Ship Equip.



Gilles A. Gillesen (CSO), Morten Vvigstad (CTO), Merete Mostue (CHRO), Dag Olav Tennfjord (CFO), Esben Flo (COO) and Ivar Nettet (CEO)

Contract to STX Turku Shipyard

In late March STX Finland Oy and Gaiamare Ltd. signed a contract for the construction of a multipurpose deck cargo vessel. The 105 x 19 m ship will be delivered during spring 2012. The concept development for the vessel has been done in cooperation between STX Finland and Gaiamare. It is designed to operate efficiently in ice conditions, and for transportation of demanding project cargo, such as offshore wind farm structures, and is also suitable for transporting energy wood in the Baltic Sea region. The vessel includes Double Acting Ship (DASTM) mode, which is developed together with Aker Arctic Technology. The Finnish-Swedish ice class 1A vessel will be the first DAS - dry cargo vessel in the Baltic Sea. The vessel will operate under Finnish flag.

ATLAS North America Founded

The Atlas Elektronik Group founded a subsidiary in North America. Atlas North America (Atlas NA) has been set up to establish a partnership with the U.S. Navy and U.S. authorities. As potential main contractor Atlas NA will provide Atlas products and solutions for current or future US users. For decades, Atlas has offered a broad range of sonars and sen-

sors, command and control systems for submarines and surface combatants, heavyweight torpedoes and corresponding countermeasures, mine warfare systems, unmanned underwater vehicles, as well as coastal surveillance systems. To round off its broad palette, ATLAS offers comprehensive range of support services, both before and after delivery of the products. Atlas NA is headquartered in Virginia Beach adjacent to the U.S. Navy's Atlantic Fleet Headquarters in Norfolk, Virginia.

Comeq Partners with Safan

COMEQ, Inc. of White Marsh, MD, and SAFAN of Lochem, the Netherlands, are partnering for the sales, service and parts supply of the SAFAN line of sheet metal and steel fabricating machinery. SAFAN, a long time manufacturer of hydraulic press brakes & hybrid shearing machines, was the first to develop "servo electric" press brakes in 1995. Many of the SAFAN E-Brake servo electric press brakes had been sold under the Finn-Power brand name throughout North America. SAFAN E-Brake servo electric press brakes have a wide capacity range and are available in sizes from 33-in. x 22 tons to 13-ft. x 330 tons.

E-mail: Johnd@comeq.com

Rolls-Royce Expands in Rotterdam

Rolls-Royce opened its newly expanded and modernized Marine Service Center in the Port of Rotterdam.

The facility, located in Pernis, Rotterdam, originally opened in 2001, and has undergone a major expansion program, including a doubling of maintenance workshop space to 1,500 sq. m. and the modernization of equipment used in the servicing marine products.

www.rolls-royce.com/marine

MAMA Gets Approval for RFPEW Assessments

Mid-Atlantic Maritime Academy is now Coast Guard-Approved to offer an RFPEW Assessments program. Students must have 60 days of engine room service to take the class. It addresses competencies required under STCW-95 and satisfies the requirements of NVIC 01-06 for advancement.

This program allows you to demonstrate the actual competencies set forth by STCW requirements for both Steam and Motor. You will work with equipment mock-ups, practical application labs, engine room simulation and actual engineering applications in a real world environment.

www.MamaTrains.com

Bourbon Reports Strong Results

Despite challenging conditions, the resilience shown by a 2010 EBITDA of 240.9 million euros, validates Bourbon's strategy, according to the company, which recently released its 2010 results. "The 2010 results obtained, despite an unusually sluggish market, illustrate the merits of a strategy aimed at meeting client needs in terms of safety, reliability and lower costs through continuous investments in innovative and high-performance vessels" said Jacques de Chateaueux, Chairman of the Bourbon Board of Directors.

Revenues in 2010 came to 849.9 million euros, up 4.6% from the previous year. During the year, both Marine Services and Subsea Services grew, while external charters (now presented under "Other") practically disappeared. From one half year to the next in 2010, revenues grew 9.2% thanks to two activities: Marine Services (up 9.5%) and Subsea Services (up 20.4%), while the decline in external charters is responsible for a 28% loss in "other" revenues.

Marine Services

Revenues in 2010 amounted to 660.3 million euros, up 9.2% from 2009. The

impact of the strong growth of the fleet (58 new vessels) was attenuated by the downturn in market conditions. The vessel utilization rate remained high at 79.5% compared with 83% in 2009.

Deepwater Offshore Vessels

In the year 2010, revenues from Deepwater Offshore vessels came to 308.7 million euros, accounting for 46.7% of the total earned by Marine Services. In accordance with the strategy which took into account the risks of overcapacity in this segment, only two new vessels were added to the fleet in 2010. The utilization rate remained high at 90.3% compared with 93.1% in 2009.

Shallow Water Offshore Vessels

In the year 2010, revenues from shallow water offshore vessels amounted to 151.7 million euros and accounted for 23% of total Marine Services revenues. During the year, Bourbon vigorously continued its replacement strategy by bringing into the market 26 new Bourbon Liberty vessels, raising to 58 the number of Bourbon Liberty vessels in the fleet at year-end. The time it took to introduce these new vessels and the administrative

problems encountered in Brazil (all of which have been solved since then) had a negative effect on the utilization rate, which, however, still reached 73% compared with 84% in 2009.

Crewboats

In the year 2010, revenues from Crewboats totaled 199.9 million euros, or 30.3% of revenues from Marine Services activity. During the year, 30 new crewboats were commissioned, and 10 old vessels were either sold or destroyed. The utilization rate came to 78.2% compared with 79.1% in 2009.

Outlook

The market is still expecting oil prices to remain high, creating a favorable environment for investments in the sector. **The announcement by the oil companies of an increase in their investments (up 11% in Exploration & Production)** has just confirmed this trend in 2011. For offshore services vessels, Bourbon has seen increasing demand from clients in terms of safety and efficiency of operations, reinforcing their preference for more modern fleets over older vessels, especially in shallow water offshore.

Maritime Photo Contest

Hundreds of photos are already online!

See the best images posted by maritime photographers around the world, and submit your 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



(c) 2011 DON SUTHERLAND

Sponsored By:

Click it out.
www.crowley.com
New. Informative. Easy-to-use.

CROWLEY
People Who Know

Always Safe. Always Ready.
• Worldwide Maritime Transportation
• Marine Logistics
• Engineering
• Full Service Shipyard
800.426.2885
www.foss.com



SCANIA
Scania U.S.A. Inc.



www.alfalaval.com/pureballast



PureBallast 2.0
gives you more



Irving Shipbuilding Inc.

(902) 423-9271
www.irvingshipbuilding.com



ROBERT ALLAN LTD.
NAVAL ARCHITECTS AND MARINE ENGINEERS

www.ral.ca



R.W. FERNSTRUM & COMPANY

We have the heat transfer products to meet your needs.
906.863.5553 • www.fernstrum.com

**SIGNAL
INTERNATIONAL**
A Marine & Fabrication Company

New Construction
Overhaul and Repair of Drilling
Rigs, Ships, Tugs, Workboats,
Barges, and Platforms

www.signalint.com



Moose Boats builds the highest-quality aluminum catamarans in the industry. Our boats are designed to meet a variety of mission-specific applications for law enforcement, emergency response and security patrol purposes.
www.mooseboats.com • 866-GO-MOOSE



Senesco
MARINE

Your First - Choice
Shipyard for New
Construction and Repair
www.senescomarine.com

“ We needed our sophisticated new OSVs built on time and within budget. ESG was the perfect choice.”

Since 1976, the Eastern Shipbuilding Group family has proudly built over 300 vessels at our two Panama City facilities, producing the most diverse product line on the U.S. Gulf Coast. Whether you need a sophisticated or traditional vessel, ESG's experienced and stable workforce is ready to go to work for you.



“We searched for months to find a shipyard that was qualified to build our next generation OSVs, which had a lot of sophisticated specifications. During our initial visit to ESG, we were impressed by their professional workforce and their advanced techniques and equipment. ESG's attention to detail during the design phase was outstanding and that's what really won them the job. Our first vessel was built on time, on budget and with superb quality. We look forward to taking delivery of our next vessel from them.”

Court Ramsay, President & CEO - Aries Marine Corporation

Contact us at:

Tel: 850-763-1900 Fax: 850-763-7904 Email: sales@easternshipbuilding.com



EASTERN SHIPBUILDING GROUP, INC.

2200 Nelson Street, Panama City, FL 32401

13300 Allanton Road, Panama City, FL 32404

www.easternshipbuilding.com

New Construction – Repair – Conversion – Industrial Fabrication

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.blohmvooss.com

AUTOPILOT SYSTEMS

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

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,
BCGInfo@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

CHAINS

Washington Chain & Supply, P.O. Box 3645, Seattle, WA
98124, USA

COATINGS/ CORROSION CONTROL/ PAINT

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

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, mduiskey@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

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

LIFESAIVING 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

NAVIGATION

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

OFFSHORE SERVICES

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

PIPE

FITTINGS/CUTTINGS/CONNECTING/
SYSTEMS

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

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

SATELLITE COMMUNICATIONS

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

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

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

VALVES

Leslie Controls, 12501 Telecom Dr., Tampa, FL 33637, USA

WASTE WATER TREATMENT

Enwa Water Treatment AS, PB 257 Forus 4066, Stavanger

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

**MARITIME
REPORTER
AND
ENGINEERING NEWS**

SUBSCRIBE NOW

Log on to **MarineLink.com** and register to
receive your copy online or in print today!

Employment/Recruitment • [wwwMaritimeJobs.com](http://www.MaritimeJobs.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



Administration – Construction
Crewing – Engineering
Finance – M & R
Operations – Sales

Tel/Fax (206) 232-6041
bobemaritimerecruiters.com

(Established 1969)



Professional Mariner Directory

- Advanced Mariner Search
- Post Maritime Job Listings
- Accept Applications

www.FindAMariner.com

Find Crew Today

10 years online over 2 million users

MaritimeJobs.com

where employers and job seekers connect



MAJOR AREAS OF RESPONSIBILITY INCLUDE:

- Ensure all safety-related equipment is in good working order at all times.

- Maintain or oversee the proper use of deck, radio, engine & other logs that are required by Cruise West or regulatory agencies.

- Overall charge of vessel staff; fully utilizing supervisors in their respective departments; working with supervisors to maintain the highest levels of safety, esprit de corps and customer service. Coach staff and work to train subordinates to the highest level. Conduct performance evaluations for direct reports and review and sign others.

- Maintain close communication with the main office and satellite offices along vessel route. Communication should always be consistent and done in a manner that builds company unity.

- Monitor vessel expenses & report any abnormal costs incurred. Maintain close contact with Port Captain to ensure all cost controls are utilized. Plan ahead to maximize efficiencies, thereby reducing expense.

- Provide for the accurate and timely submission of all administrative, operational, accounting, and accident reports in accordance with Company guidelines.

QUALIFICATIONS:

- Minimum education requires specialized or technical knowledge requiring formal training.

MASSACHUSETTS MARITIME ACADEMY

Founded in 1891, the Massachusetts Maritime Academy is the nation's oldest and finest co-ed maritime college. The Academy prepares young women and men for exciting and rewarding careers on land and sea. Our graduates have been at the very top of seagoing, engineering, environmental, and international business professions.

POSITIONS AVAILABLE

FT, Tenure-Track Marine Transportation Faculty
Vice President of Advancement
Simulator Technician Staff Assistant,
Information Technology Maintainer II

The Academy is located in Buzzards Bay at the mouth of the scenic Cape Cod Canal and is a special mission college within the Massachusetts university college system.



For information about this positions and how to apply, visit the employment quick link on our web page at www.maritime.edu.

Massachusetts Maritime Academy is an AA/EEO employer. Under-represented groups are encouraged to apply.

CAPTAIN

Job Location: USA, On a Ship

POSITION SUMMARY:

The Captain is in charge of the navigation, operation, management, care and safety of the vessel and its equipment. The safety and well being of the crew as well as overall personnel management and safety and security of all other persons on board are the Captain's responsibility. It is the duty of the Captain to keep him/herself fully informed of, and to adhere to, all U.S. and other relevant laws, regulations (Federal and state), and directives affecting the operation of the vessel. In addition, the Captain shall acquaint him/herself fully with the regulations and local requirements of all ports visited. The Captain shall not berth at any port until all laws have been complied with. Management skills - Relating to close quarters navigation & managing other officers. In-depth knowledge of passenger/vessel operations. Experience in public speaking (Introduction given to passengers which includes safety announcements is a requirement of the job; performing marriages on board, etc.). Maintain a rapport with the guests - customer service aspect is extremely important. Captain is always accessible (directly or indirectly) to the guests along with the entire crew.

THE VANE BROTHERS COMPANY

NEW YORK ★ PHILADELPHIA ★ BALTIMORE ★ NORFOLK ★ CHARLESTON



On Course For the Future

The Vane Brothers Company is recruiting qualified candidates for positions on our state-of-the-art marine transport vessels operating along the Atlantic Seaboard.

Tug Masters and Mates, Marine Engineers and Tankermen opportunities are available.

Learn more at www.vanebrothers.com or contact fleet recruitment at 410-735-8212.



Do your Advertising dollars need a lifeline?



Best value and lowest cost per thousand for your marketing budget.

www.marinelink.com

Maritime Reporter & Engineering News

MARITIME PROPULSION

Powering the Maritime Industry

Over 600,000 pages indexed by Google

- engine specs
- product listings
- suppliers
- auxiliary machinery

www.maritimepropulsion.com



- Minimum of 2 years as First Mate or Captain. Additional 5 years in the Maritime industry - involved in shipboard operations. Must hold at a minimum a Master's license for 100-ton inland vessel. Preference for a 500 ton Master/1600 ton Mate Coastal license. 'STCW 95' compliance required.

- Communication skills require the ability to provide or obtain basic types of factual information or explanations.

- Writing skills require the ability to write text designed to communicate technical information.

- Quantitative skills require the ability to perform algebraic, trigonometric or geometric operations.

- Interpersonal skills require the ability to continually/frequently salvage relationships between others or to deal with extreme emotional reactions.

- Overall knowledge and skills requires the full working knowledge of a recognized discipline that includes a basic understanding of the principles and theory or a general understanding and knowledge of more than one related discipline.

- Responsible for planning and performing a wide variety of duties requiring independent action working toward general results; responsible for meeting different conditions, making decisions based on precedents and company policy.

WORKING CONDITIONS:

Duties and responsibilities are generally performed in a Marine Operations setting, primarily onboard a vessel. Must be physically able to work a typical 12-hour workday of about 10-14 hours per day, seven days a week, for 6 weeks at a time. On any given day hours could be more or less. The 6-week work period is the normal, but not necessarily fixed onboard schedule, and it is followed by a 2 to 3 week period off the vessel. Environmental conditions generally include ambient inside temperature, ambient inside lighting, ambient to loud noise levels, all weather conditions, occasional use of required protective clothing and an irregular work schedule. Mobility demands generally include occasional sitting and occasional standing. Combination activities generally include handling of chemicals/chemical compounds such as cleaning agents. Sensory demands generally involve a computer terminal; telephone operation, microphone and PA systems.

Physical demands generally include frequent bending,

reaching, twisting, kneeling, pulling/pushing, grasping, and the ability to climb a 7-foot vertical ladder and fit through a 28-inch wide hatch. Physical demands also include individual handling of one to several different sized objects totaling up to 50 pounds in weight. Handling includes: the dynamic and momentary strenuous lifting and lowering of objects between the ground/deck level and a height of about 4 to 6 feet; continuously repeating these movements about once per minute continuously for up to 20 minutes; repetitive turning and twisting of the body while holding these objects, and passing or receiving them between people as frequently as every 10 seconds; and repeatedly carrying objects of similar weight a distance of up to 100 feet every one to two minutes for as long as 20 minutes without stopping. Each of the above evolutions may be repeated several times in the course of handling ships stores.

Human Resources
Cruise West
2301 5TH AVE STE 401
Seattle WA 98121 USA
Phone: 206-441-8687

Email: resume@cruisewest.com
Web: <http://WWW.CRUISEWEST.COM/CAREERS>



A. K. Suda, Inc.

NAVAL ARCHITECTS & MARINE ENGINEERS

- Concept & Contract Design
- Construction Drawings
- Transportation Analysis
- Owner Representation

3004 19th Street • Metairie, LA 70002
Ph. (504) 835-1500 • Fax (504) 831-1925 • info@aksuda.com

We've Got a Boatload of Experience

Put our 35 years of experience to work on your next offshore exploration, production and marine transportation project.

- Design/Engineering Services
- State-of-the-Art Technology
- Project Management
- Legal/Arbitration
- Surveys
- Negotiations

Alan C. McCLURE ASSOCIATES, INC.

Naval Architects • Engineers

Phone: (713) 789-1840 • www.acma-inc.com/mr



BOKSA MARINE DESIGN, INC.

Naval Architecture/Marine Engineering

- Conceptual Design
- Lofting & Nesting
- Naval Architecture
- Production Engineering
- Marine Engineering
- Tooling Design

6129 Churchside Drive
Lithia, FL 33547

TEL: (813) 654-9800
www.bmdinc.com
nick@bmdinc.com

Boland Industrial
Consulting Services, Inc.

Equipment Reliability • Vibration Analysis
• Laser Alignment • Lubrication

All Vibration and Alignment Problems

Office: (228) 762-3172 Fax: (228) 762-3108
Cell: (251) 232-7163

John S. Boland P.O. Box 612
President Pascagoula, MS 39568



MARINE COMPANY

NAVAL ARCHITECTURE
MARINE ENGINEERING
CONCEPTUAL & DETAIL DESIGN
ACQUISITION SUPPORT
LOGISTICS SUPPORT SERVICES
PROGRAM MANAGEMENT
LIFE CYCLE SUPPORT

Contact: Robert Bergeron
robert.bergeron@cdicorp.com
Phone: (904) 805-0700 ~ Fax: (904) 805-0710
For immediate openings see www.cdigs.com
CDI Marine Company is an EEO Employer.



LICENSED PROFESSIONALS
WORLDWIDE VESSEL DELIVERY
 Masters, Engineers and Crews
www.bayfrontmarineinc.com
bfm@bayfrontmarineinc.com
 Contact Mel or Diane Longo **904-824-8970**



• Naval Architecture
 • Structural Engineering
 • Project Management

One Galleria Boulevard, Suite 907
 Metairie, Louisiana 70001
 Phone: 504.818.0377 Fax: 504.818.0447
www.downeyengineering.com



Engineering And Design
 Marine Casualty Response
 Marine Survey And Inspection
 Port Engineering Services

New! >

JMS applications for your iPhone.
U.S. Navy Salvor's Handbook
 Go to > www.JMSnet.com

JMS
 NAVAL ARCHITECTS
 SALVAGE ENGINEERS
JMSnet.com • 860.536.0009



CODA MARINE DESIGN INC.
 DESIGN SUPPORT FOR THE MARINE INDUSTRY

3D Design & Modeling
 Computer Renderings

www.codamarine.com - 604.886.0031



CUNNINGHAM & WALKER
 MARINE CONSULTANTS, INC.

NAVAL ARCHITECTURE & MARINE ENGINEERING
 MARINE HVAC ENGINEERING
 MARINE ELECTRICAL ENGINEERING

345 OLD PLANTATION DR., ST. AUGUSTINE, FL 32086
 TEL: 904-797-4785 FAX: 904-797-4785

C. R. CUSHING & Co., INC.
 NAVAL ARCHITECTS • MARINE ENGINEERS • TRANSPORTATION CONSULTANTS

30 VESEY ST
 7TH FLOOR
 NEW YORK, NY
 10007

1968 **40** TH ANNIVERSARY 2008

Ph: (212) 964-1180
 Fax: (212) 285-1334
info@crcco.com
www.crcco.com



genoadesign
 international ltd.

"Production Lofting & Detail Design"

Servicing marine and offshore industries internationally.

• Barges • OSVs • Towboats • Tugs • Ferries • Tankers • Workboats

www.genoadesign.com



MSCorp Marine Engineering Naval Architecture Logistic Support Maintenance Planning

70 Fargo Street Boston, MA 02210

f: 617.542.2461
 p: 617.542.3345

www.msccorp.net • San Diego • Virginia Beach

Established in 1854



CRANDALL
 DRY DOCK ENGINEERS, INC.

• Consulting • Design • Inspection
 Railway and Floating Dry Docks
 Dry Dock Hardware and Equipment

Box 505804, Chelsea, MA 02150 (617) 884-8420 Fax: (617) 884-8466
www.crandalldrydock.com

GEORGE G. SHARP, INC.

22 CORTLANDT STREET, NEW YORK, NY 10007
 TEL (212) 732-2800 FAX (212) 732-2809

WASHINGTON (703) 548-4400
 VIRGINIA BEACH (757) 499-4125
 BREMERTON (360) 476-8896
 SAN DIEGO (619) 425-4211

www.georgesharp.com
 MARINE SYSTEMS • ANALYSIS & DESIGN

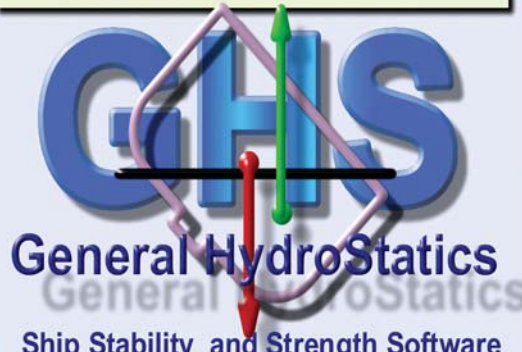
M.A.C.E.
 FT. LAUDERDALE - USA - WORLDWIDE
 PHONE: (954) 563-7071 FAX: (954) 568-6598

• N.D.T. Services
 • Vibration - noise - structural/modal analysis
 • Field balancing, Laser Alignment
 • Torque - torsional vibration analysis
 • IR - Thermography inspection
 • Emmission tests, Engine Performance tests

2011 Update
GHS Version 12.50

Over 50 new features, 15 template enhancements and nine new system variables. Additional support for progressive flooding and flow calculations. Further refinements in probabilistic damage, oil outflow and MODU criteria. Crane modeling with detailed graphics supporting both standard and knuckle booms. Extended handling of open hoppers including sliding and solid cargo with several modes of water over cargo. Well over 100 small improvements that further advance the performance and reliability of this software.

GHS Load Monitor (GLM), the onboard configuration of GHS, gives naval architects the ability to provide their clients the best combination of features including the latest damage stability requirements.



General HydroStatics
 Ship Stability and Strength Software

GHS Full-featured naval architect's system
 GHS Load Monitor (GLM) Onboard configuration
 GHS/Salvage Salvor's package
 BHS Basic hydrostatics and stability

Creative Systems, Inc.
 Creators of GHS™

P.O. Box 1910 Port Townsend, WA 98368 USA
 phone: (360) 385-6212 fax: 385-6213
 email: sales@ghsport.com
www.GHSport.com

For 39 years, the software naval architects love.

SPECIALISTS IN THE DESIGN OF:

- OFFSHORE SUPPORT VESSELS
- TUGS AND TOWBOATS
- BARGES
- HIGH SPEED CRAFT
- NAVAL VESSELS
- CREWBOATS
- SPECIAL PURPOSE VESSELS
- YACHTS



DESIGN, CONSULTING, SURVEYING AND DRAFTING SERVICES

GUARINO & COX, LLC
 Naval Architects, Marine Designers and Consultants
 19399 Helenberg Road Suite 203 Covington, LA 70433
 Tel: (985) 871-9997 Fax: (985) 871-9927 www.guarino-cox.com

Marine Surveyor Course and Training
 Standards based training for all vessels.
 1-800-245-4425
www.navsurveyor.com



MCA CONSULTANTS, INC
 Marine - Structural - Naval Architects

DESIGN - FEA - FATIGUE

HEGER DRY DOCK, INC.

531 Concord Street, Holliston, MA 01746
 Engineering for all types of dry docks

- Design
- Docking Calculations
- Certifications
- Engineer/Diver
- Inspections
- U.S. Navy 1625D FCR's



Phone: (508) 429-1800 Fax: (508) 429-1811
www.hegerdrydock.com

CG State Pilotate License Insurance/ Mariners' Disability Insurance

For Quotes on License Insurance or Mariners' Disability Insurance
 See our web site: marinelicenseinsurance.com

R.J. Mellusi & Co., 29 Broadway, Suite 2311 New York, N.Y 10006
 Office (212) 962-1590, Cell (917) 584-4665
Rjmellusi@sealawyers.com



Products



**Pipe Expansion Joints
and Pump Connectors**

ABS APPROVED



Elasto-Valve Rubber Products Inc.
Sudbury, Ontario, Canada
Phone: 705-523-2026
Fax: 705-523-2033
www.evrproducts.com

3D Measure Inc.

Marine Digital Measurements
Laser Hull Scanning
3D Modeling

info@3dmeasure.com • www.3dmeasure.com
Tel: 401-848-4575 • Fax: 401-848-4574



BOOKS FOR THE SHIPPING INDUSTRY
Marine engineering • Cargo work & stability • Ship handling •
Ship's business • Tugs & towing • Maritime safety & security • Navigation

www.nauticalmind.com

The Nautical Mind Bookstore
email: books@nauticalmind.com | toll free: (800) 463-9951



The industry's premier
online news source

MarineLink.com

- contracts
- offshore
- security
- company news



WANT TO BUY/REMOVE HOSE ASSEMBLIES
LARGE BORE MARINE LOADING/UNLOADING HOSE
ASSEMBLIES, 4" THROUGH 24". FLOATING AND
NON-FLOATING. ANY QUANTITIES AND CONDITION
CONSIDERED. WILL REMOVE FROM ANY PLACE IN
THE WORLD. CONTACT gassociates@uia.net

REMOVE
paint, rust, scale & barnacles
from hard surfaces

DESIMONID
800.823.4670 www.swirloff.com







METAL CORE
by
ARBORITE & WILSONART

B-15, C, A-60 INTERIOR JOINER PANEL SYSTEMS
CERTIFIED by SOLAS, IMO, FTP CODE, EU MED, USCG, TRANSPORT CANADA

PANEL SPECIALISTS, INC.
John C.G. Hutchison, Marine Sales Manager

Sales & Production
3115 Range Road
Temple, Texas 76504
Tel: (254) 774-9800
www.panelspec.com



THERMAX PANELS
Non-Combustible, Non-Toxic

Sales
Tel: (813) 340-3940
Tel: (800) 974-9422
Fax: (254) 742-0819
sales@ThermaxMarine.com
www.ThermaxMarine.com



Tank Tender
**THE ORIGINAL
PRECISION TANK
MEASURING SYSTEM!**

Accurate tank soundings have never been easier when one **TANK TENDER** monitors up to ten fuel and water tanks. Reliable non-electric and easy to install.

HART SYSTEMS, INC. www.TheTankTender.com
(253) 858-8481 FAX (253) 858-8486



**BLUE OCEAN
TACKLE INC**

Marine Fenders ~ Oil Spill Products
1545 Tidelands Ave, Unit E
National City, CA 91950
Tel: 619-336-2403 Fax: 619-649-0909
www.blueoceantackle.com
sales@blueoceantackle.com

www.maritimereplicas.com

highest quality ship models
shipreplicas@yahoo.com
1-305-386-1958

JOHN W. GILBERT ASSOCIATES, INC.
 Naval Architects and Marine Engineers
 350 Lincoln St., Suite 2501
 Hingham, MA 02043
 T: 781-740-8193
 F: 781-740-8197
 E-Mail: inbox@jwgainc.com
www.jwgainc.com



The **purewater** Solution
 SINCE 1983
Over 25 Years of Experience



**UPGRADE REBUILD REPLACE
 Parts & Service for All Brands
 Watermakers!
 Desalinators!
 ZeroSpot and
 more!**

Reverse Osmosis of SF Inc.
 Toll Free 888-768-2993
 Email: info@reverse-osmosis.net

AETNA ENGINEERING
 A DIVISION OF FIREBOY-INTER



**Direction Indicating
 Shaft Tachometer**

- ✓ Guaranteed accurate to 1 RPM
- ✓ Display shows F (Forward) or R (Reverse)
- ✓ Simple four wire installation
- ✓ No separate "Black Box" required
- ✓ Rugged - 2-Year Limited Warranty

Contact one of our engine specialists to assist you with your tachometer needs

 0-379 Lake Michigan Dr. NW, Grand Rapids, MI 49534 USA
 Toll Free: 1-800-776-7962
 Email: aetna@aetnaengineering.com
 Web: www.aetnaengineering.com

Sea water intake filters,
 strainers and screens
866 - 265 - 0502
 Yankee Wire Cloth Products, Inc.
 221 W. Main St.,
 West Lafayette OH 43845
 Fax: 740-545-6323
www.maritimefilter.com


**YOUR JOB - IS TO FABRICATE METAL
 OUR JOB - IS TO MAKE YOU MORE EFFICIENT**

<p>SINGLE & DUAL CYLINDER HYDRAULIC IRONWORKERS</p>  <p>Capacities: 60 - 240 ton punch and angle up to 8" x 8" x 3/4"</p>	<p>ANGLE, BEAM & SECTION BENDING ROLLS</p>  <p>Full range of capacities and sizes</p>
<p>DNC SERVO HYDRAULIC PRESS BRAKES</p>  <p>Capacities from 4' to 20' & 40 to 4000 tons</p>	<p>PLATE BENDING ROLLS</p>  <p>3-Roll & 4-Roll Models ALL Types & Sizes Full range of capacities</p>

**410-933-8500 sales@comeq.com
WWW.COMEQ.COM**

TideSlide
 Mooring Products & Systems

Hurricane Proven in over 150+ storms
 Solid Stainless Steel for extreme duty & NO Maintenance



JAX Bar Pilots Assoc
 160' 300 Ton Vessel

Self Leveling

TideSlides work on any tie-up!
 US Navy approved
 NO MORE SLACK LINES

www.TideSlide.com 1(989)695-2646

Maritime Professional
 The Essential Quarterly Magazine
 Register today for your FREE SUBSCRIPTION:
www.maritimeprofessional.com/subscribe.aspx
 Q2 Edition 2011
Energy Transportation



**CUSTOM BUILT BARGES
 EAST COAST**

METAL TRADES, INC.

- BARGE CONSTRUCTION
- OVERHAUL & REPAIR
- HEAVY STEEL FABRICATION

Contact: Randy Brown
 (843) 889-5249
rbrown@metaltrades.com

Metal Trades, Inc.
 P.O. Box 129
 Hollywood, SC 29449
www.metaltrades.com



Lake Superior Cabs, Inc.

Building Pilot Houses,
 Equipment Cabs
 and Control Houses since
 1992



www.lakesuperiorcabs.com
 121 W. Harney Rd Esko, MN
 Tel: 800-328-1823 | Fax: 218-879-4640
Dean.Myers.LSCABS@aol.com

Products & Services • www.MaritimeEquipment.com

USCG License Software
 Affordable - Merchant Marine Exam Training
<http://hawsepipe.net>
 Freelance Software
 39 Peckham Place
 Bristol, RI 02809
 (401) 556-1955 - sales@hawsepipe.net

Service, Spares & Equipment
 Cranes | Winches | Ramps | Doors | Hatch Covers
 OEM for TTS and legacy brands

Service@tts-se.us
 1-954-493-6405
 ttsgroup.com

TTS Marine

Many Styles Available
 100% Glare Reduction
 5 Mils thick
 Mylar Sun Screens
 Fire-Retardant IMO Certified
Bunk Curtains
Porthole Curtains
 IMMEDIATE DELIVERY ON SELECTED STYLES
 (718) 983-5600 (800) 336-6857 Fax (718) 983-9127
 Website: metromarine.com E-mail: sales@metromarine.com
 METRO MARINE DESIGN ASSOCIATES MADE IN THE USA

MARINE SEWAGE TREATMENT SYSTEMS

SCIENCO/FAST
 a division of Bio-Microbics, Inc.
 For more information
www.marineFAST.com

VIBRATION ANALYSIS • THERMOGRAPHY

CONDITION ANALYZING CORPORATION
 Tel: 732-542-5588 • Fax: 732-542-2967
 sales@cacvibe.com • www.cacvibe.com

The ShaftMaster
 Shaft Torque Shaft RPM Total Shaft Revolutions
 Shaft Horsepower Shaft Horsepower Hours Engine Hours
 Our system is not a strain gauge, and will not go out of calibration.
Sea Trials Available
603-566-4330
 We provide many other services such as Liquid Flow Meters, custom Controls & Monitoring, etc. Call Us!
 R.J.HICC@aol.com | www.torsionmeter.com

**Vessels/Real Estate/Business for Sale/Charter
 New/Used Equipment • www.MaritimeEquipment.com**

Marine Business Exchange, Inc.
 9786 Timber Circle Daphne, Alabama 36527
For Sale:


- International Tug & Barge Co.
- Marine Supply Co w/ Strong Oil & Gas Contacts
- 1800 Ton Barge w/ Bin Wall Ramp & Tug Boat

Mergers, Acquisitions & Divestitures
 Ready to sell your business?
 Ready to expand through merger or acquisition? We have investors that are seriously interested in all types of marine & marine related companies worldwide


Ph: 251-626-0713
 Cell: 504-650-5000
 Fax: 251-447-0423
www.marinebux.com
 E-mail: info@marinebux.com



Jack-up Barge Available for Charter
 100' x 50'
 100 ton capacity



Hopper Barge for Sale
 150' x 38' x 17'
 \$184,000 Brokers Protected



Consultant fees paid for successful job leads

Fax your inquiry on other heavy marine rental needs
 Entire US & Canada
Phoenix Marine, 449 Washington Rd, Sayreville NJ 08872
 • Phone 732-390-2800 • Fax 732-390-2833
 • Email: barges@phoenixmarine.com

MARITIME REPORTER AND ENGINEERING NEWS
 Do you have your copy?
Subscribe NOW!
 Log on to www.MarineLink.com
 and register to receive your copy online or in-print today!



Specializing In Barges

- ◆ Single or Double Hull, Inland or Ocean-Going
- ◆ Design, Construction & Modification
- ◆ Chartering & Sales

ZIDELL MARINE CORPORATION
 Ask for Bill Gobel
 503-228-8691 1-800-547-9259
 3121 SW Moody Avenue, Portland, Oregon 97239

RASMUSSEN EQUIPMENT COMPANY
 Used Vertical Warping Capstans



MODEL SA1817-22H
 18" Barrel, 22 hp, 1300 PSI/30 GPM, Sacrificial steel doubler plates.
 Location: Seattle, WA
 Price: \$30,000 ea., As Is

Tel: 206-762-3700
 Fax: 206-762-5003
www.rasmussenco.com
 We've been serving the general & marine construction industries for over 70 years.

Southern Recycling 

We buy barges, ships, and other marine vessels and structures for scrap.
 We adhere to the highest ES&H standards.
 Serving the rivers and coasts of the U.S.

MOBILE • MORGAN CITY • NEW ORLEANS
 • AMELIA • HOUSTON
CALL 800 - GO SCRAP

www.marinelink.com

RASMUSSEN EQUIPMENT COMPANY



Berger Fairleads • Anchor • Spud Winches • Skagit Clyde • Manitowoc • Deck Winches

(800)227-7920 • equipmentsales@rasmussenco.com
 Standard rental/sale terms and conditions may be viewed on the homepage at our website, www.rasmussenco.com

ADVERTISER INDEX

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

Page#	Advertiser	Website	Phone #	Page#	Advertiser	Website	Phone #
67	AB VOLVA PENTA	www.volvopenta.com	Please visit our website	16	International Registries, Inc.	www.register-iri.com	(713) 627-9955
2	ABS	www.eagle.org	(281) 877-5861	8	Irving Shipbuilding, Inc.	www.irvingshipbuilding.com	(902) 423-9271
13	AER Supply	www.aersupply.com	(800) 767-7606	37	Japan Radio Company -JRC	www.jrcamerica.com	(205) 654-5644
2	Allied Marine Services	www.shipequip.com	(803) 419-2050	59	Jets Vacuum AS	www.jetsgroup.com	47 70 03 91 00
62	Americ Corporation	www.americ.com	(800) 364-4642	C4	Karl Senner, Inc.	www.karlsenner.com	(504) 469-4000
69	Anchor Marine	www.anchormarinehouston.com	(713) 644-1183	31	Kluber Lubrication North America	www.klubersolutions.com/marine	(800) 447-2238
54	Appleton Marine	www.appletonmarine.com	(920) 738-5431	45	Leslie Controls	www.LeslieControls.com	(813) 978-1000
27	Austal	www.austaljobs.com	Please visit our website	22	LIEBHERR NENZING CRANE CO.	www.liebherr.com	43 50 80 9 41 481
62	Autoship Systems Corp.	www.autoship.com	(604) 254-4171	49	Mandel Metals	www.mandelmetals.com	(877) 752-5052
63	BMT Fleet Technology	www.fleetech.com	(613) 592-2830	C3	Marine Technologies LLC	www.marine-technologies.com	(985) 951-7771
47	Boll Filter Corporation	www.bollfilter.com	800-910-2655	67	Maritime Associates	www.marinesigns.com	(775) 832-2422
61	Bug-O Systems International	www.bugo.com	(800) 245-3186	61	Marlink AS	www.marlink.com	32 70 233 220
51	Century Ship Service	www.centuryshipservice.com	(954) 989-2067	7	Military Sealift Command	www.sealiftcommand.com	(888) 228-5509
1	Chariot Robotics, LLC	www.chariotrobotics.com	(772) 403-2373	9	Military Sealift Command	www.sealiftcommand.com	(888) 228-5509
52	Chesterfield Special Cylinders Ltd	www.chesterfieldcylinders.com	44 0 114 242 7500	18	Mobro Marine	www.mobromarine.com	(866) 313-9670
24	C-Nav	www.CnavGNSS.com	(337) 210-0000	69	Nabrico Marine Products	www.nabrico-marine.com	(615) 442-1300
65	Coastal Marine Equipment, Inc.	www.coastalmarineequipment.com	(228) 832-7655	55	OceanTechExpo	www.oceantechexpo.com	(561) 732-4368
14	Cortland Puget Sound Rope	www.cortlandcompany.com	(360) 293-8488	45	Offshore Inland Marine & Oilfield	www.offshoreinlandservices.com	(866) 443-5550
19	Damen Shipyard	www.damen.nl	31 (0) 183 63 9174	15	Parker Hannifin Corporation	www.parker.com	(800) C-PARKER
26	Detyens Shipyards, Inc.	www.detyens.com/index.htm	(843)308-8000	20	Parker Racor/ Village Marine	www.parker.com	(800) C-PARKER
63	Diamond Sea Glaze	www.diamondseaglaze.com	(800) 770-0455	63	Pima Valve	www.pimavalve.com	(520) 796-1095
28	DMW Marine, LLC	www.dmwmarine.com	(610) 363-3846	64	R. M. Young Company	www.youngusa.com	(231) 946-3980
71	Donald Sutherland Photo Contest	www.maritimephotographs.com	Please visit our website	53	Rapp Hydema AS	www.rappmarine.com	(206) 286-8162
64	Dynamold, Inc.	www.dynamold.com	(817) 335-0862	64	Rhotheta USA	www.rhothetausa.com	(435) 578-1270
72	Eastern Shipbuilding, Inc.	www.easternshipbuilding.com	(850) 763-1900	52	Rustibus	www.rustibus.com	(832) 203-717048
59	ENWA WaterTreatment AS	www.enwa.com	47 51 63 4300	48	Samson Rope	www.samsonrope.com	(360) 384-4669
23	EPD Electronic Power Design	www.epdltd.com	(713) 923-1191	3	Scania USA	www.scaniausa.com	(210) 403-0007
24	Eureka Chemical Company	www.fluid-film.com	(888) 387-3522	16	Senesco Marine	www.senescomarine.com	(401) 295-0373
62	Floscan	www.floscan.com	(206) 524-6625	64	Skookum	www.skookumco.com	(800) 547-8211
5	Furuno USA, Inc.	www.furunousa.com	Please visit our website	62	Smith Berger Marine	www.smithberger.com	(206) 764-4650
67	GEMAK Shipbuilding Industry	www.gemak.com	90 216 581 2300	6	SNAME Membership	www.sname.org	Please visit our website
4	Governor Control Systems	www.mshs.com	(954) 763-3660	56	Sohre Turbomachinery	www.sohreturbo.com	(413) 267-0590
65	Guido Perla & Associates	www.gpai.com	(206) 768-1515	57	SpecTec Group Holdings Ltd	www.spectec.net	Please visit our website
25	Gulf Copper	www.gulfcopper.com	(281) 599-8200	25	Strategic Marine	www.strategicmarine.com	61 8 9437 4840
29	Gulf Fastener	www.gulfastener.com	(251) 473-2116	54	Superior Lidgerwood Mundy	www.lidgerwood.com/sales	(715) 394-4444
57	Hatlapa	www.hatlapa.de	Please visit our website	11	Talleres Navales del Golfo	www.tnghph.com.mx	52 229 989 2500
65	Helkama Bica Oy	www.helkamabica.fi	358 2 410 8700	25	Tecnico Corp.	www.tecnicocorp.com	(757) 545-4013
65	HO Bostrom	www.hobostrom.com	(262) 542-0222	51	Tube-Mac Industries Ltd.	www.tube-mac.com	(888) 285-9243
54	Holland Moving & Rigging Supplies, Inc.	www.hmrssupplies.com	(641) 585-3630	67	Varna Products	www.varnaproducts.com	(530) 676-7770
C2	Huntington Ingalls	www.huntingtoningalls.com	Please visit our website	47	Waltz and Krenzer, Inc.	www.wkdoors.com	(203) 267-5712
41	HydraTech Engineered Products	www.hydratechllc.com	(513) 827-9169	33	Westfalia Separator, Inc.	www.wsus.com	(800) 509-9299
10	ICC Cable Corporation	www.icccable.com	(201) 482-5750	33	World Wide Metric	www.worldwidemetric.com	(855) 225-5996
10	IMTRA Corporation- Imtra Advertising	www.imtra.com	(508) 995-7000	39,41,43	Wilhelmsen Ships Equip.	www.wilhelmsen.com	47 67 58 40000
55	In-Place Machining	www.inplace.com	(414) 562-2000	21	Yale Cordage	www.yalecordage.com	(207) 282-3396
17	Intellian Technologies	www.intelliantech.com	(949) 727-4498				

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



TAKE TOTAL CONTROL!

MARINE TECHNOLOGIES BRINGS TOTAL SOLUTIONS FOR DP, BRIDGE AND COMMUNICATIONS

- Dynamic Positioning (DP) Class 1, 2 and 3 Systems
- Bridge Mate™ Integrated Bridge System (IBS)
- Fully Integrated Architecture
- Designed for Flexibility and Redundancy
- Meets DNV, NAUT, OSV/AW and ABS Requirements



- True END-to-END Communication Solutions
- On-Demand Controllable and Redundant Wireless Communications
- On-Demand Bandwidth Provisioning
- Supported by Intelsat and iDirect
- Worldwide Technical Support



Visit Marine Technologies at OTC 2011 – Houston, TX – May 2-5 – Booth #8023; and at Nor-shipping 2011 – Oslo, Norway – May 24-27 – Booth B03-08

MARINE TECHNOLOGIES, LLC

Marine Technologies, LLC · 1111 Decker Drive · Mandeville, LA 70471 · (985) 951-7771 · sales-us@mtllc.us
 Marine Technologies, LLC · Hovlandsveien 44 · 4370 Egersund · Norway · (+47) 51 46 18 66 · sales-norway@mtllc.us
 MT – Marine Technologies Pte, Ltd · 17D Tuas Road · Singapore 637817 · (+65) 3106 4070 · sales-singapore@marine-technologies.sg
www.Marine-Technologies.com



When Only the Best Will Do!
KARL SENNER, INC.



**M/V Allison
Crosby**

Karl Senner, Inc.
Supplied two Reintjes
WAF 873, 7.087:1,
reverse reduction gears,
with vertical offsets and
internal shaft brakes for
this new construction
added to the Crosby fleet.

Shipyard: Thoma-Sea
Boat Builders Houma, LA

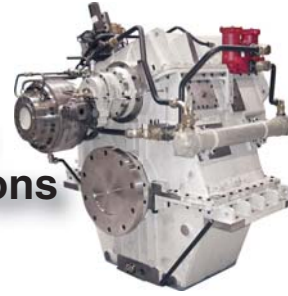
Owner: Crosby Tugs
Galliano, LA



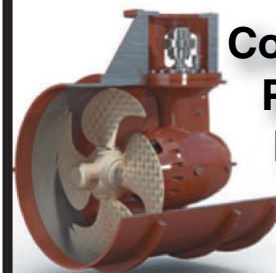
**Azimuthing
thrusters**



**Marine
Transmissions**



**Controllable Pitch
Propellers and
Bowthrusters**



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: service@karlsenner.com Sales: sales@karlsenner.com Parts: parts@karlsenner.com

Please visit our new website

www.karlsenner.com