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Marine News

SEPTEMBER 2012
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OSVs

Meet the New Norm in the Gulf of Mexico

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POSTMASTER Time Value Expedite

BPA WORLDWIDE BUSINESS

On the Cover

The RiverHawk Fast Sea Frames first-of-class high-speed offshore patrol boat on Acceptance Trials in the Gulf in August. The the Advanced Multi-mission Platform (or "AMP") is constructed with materials and techniques that improve performance while reducing hydrocarbon emissions and other pollutants. See Susan Buchanan's story starting on ***page 28****.*

(Photo by Lisa McCoy Photography)

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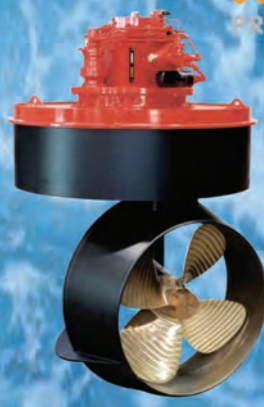

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EDITOR'S NOTE

keefe@marinelink.com

A number of years ago I was presented with an opportunity to invest in a so-called "Green Energy" consulting group. It sure sounded good at the time, but knowing my penchant for close adherence to the time-honored Keefe family tradition of 'buying high and selling low,' I decided to ask the opinion of an old friend who also just happens to be a pretty successful venture capital fund manager. He just shook his head and deadpanned, "Right now, no one goes 'green' because it's the right thing to do. If it doesn't improve the bottom line, it just isn't going to fly." It turns out that he was right. But, that was then and this is now.

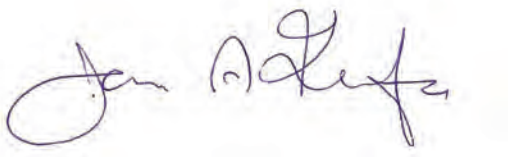
This issue of ***MarineNews***, of course, focuses on the environment, regulatory compliance and perhaps most importantly, the stewardship expected of all us involved in ocean commerce. Leading off that discussion is Susan Buchanan who spent most of August looking at a number of 'green' initiatives underway in the U.S. Gulf of Mexico. You can't have that discussion without mentioning Shane Guidry and Harvey Gulf International Marine's bold, LNG-fueled newbuilding program. No matter how you slice it, that's leadership, stewardship of the environment and at the same time, also promises to eventually fatten their bottom line.

With two kinds of green now in play, more than one visionary operator has dipped their toes into the environmental game. These efforts involve innovative equipment and many different methods to achieve the desired result. They all have one thing in common: *each leverages the regulatory hammer and turns it to their advantage.* This month, we take a look at all of them.

Inland operators, for example, are closely watching the exciting, newly announced partnership between Baker Lyman and Germanischer Lloyd which is designed to simplify the compliance headache soon to arrive with the coming subchapter M rules. So are we – turn to page 36 to find out what the deal means to you.

That's not to say things don't sometimes go wrong anymore. Even a maritime industry that has reduced its volume of spilled oil by more than 90 percent over the past two decades needs help every now and then. When this happens, the collective efforts of the membership of the Spill Control Association of America (SCAA) are there to clean up the mess. SCAA President Andrew Altendorf is therefore the right choice for our regular **INSIGHTS** focus. Follow along inside as the voice of America's response community weighs in on spill response, legal and regulatory issues related to all of that.

Rounding out our coverage and corresponding closely to our regional focus on the U.S. West Coast is a cogent OP/ED on west coast ECA implications, as well as Raina Clark's take on west coast spill response capabilities. A fresh look at the state of the global tugboat market – also, as it happens, heavily impacted by the ongoing stack emissions debate – through the eyes of Bob Beegle, President of Washington-based Marcon International, completes the hat trick. And, as always, ***MarineNews*** readers are the clear winners.



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Marcon's Tugboat Recap – August 2012

According to boat broker Marcon International, there are 711 tugboats officially on the market for sale worldwide; up 12% since May. In all 232, or about one-third of the tugs available worldwide – primarily foreign flagged – were built within the last 10 years, or are newbuilding re-sales or currently under construction. A total of 41 newbuildings up to 6,000 HP range are scheduled for delivery through 2013, balancing an average worldwide age of 38 years for all tugs being offered. U.S. tugs are older, averaging 47 years versus 35 years for their foreign counterparts, but the tugs are getting younger (2 years in less than 9 months) as fleet renewals continue everywhere. A large percentage of tugs for sale are in the U.S. with 144 tugs on the market, but that shouldn't be surprising with ECA's coming on line and tighter emissions standards here at home. Operators have to decide whether to re-engine existing vessels, also weighing the merits of (more expensive) new tonnage equipped with the latest in green technologies.

Power – Spreading the Wealth

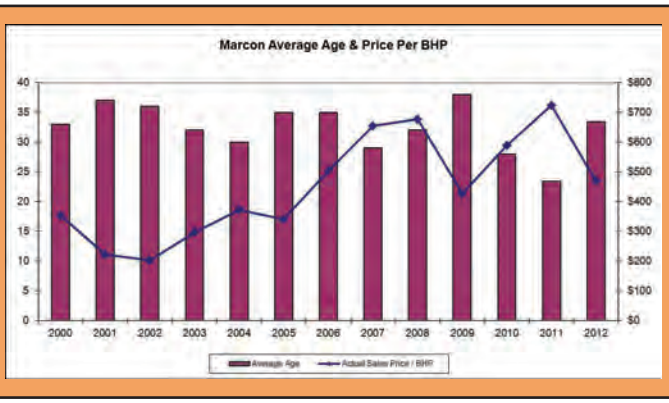
Speaking of engines, CAT diesels still power most tugs with machinery in 145 or 21% of tugs for sale, followed by 101 Cummins, 58 EMD, 45 Niigata, 40 Yanmar, 29 Deutz, 26 GM, 24 Mitsubishi, 22 Ruston and 18 MAK powered tugs. 189 tugs are powered by machinery from others; from ABC to Zibo with, as always, nine Fairbanks Morse boats out there looking for a new home. Conventional single and twin screw tugs prevail with 140 (19.7%) and 421 (59.2%), respectively, for sale worldwide. There's plenty of high-tech propulsion out there; including 116 azimuthing tugs on the market, 26 Voith Schneider tractor tugs, six triple screw and two shallow draft quad screws.

Numbers – what do they mean?

Bob Beegle, President of Marcon International said, "I keep predicting the number of tugs for sale to level off at a plateau, but as of August 2012 we hit a record total of 711 tug listings officially for sale, up 110 listings or 18.3% since the same time last year … I cannot say whether this is good news or bad news. It is just the facts of the market." Marcon says that most of this latest increase was in the foreign market with 74 more tug listings added for sale and 16 more added for charter since the last Market Report. Beegle adds, "I guess the good news is that we are starting to see some signs of activity in the market instead of just stagnation."

Falling Prices = More Newbuilding?

Actual sales price compared to brake horsepower (BHP) has fallen $250/BHP in 2012, but that's to be expected as the average vessel age sold so far is 34 years vs. 23 last year. This does not take into account the type of tug or condition, but just a simple comparison of generic tugs built 11 years apart. Marcon doubts that we will see any great improvement in secondhand tug prices in the near future. Perhaps a harbinger of what is to come; Marcon insists that older tonnage/horsepower will continue to weigh down the numbers. It is becoming increasingly expensive to modernize older tugs to meet today's stringent emission requirements and new safety standards for all aspects of towing. As the market improves, many owners who are financially able will look more towards building new rather than refitting.



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Andrew Altendorf

President, Spill Control Association of America

Andrew Altendorf is the CEO and majority owner of Acme Environmental Inc. Acme's history spans almost 50 years and the firm is recognized as a pioneer in the manufacture of oil spill containment booms and other oil spill recovery items. A U.S. Coast Guard classified OSRO, Acme and Altendorf support numerous customers in Oklahoma and the Midwest with their emergency response. He has been the President of the Spill Control Association of America since November of 2010. Prior to taking the reins as President, he served on the SCAA Board of Directors for 5 years. In this issue of ***MarineNews***, Altenfdorf updates readers on the intricacies of spill response, the missions of SCAA and what that means to the firms that they serve, and mostly importantly, the environment itself.

For readers not necessarily familiar with the Spill Control Association of America and what it stands for, can you bring us up-to-speed?

The Spill Control Association of America (SCAA) was organized in 1973 to actively promote the interests of all groups within the spill response community. Headquartered in Alexandria, VA and acting as the "Voice of Spill Response Professionals", SCAA represents a broad coalition of emergency responders, manufacturers and environmental firms who collectively address industry challenges, and work to strengthen and improve our nation's response community. SCAA's stated values include:

- ***Make health, safety and environmental considerations a priority in the planning and implementation of our operations;***
- ***Provide quality products and reputable service, while responding safely and efficiently;***
- ***Participate with Government, customers and other stakeholders in creating responsible laws, regulations and standards to safeguard the community, workplace and environment; and***
- ***Recognize and support programs and services that have a direct impact on the quality of the global environment.***

SCAA members include spill response contractors - Oil Spill Removal Organizations (OSROs), hazardous materials responders, companies that transport, store and dispose of oil and hazardous materials, remediation and site restoration services providers, manufacturers and distributors of response equipment and materials, spill managers and consultants, insurers, and government and training institutions.

Describe the process of spill response today. What, if anything can be tweaked to improve it?

It's a good system, but there are always opportunities and challenges for improving the relationship. The Oil Pollution Act of 1990 (OPA 90) holds the spiller of oil or hazardous material responsible and accountable for mitigation, containment, recovery, and proper disposal. Our spill response industry is an essential component of that equation. Vessels and facility owners and operators who are required to have spill response plans and routinely exercise and tweak those plans, must identify their spill responders in the plans, under contract or other approved means. Improving spill response preparedness through training, drills and exercises help tweak the client-responder relationship, sharing knowledge and building trust and confidence in the client's needs and responders' capabilities. Every drill or exercise serves to prove or improve a spill response plan's effectiveness. When a spill incident occurs, seeing a familiar face come walking through the door amid crisis and chaos can be very reassuring. Responder immunity is a very important aspect of OPA 90 that was severely tested during and after the 2010 Gulf of Mexico, Deepwater Horizon oil spill. The ensuing lawsuits against spill responders and manufacturers necessitate legislative changes to Responder Immunity that will support immediate and decisive response to future spill incidents. Without legislative change, the relationship between spill responders and their responsible party client is at risk of liability concerns and hesitation to respond immediately.

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"SCAA took the issue of spill response research and development to Capitol Hill in March. R&D deficiencies were addressed in three major reports on the Deepwater Horizon oil spill incident: 1) Report to the President by the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling; 2) the Incident Specific Preparedness Review (ISPR) Report on Deepwater Horizon; and 3) the Joint Industry Task Force on Oil Spill Preparedness and Response Force Report."

THE ISSUE OF RESPONDER IMMUNITY FOR SPILL CONTROL PROFESSIONALS IS A BIG ISSUE. WHERE DO THINGS REST AT PRESENT AND WHAT NEEDS TO BE CHANGED?

SCAA is a member of an industry coalition of companies and other industry associations that have proposed an amendment to the existing Responder Immunity legislation that will strengthen and broaden responder immunity. We understand not only is there support for our provision, but also that there may well be an effort to move/consolidate these bills for enactment of a maritime bill before the end of the year. Without beefed up legislation, our spill response industry is at risk for more frivolous lawsuits, costly litigation and less timely, cautious response in the future.

SPILL RESPONSE R&D HAS ARGUABLY LAGGED IN RECENT YEARS, ESPECIALLY HERE IN THE UNITED STATES, WHERE IT IS DIFFICULT TO GET A PERMIT TO SIMULATE A SPILL CONDITION IN THE FIELD. ARE WE DOING ENOUGH, AND IF NOT, WHAT CAN SCAA DO TO RAMP UP THAT EFFORT?

SCAA took the issue of spill response research and development to Capitol Hill in March. R&D deficiencies were addressed in three major reports on the Deepwater Horizon oil spill incident: 1) Report to the President by the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling; 2) the Incident Specific Preparedness Review (ISPR) Report on Deepwater Horizon; and 3) the Joint Industry Task Force on Oil Spill Preparedness and Response Force Report. The National Commission Report specifically recommends that "Congress should provide mandatory funding for oil spill response research and development and provide incentives for private-sector research and development." The Deepwater Horizon ISPR Report specifically recommends that "the Coast Guard should seek to increase the level of funding for the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR) from the Oil Spill Liability Trust Fund to develop national oil spill response research priorities." Government and Industry must jointly support R&D efforts to improve our preparedness and ability to effectively respond to oil and hazardous materials spill incidents in the future. Some R&D progress is being made. One of our SCAA member companies was awarded the Wendy Schmidt funded Million Dollar X-Challenge for designing an oil recovery skimming system that met and exceeded the targeted gallons per minute oil recovery capacity and percentage of oil content. The American Petroleum Institute has established 23 R&D workgroups to address priorities for coordination and funding with ICCOPR involvement. There is a continuing effort to get U.S. approvals for a controlled oil spill offshore facility for testing of spill response equipment and materials in a manner similar to what is being done in Norway. There is a big difference in testing equipment under a protocol in a test tank and testing equipment in the real operating environment.

WHAT'S THE MOST PRESSING ISSUE ON YOUR PLATE TODAY AND WHY?

Responder Immunity is a high priority, front burner issue directly affecting our spill control members. We are also very concerned with the growth trend in Federal and State regulations that place greater physical and monetary burden on our industry. Many of our members are small businesses who are struggling under the current economy and are looking for relief, not additional burden.

AS COMMERCIAL ACTIVITIES INCREASE IN THE ARCTIC, DO WE TODAY HAVE ENOUGH RESPONSE CAPABILITIES UP THERE? WHERE DOES SCAA FIT INTO THAT EQUATION?

Several of our SCAA members have stepped up to the plate to provide spill response coverage, equipment testing and consulting services in the Arctic. In August, one of our equipment manufacturers was in Alaska testing his latest skimming system designed for ice operating environments. Another member has spent the last four months working with Shell on oil spill response planning for drilling

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operations just now starting. Other SCAA members offer spill response coverage in Alaska. We and our sister association, the Association of Petroleum Industry Cooperative Managers (APICOM) who have all of the Alaska Co-Ops as members, closely collaborate and discuss Arctic response issues and formally meet with the U.S. Coast Guard as a USCG-SCAA-APICOM 'Partnership Action Team". The remoteness, logistical requirements and operating conditions in the Arctic pose a challenge to companies involved in oil and gas exploration and production and operating commercial vessels. As more E&P licenses are issued and traffic increases, the need for spill response preparedness also increases. Oil and gas companies operating in Alaska are making a good effort to meet the challenge in terms of response vessels, equipment and trained personnel to achieve greater spill response preparedness and capability. SCAA and its member companies are keeping a close eye on Alaska developments and will be prepared to provide spill response services.

SCAA
SPILL CONTROL ASSOCIATION OF AMERICA
THE VOICE OF SPILL RESPONSE PROFESSIONALS

How can we improve our ability to recover oil? What's the biggest advance in this field in recent memory?

The biggest advances include the more effective utilization of the National Incident Management System (NIMS) in managing spills and the greater acceptance and use of dispersant application and in-situ burning to complement mechanical recovery. We need to promote new technology with R&D funded projects, use all the tools in the tool bag, and improve the logistics of spill response. We study and wrestle with the concept of an Effective Daily Recovery Capacity (EDRC) as planning criteria for our ability to recover oil. We need a broader systems approach in which the derated recovery capacity of a skimming system is only one component. Improvement will involve the combined strategy and tactics of mechanical recovery, dispersant application and in-situ burning. Effectively combating oil spills in the future will involve rapid response to the spill site, finding and better tracking of the oil with oil detection technology, increasing the oil encounter rate by extending the active oil recovery and encounter hours per day, increasing temporary storage of recovered oil at the site, and minimizing the turnaround time and time away from the frontline for crew and equipment changes, offloading recovered oil, refueling, and re-provisioning, just to list a few factors.

TECH FILE

Louisiana Company Ahead of Proposed Steering Rules

By Claude Mixon, VP of Operations, EMI

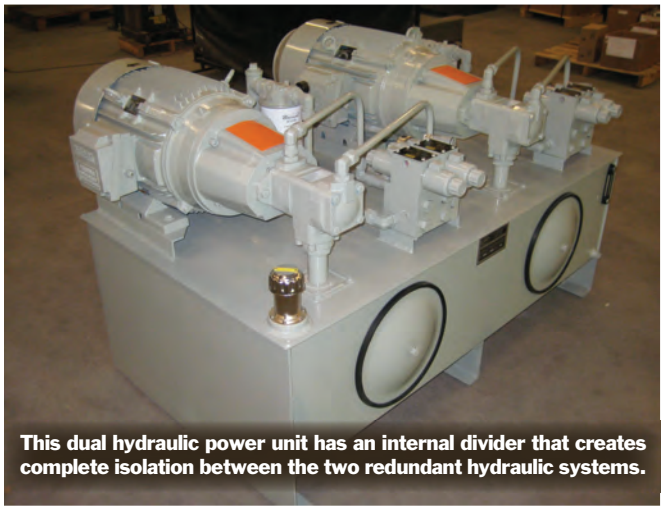
With implementation of the US Coast Guard Subchapter M regulations just around the corner, owners of uninspected towing vessels are scrambling to understand and prepare for what's to come, even while the rules are still evolving. Among the proposed changes for towing vessels are standards for propulsion and steering controls that closely resemble the existing standards for fully inspected offshore vessels. One component of the rules would require certain vessels to be equipped with auxiliary steering capabilities that essentially dictate a completely redundant and independent set of steering machinery and controls.

If this component of the new regulations seems unprecedented or unreasonable, consider this – long before the advent of Subchapter M, Louisiana-based Engine Monitor, Inc. was building and installing fully redundant steering systems with significant safety and reliability enhancements for vessels. EMI has worked alongside the U.S. Coast Guard, ABS and other regulatory bodies, setting the standards for safety and reliability for steering, propulsion controls, machinery alarms and related vessel systems.

According to EMI's Larry Dulcich, "Installing a fully redundant steering system should be an easy decision for the modern boat operator. Most vessels have two or more generators and main engines, providing redundancy in those critical systems. Redundant steering capabilities were not originally prioritized, because using the two main engines to "twin-screw" a vessel was previously considered a sufficient measure. However, stricter safety standards, lower average pilot experience, congested waterways and productivity demands are justifying back-up steering equipment."

Early Mechanical Systems Adapt to Hydraulic Power

The original "remote" steering capabilities relied on direct mechanical actuation via levers, gears, pulleys and cables. Through considerable effort by the pilot (and constant maintenance by the engineer), the task of steering was accomplished. The major evolution occurred with the advent of hydraulic steering systems, affording very high steering torque with little effort by the pilot. Large control valves divert pressurized fluid to stroke the steering rams back and forth, thereby rotating the rudder stocks. Control valves are actuated by mechanical linkages that are painstakingly routed from the pilothouse to the steering compartment.



This dual hydraulic power unit has an internal divider that creates complete isolation between the two redundant hydraulic systems.

In this type of system, mechanical linkage is also used to compare the actual rudder angle to the angle of the sticks, reflected by the main steering control linkage.

The operation of a well-designed and properly maintained mechanical/hydraulic steering system can be very smooth, because the valve opening (and thus the flow rate) varies with the amount of effort that the pilot places on the steering sticks. However, there are many downfalls to mechanical systems, including – but not limited to – the need for regular adjustment and tightening of the linkage, regular lubrication, protective guards to prevent crew members or misplaced objects from interfering with the linkage mechanism, duplicate linkage mechanism and control valves and restrictive location of the mechanically operated hydraulic valve.

Replacing Mechanical Linkages

These numerous challenges dictated improvements in electrical solenoid technology, allowing hydraulic valves to be reliably operated with electrical signals. Ken Cognevich, founder and owner of EMI, said recently, "The electrical steering business was a natural fit for EMI. Like the alarm and monitoring systems we made back then (and still make today), steering systems have a direct impact on vessel safety and require a high degree of reliability." Eventually, EMI began to fit steering sticks and rudder stocks with electrical contacts and potentiometers. Shipyards were instructed in replacing the mechanical linkage assemblies

from the pilothouse and rudder stocks with electrical cable runs. EMI designs and builds every component of their marine steering systems, including the interface electronic boards, meters, control panels, steering lever assemblies and hydraulic power units. The early electro-hydraulic systems were fitted with "on/off" solenoid valves; a compromise of performance and cost that worked well for small to medium sized vessels. However, for larger vessels, the bigger steering rams required higher flow rates, and the rapid shifting of the on/off solenoid valves did not always provide for adequate "cushioning" to prevent abrupt starts and stops. As a result, larger vessels continued to favor the smoother operating mechanical/hydraulic systems. Eventually, improvements in hydraulic valve technology gave rise to cost effective, reliable "proportional" solenoid valves with flow metering characteristics that provide smooth starts and stops. This allows installation of proportional electro-hydraulic steering systems on larger inland and offshore vessels, providing smooth and responsive steering, without the hassle of mechanical linkages.

EMI's SmartSense Technology Reduces Electrical Load

Another significant improvement to marine steering is EMI's "SmartSense" technology. Larger workboat steering rudders require a significant amount of torque during hard maneuvers in heavy currents or at higher speeds. Depending on rudder size and vessel speed, this torque can dictate a 60 horsepower or larger electric motor. With marine generators often taxed to their limit, simply starting these electric motors can cause an electrical overload. With EMI's SmartSense technology, the ability to handle those peak torque requirements with significantly less power is accomplished by modulating the rudder travel speed, but only as needed to prevent an overload. Some of the benefits of electro-hydraulic steering systems include lower installation costs, high reliability, improved calibration, more precise rudder movement and the flexibility to add special steering modes and control features. Electro-hydraulic steering systems are available with electronic interfaces for modern autopilot and dynamic positioning systems. Proportional type systems with EMI's SmartSense technology can significantly reduce electrical load for larger offshore and inland vessels. According to owner Ken Cognevich, "EMI has installed electro-hydraulic steering systems on nearly one thousand vessels, including workboats, yachts and military vessels. We have standard designs, but we can custom tailor a system for virtually any application."

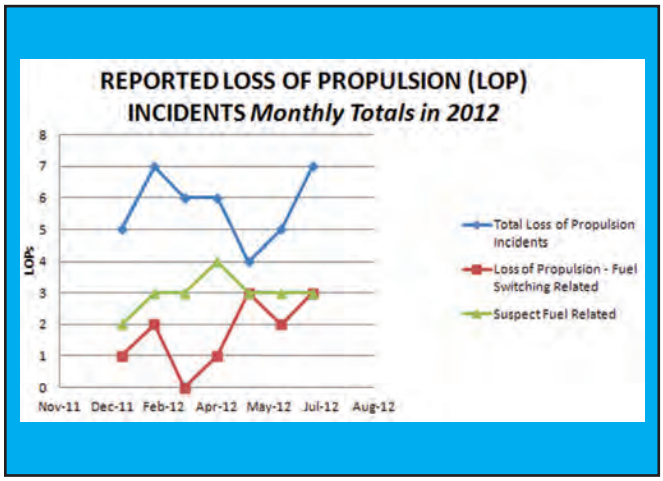
North American ECA – Today

By (Captain) Jeff Cowan

On August 1, 2012, the North American Emissions Control Area (NAECA) took effect, mandating the use of 1.0% sulfur Heavy Fuel Oil (HFO) or residual fuel oil for ships within 200 miles of the continent of North America. California has mandated the use of distillate fuel when ships are within 24 miles of its coastline since July 1, 2009. Lessons learned from California's experience with distillate fuels may benefit operators as the next phase of NAECA comes into effect (January 1, 2015) when the International Maritime Organization (IMO) will mandate the use of distillate fuel by ships within 200 miles of the coast of North America. As that time draws near, industry observers have bantered possible compliance scenarios.

Since June 2012, several developments have helped the ship operator comply with the August 1 mandate. Foremost, the Environmental Protection Agency (EPA) provided an interpretation of fuel requirements. In guidelines released in June 2012, the minimum standard for 1.0% sulfur fuel viscosity will be not less than 11 centistokes (cst). This is significant because at the time it was thought ship operators would have a difficult time sourcing the required 1.0% sulfur fuel and have to switch over to low sulfur distillate fuel with its assorted engine compatibility issues – the same issues that California experienced.

California experienced a 300% increase in loss of propulsion incidents since its distillate fuel (viscosity 1-2 cst) regulation came into effect in 2009. The engines used aboard modern ships over 10,000 gross tons use 3.0% sulfur HFO. This fuel must be heated to flow through the fuel lines because at normal ambient temperature HFO either low sulfur or high sulfur has the consistency of tar. Distillate fuel in contrast does not require the high temperatures, and the thermodynamics of cooling metal, gaskets and seals resulted in leaks, along with filter clogging from engine buildup scrubbing. In addition, the cost savings of using HFO are significant over the use of distillate fuel which is typically around US$300 more per ton. Before the days of slow steaming, a typical containership might burn 5 to 6 tons per hour. The 1.0% sulfur HFO must be heated just like the 3.0% HFO so the



engine/fuel compatibility issue was solved, at least between 200 to 24 miles off the coast of California.

The EPA recognized there may be supply problems and allowed ship operators, if the required fuel was not available in ports outside the NAECA, to simply notify primarily the EPA and Coast Guard no less than 96 hours before entering the NAECA.

Unlike the fuel switchover required 24 miles off the coast of California which typically took one to two hours, the NAECA must switch over completely to the 1.0% sulfur fuel before entering the NAECA. Det Norske Veritas (DNV) and Lloyds, for example, have calculators for estimating fuel changeover times to remain in compliance. The use of the calculators should suffice for demonstrating compliance with the 1.0% regulation in terms of a timely switchover. The Bunker Delivery Note (BDN) supplied with the just loaded bunkers will demonstrate compliance with the 1.0% sulfur rule as well. If the overseeing regime (EPA) denotes suspicious fuel switch procedures or supply issues, they may take their own sample. The problems with shipboard samples, however, can be numerous. The ship has no control over the delivery medium which means the bunker oil delivery lines, bunker barge or ship fuel tanks could have residual amounts of the high sulfur fuel leftover that could increase the sulfur content of the oil sample. Beyond this, the question of where best to take a representative sample remains a matter for debate.

At a meeting held in Tacoma, WA to discuss the NAECA on June 26, the U.S. Coast Guard advised that LSFO should meet the ISO 4259 standard. This means the sulfur

.94% to 1.06% sulfur and remain in compliance. Meanwhile, the EPA insists that LSFO should not exceed the IMO mandated 1.0% sulfur. This determination by the EPA holds sway over compliance issues. Refinery fuel blenders most probably will take the sulfur percentage to .95%; allowing for a 5% margin in analysis repeatability.

Separately, the U.S. Coast Guard maintains that the use of an incinerator to incinerate sludge greater than 1% sulfur content generated on board ship is permitted by MARPOL Annex VI (Reg 16) including in the Emission Control Area (ECA). But, the US EPA says Reg 14 only applies to the use of fuel oil, so burning sludge in an incinerator is not regulated under Reg 14, but only under Reg 16. Fuel oil and sludge oil are clearly distinguished within the MARPOL definitions. In the spirit of the ECA, the EPA would not recommend that a ship burn sludge oil or other sludge with a sulfur content that might exceed 1% within the ECA. Upon further study, a consensus will be reached with a final determination.

In order to achieve the 1.0% sulfur content of LSFO, refinery blenders are using cutter stocks which tend to have high Aluminum (Al)+Silicone (Si) levels (cat fines). The issue with increased cat fines is the impact to filters and purifiers. With poor preventative maintenance, debris from the filters and purifiers ends up in the high pressure fuel system causing worn pumps and injectors and adverse piston ring and crown groove wear – all creating more costs for the ship operator.

With California's regulations in effect, the following scenario may unfold aboard ships trying to comply with IMO and CA regulations at the same time. At 200 miles out, the ship will use LSFO with the increased metal wearing cat fines but with good fuel viscosity which is more forgiving to worn parts. Then, at 24 miles out from California, a switch to the less forgiving distillate fuel and its well documented increased incidence of loss of propulsion (LOP) incidents could take place. Bottom line: California will continue to face the risk of an increased rate of LOP incidents that could cause an oil spill due to allision, collision or grounding.

Captain Jeff Cowan graduated from the California Maritime Academy in 1975.

A Primer on Current Environmental Standards:
EEDI, SEEMP, ECAs, ISO 14001 – and you, too ...

By Captain Katharine Sweeney

Environmental standards come with a mess of acronyms that can be difficult to comprehend. I'll demystify four of those acronyms here. The first two; EEDI and SEEMP, were coined by the International Maritime Organization (IMO) and are aimed at monitoring and reducing vessels' fuel usage and thus green house gas creation. The third, ECA, was also created by the International Maritime Organization and includes a focus on particulate matter emissions. The final acronym, ISO 14001, has a broader scope, addressing a company's overall impact on the environment and its commitment to reduce these impacts.

EEDI / SEEMP

The IMO met in London in July 2011 and adopted mandatory measures to reduce greenhouse gases. These measures are expected to take effect January 2013 for all ships 400 gross tons and above. According to the IMO, the adopted measures "represent the first ever mandatory global greenhouse gas reduction regimen for an international industry sector." That's an impressive statement for an industry as old as ours with a reputation for being slow to change.

The measures take aim at reducing air pollution from ships, requiring new vessels to be built to a minimum energy efficiency level (Energy Efficiency Design Index-EEDI) and requiring all vessels above 400 gross tons to have a Ship Energy Efficiency Management Plan (SEEMP). A SEEMP establishes a mechanism for operators to improve the energy efficiency of their vessels. Guidelines for the development of a SEEMP and EEDI survey and certification are available on the IMO's website.

The SEEMP (required as of January 1, 2013) represents another management plan to add to the growing list of plans vessel operators must provide. As per IMO resolution, the SEEMP may form part of the vessel's Safety Management System (SMS). The American Bureau of Shipping states "The SEEMP can be thought of as a catalog of best practices that can be implemented on a particular vessel to improve its energy efficiency. Each ship-specific plan is to be monitored, updated and improved upon frequently throughout the life of the vessel." This brings to mind the old mantra: "plan, do, check, act," which is universal among the various management system standards.

The EEDI requirement for new builds is performance-based and non-prescriptive in nature. Established minimum energy efficiency levels must be attained to receive certification. Waivers are allowed by administrations if the keel is laid before July 2017. Not all vessel types have minimum established criteria in the EEDI, including ships not designed to transport cargo or those featuring turbine or diesel electric propulsion systems. However, the majority of vessel types out there (container ships, bulk carriers, general and refrigerated cargo ships and oil and gas tankers) have minimum criteria to meet, capturing 72% of the emissions pie for all new vessels coming on line. According to the IMO's estimate, by the year 2020, the EEDI requirement will keep 45 to 50 million tons of CO2 from being released into the atmosphere annually. By 2030 the emissions reductions are estimated to be between 180 to 240 million tons.

ECAs

The IMO's MARPOL annex VI, Prevention of Air Pollution by Ships, brought us Emission Control Areas (ECAs). ECA compliance focuses on reducing the amount of SOx vessels emit in the Baltic Sea and North Sea areas and the amount of SOx, NOx and particulate matter vessels emit in the North American area. Emissions reductions are achieved by regulating the types of fuel vessels burn for main and auxiliary power, or by requiring a system that scrubs the stack gas before it leaves the vessel. As of January 2012, a vessel could burn fuel with no more than 3.5% sulfur content (by weight) outside the boundary of an established ECA. Inside the boundary of an ECA, as of July 2010, the allowable sulfur content became 1%. In

January 2015 it will drop to 0.1%. Close to home, the North American ECA went into effect August 1, 2012. The boundary for this ECA is roughly 200 miles off the shoreline. When a vessel changes from one fuel to another at the ECA borders, the quantities of fuel oils onboard must be logged, along with the date, time and position of the ship. This logging must occur upon completion of the fuel change-over prior to entering an ECA and upon commencing the change-over after exiting an ECA.

If the vessel stays in port longer than a few hours, generator fuel usage must also comply with the maximum sulfur content. Compliance also requires a sample to be taken at each bunkering to ensure the fuel is in the proper limits. A sample must also be kept on board for a specific amount of time.

ISO 14001

ISO 14001 was established by the International Standards Organization (ISO) and is not limited to energy use, but focuses on the company's total environmental impact. Implementation of ISO 14001 would require a company to catalog all the ways the business impacts the environment, (consumption of paper and electricity and hazardous waste production, for example) not just the impact of the fuel a vessel uses. A long list of requirements for this standard includes things such as communication of the program, training and education and management review to ensure the plan is in place and effective.

SIZE: It matters now; later, not so much …

Perhaps the size of your vessels or their area of operation precludes you from worrying about these latest acronyms in the maritime nomenclature. And, if you are reading *MarineNews* as part of our primary demographic, then you might be right – for now. Consider, however, that standards occurring at the over 400 gross tons mark often trickle down to smaller vessels later on.

The EPA VGP and the ballast water / invasive species quandary are perfect examples of this metric. And, who could forget the new subchapter M rules? Beyond that, an energy management plan can bring significant cost savings. While the discussion above touches only briefly on the subject matter, expansive amounts of information are available elsewhere.

Early entry into the thought process can aid in any vessel owner's bottom line.

Hybrid Hype

One of the greatest slices of the American workboat market can be found in the Big Apple

By Joseph Hudspeth, All American Marine

The Hudson and East rivers are constantly abuzz with swarms of ferry, patrol, and cargo traffic. In August, New York hosted the Transportation Research Board's ferry committee for a midyear conference. I was fortunate to be a guest presenter at this event and speak on behalf of vessel operations on the U.S. Marine Highways. With such high use on these historic waters, it was not surprising that much of the discussion circled back to the environment and vessel impact.

When congress expanded the Marine Highways program in 2010, it was a big win for the marine industry. Funding new projects to merge people and freight off of the accident-prone and traffic-laced streets and onto unpaved highways is a philosophy we can all embrace. The marine industry has a great safety record, is not overcrowded and our country has many navigable waterways that make such a mission feasible. Those involved with shallow draft and coastal fleets truly have the most to gain. But, not so fast – there is always a catch.

Marine waterways are a natural resource that must be respected, protected and therefore regulated. At times, it seems as if regulators fail to understand that if the regulations are too restrictive and costly to implement, in the end they will utterly become futile as no one can afford a sustainable operation under such oppression. What is really needed is a compromise; a hybrid approach to being green while making it possible for operators to still add some green to the bottom line. At the center of this environmental stewardship quandary remain the very real issues of emissions, fuel and effluent.

Is your vessel hybridable?

The last Tier II compliant engines are phasing out and Tier III is becoming the new but temporary standard for emissions compliance. Purchasing a tier compliant engine will satisfy the law, but a diesel and electric hybrid solution may be just the right combination to mitigate emissions and promote fuel efficiency. In New York, all eyes are on the new Hornblower Hybrid which is a testament to retrofitting a hybrid propulsion system. The latest hybrid concepts are more modular and lend themselves to greater flexibility in configuration, but designing a vessel around the hybrid system from the keel up will yield even greater efficiencies. With all the hype on hybridizing, why isn't everyone going diesel-electric? The reality is that not every vessel is hybridable.

The market currently lacks a viable hybrid solution for some boats. In general, workboats with engines in the 800 to 3000 horsepower range and a speed requirement greater than 10 knots will presently remain coupled to conventional powertrains. Nevertheless, manufacturers like BAE Systems, Northern Lights, and ZF Marine continue to develop their hybrid offerings and it would not be surprising to see the main engine manufacturers unveil new systems in the near term. For now, technology (arguably) seems to be lagging behind demand.

The great fuel debate

It remains inevitable that vessels will continue to burn fuel, but that does not translate to a dependence on diesel. The clean burning characteristics, lower cost, and prevalent domestic supply make LNG and Hydrogen likely candidates for the marine fuels of the future. That said, operators and regulatory agencies are, in many cases, not certain as to how to handle these new fuels from a safety, logistics, and technological perspective. The problems are quite simple: Where do you locate fuel cells or mount the sizable cryogenic tanks (above or below passenger decks)? How do you get the fuel to the boat (truck or bunker station)? Will engine manufacturers even make an appropriately sized engine to burn the wonder fuels?

Europe has already embraced the use of alternative marine fuels and is encouraging the U.S. to get on board. And, several U.S. projects are in development and it will take some time for the story to be told. The nation's largest ferry system has its eyes on an LNG powered newbuild, but until more questions are answered, a hybrid retrofit may be a more likely reality for Washington State Ferries. As *MarineNews* went to press, Hornblower was still working with the USCG to get final approval on their proposed hydrogen fuel cell system for the New York hybrid.

License to discharge

The EPA not only regulates what goes up, but also what goes down. Vessel effluent and discharge(s) are, therefore,

clearly on the regulatory radar. By December 2013, nearly all commercial vessels will need to apply for either the Vessel General Permit (VGP) or the Small Vessel General Permit (sVGP) respective of vessel length (+/-79'). The final rule for the new permits has yet to be published but will pertain to the discharge of ship-borne pollutants and the threat of invasive species transported in ballast tanks. The permits tend to focus on operational procedures, but onboard technology can be implemented to actively clean what does end up overboard. An impressive new wastewater treatment system, Piranha, from Act2 Technologies can literally turn black water clear. The biological based treatment system uses microbes and anaerobic digestion to break down the organic material and includes complex membranes to safely remove all color, odor, and solids. The end byproduct is not simply diluted or chemically treated like other MSD effluent. The final discharge is cleaner than the sea, with over 99% of all suspended particles, bacteria, and viruses removed.

Environmental ROI

Most of the workboat market will continue down a reactionary path and will retrofit adjustments to their vessels as the new regulations are created and enforced. While showing great stewardship, modifying an existing hull is not a quick and easy process. For that matter, some boatbuilders can argue that new construction may be just as cost effective, as it will always be easier to install and more efficient to operate on a freshly laid keel. With the reward of an expanded Marine Highways Program also comes responsibility. Our industry can change, but ultimately it will take a clear demonstration of return on investment for operators to switch from compliance by law to stewardship by will.

Visual Communications and Maritime Safety

Safety Labeling: Communicating Risk; Ensuring Compliance

By Jack Rubinger

Working on the high seas exposes all marine workers to life-and-death situations that landlocked individuals rarely face. One brief mistake or equipment failure can literally sink the ship. To prevent catastrophic losses, international rules and regulations, port authorities and insurance companies govern maritime safety for all types of vessels. Proper sea vessel and marine labeling improves safety by clearly marking all hazards, pipes and equipment. Labeling also explains proper maintenance and directions for startup procedures.

Label your Cable

"One of the biggest labeling challenges is the marking of cables and components for network communications, distributed video, and electrical power," said Jim McGowan of Raymarine. "Labeling all these cables and components is imperative for troubleshooting systems and performing routine maintenance and upgrades. Often the cable chases, instrument panels and void areas through which these cables pass are very cramped and poorly lit, with multiple cables bundled together. Without proper markings it is nearly impossible to distinguish one cable from another."

Labeling isn't just a good idea; it is rooted in recognized, standard international and domestic operating guidelines. ISO 14726, for example, regulates the color-coding of sea vessel and marine marking and applies to sea water, decontamination water and ballast water as well as fuel, flammable gases, waste media, air and sounding pipes, steam and fire protection. Other compliance standards are recommended by the American Boat & Yacht Council (ABYC), the US Coast Guard, Transport Canada and the International Maritime Organization (IMO). Transport Canada provides guidance for labeling mechanical blowers, leak inspection, shore power connections and spaces not intended for gasoline storage.

Communicating Risk

Risk and safety assessments are recommended by the International Maritime Organization (IMO). Their purpose is preventing unwanted events, such as occupational accidents, major accidents and disasters. Think of all the contributing factors related to maritime accidents and consider how signs and labels help communicate dangers, risks, and provide actions to take. To maintain a safe environment, make sure the following are labeled:

- *Navigation and maneuvering equipment*
- *Propulsion machinery*
- *Anchoring and deck equipment*
- *Control devices and warning systems*
- *Cargo handling equipment*
- *Cargo devices*

"We rely on visual communication supplies that are resistant to marine environments, retain their adhesive qualities and reflective abilities, and have large legible lettering," said Rob Ford at the Massachusetts Maritime Academy. Separately, Mike Blocher of North River Boats applies Coast Guard-mandated labels while outfitting boats for customers. Their value is instructional, safety and operations-related. Crews change, boats are deployed; often crew members are inexperienced. The company follows label standards set by the American Boat & Yacht Council (ABYC T-5), for size, lettering, fonts and pictures. ABYC's labeling criteria includes the following:

- *the hazard associated with the use of the equipment*
- *the manufacturer knows of the hazard*
- *the hazard not obvious or readily discoverable by users*
- *the hazard that will exist during normal use or foreseeable misuse*

"Signage related to lifesaving appliances onboard -- lifeboats, life rafts, life vests -- is required. Failure to display them can result in a deficiency issued by the USCG Department of Homeland Security. Such deficiencies can impact the issuance of a vessel's annual Certificate of Inspection which allows it to keep sailing," said Ford.

Mark your Pipes

Pipe marking is critical on seagoing vessels holding flammable or corrosive materials. Crew members are essentially confined to the perimeter of the ship so they cannot

"Risk and safety assessments are recommended by the International Maritime Organization (IMO). Their purpose is preventing unwanted events, such as occupational accidents, major accidents and disasters. Think of all the contributing factors related to maritime accidents and consider how signs and labels help communicate dangers, risks, and provide actions to take."

easily escape hazardous exposure or fires. "In the world of maritime environmental regulations, proper pipe-marking is the new standard of pollution prevention monitoring," said Liam O'Connell, a Maritime Consultant with H&O Marine, LLC. "Their use is integral to a safe, efficient, and environmentally friendly way of doing business."

Pipe markers provide sea vessel employees with the necessary information to safely operate around hazardous materials. With visible safety signs and labels, crew members act quickly and knowingly in case of a spill or emergency. These codes are specifically stated according to ANSI.13.1. "As a former USCG Marine Inspector, I can easily say that an organized ship is way more likely to receive a good inspection report. Inspecting an Engine Room where pipes are properly marked shows the inspector that the vessel owners and crew are investing time and money into their operation," said O'Connell.

In addition to ANSI.13.1, the International ISO 14726-1 standard defines the basic colors used for pipeline identification onboard ships. Also, ISO 1476-2 specifies additional colors that can be used in conjunction with the main colors for more thorough marine pipe marking.

In Case of Emergency

"Safe and quick routes to safe gathering points must be clearly labeled so that even in panic scenarios, signage will lead personnel out of harm's way for accountability to the bridge," said Michael Ritchie, VP of Marine Rescue Technologies. He adds, "During an emergency, and the panic that ensues, people act differently and do not remember as well. Electricity is likely to be out, and proper glow-in-the-dark marking could be the only thing that will save a mariner's life."

For Marine Health & Safety Advisors responsible for best practices, generating maritime-worthy signs and labels

on demand is a tremendous benefit – and something that is critical to any maritime mission. DuraLabel labeling systems enable users to customize the look of their labels and choose from a wide range of adhesive strengths, widths, and durability. Labeling supplies must be UV-resistant, salt water-resistant and tough enough to stand up to extreme temperatures. If you're carrying chemicals in containers, you'll need the appropriate warnings and symbols according to OSHA and the new Global Harmonization Standard (GHS).

If you decide to print these warning labels on board, you'll also need to consider if you will print from one site or in multiple locations onboard. A battery powered standalone system – the DuraLabel TORO Portable Integrated Printer, for example, might be ideal for on board production in situations where an immediate need necessitates labeling and no power source is available. DuraLabel also provides solutions for other labeling requirements, including:

- *Labels in numerical sequence*
- *Barcode labels for asset management*
- *Labels designed to mark cables/wires*
- *Extra-large signs for marking docks and containers*

Safe maritime operations are a 24/7/365 concern to shipbuilders, captains, crews, passengers, and maintenance workers. Signs and labels complement all products and technologies associated with maritime safety. Effectively communicating risk and ensuring regulatory compliance is not only smart business; it also measurably improves your bottom line. On today's waterfront, that bottom line is punctuated by safety of life and property. How are you communicating that important message to your employees, crews and contractors?

The New Normal for GOM Offshore Vessels?

By Susan Buchanan

Offshore vessels in the Gulf of Mexico have become more energy efficient in recent years and are polluting less because of changes in engines, bunker fuels and building materials. At the same time, Gulf of Mexico builders have responded to meet new regulations, customer needs.

At Harvey Gulf International Marine in New Orleans, Environmental Compliance Coordinator Nicole Eddlemon said "adoption of energy-saving vessels in the U.S. is driven by North American Emission Control Area or ECA regulations, initiated by the Obama Administration and the U.S. Environmental Protection Agency, and by strict air permits for 'major source' oil rigs, customers striving to be greener and vessel operators wanting to save money on energy." If that's a mouthful; it's also all true.

All vessels within 200 miles of the U.S. coast must comply with the EPA's August 1 rules for low-sulfur fuel use, said Chad Verret, Senior Vice President for Alaska & Deepwater Operations at Harvey Gulf International. "The marine fuel they're selling at Port Fourchon is now low-sulfur diesel."

Tougher Standards? No Problem, says Harvey Gulf

Allowable sulfur content in diesel has declined to 10,000 parts per million, and in 2015 it drops to 1,000 ppm. The non-ECA, global limit is currently 35,000 ppm. But, Harvey Gulf's Verret insists, "This new EPA rule doesn't affect our liquid natural gas boats because LNG contains almost no sulfur. The LNG OSVs we're delivering next year to the U.S. Gulf of Mexico market, for instance, are not affected."

Much of today's energy-saving focus is on engines. "Our company's latest, delivered vessels have diesel electric TIER II engines that reduce emissions and optimize fuel consumption because of an improved engine power configuration," Eddlemon said. "We delivered three 300' class multipurpose offshore supply vessels, DPS-2 diesel electric, in 2011 and 2012, and have chartered each of them." The company delivered the Harvey Supporter in December 2011, Harvey Sisuaq in April 2012 and Harvey Champion in August 2012.

VESSEL ABOVE: The RiverHawk AMP

Deepwater U.S. GOM is Introduced to LNG Supply Vessels

In mid-August, Harvey Gulf signed long-term charters for three of its LNG powered OSVs, and was the first U.S. company to contract LNG supply vessels in U.S. deep water. The Harvey Energy, Harvey Power and Harvey Liberty will be delivered in 2013 and 2014.

"The North Sea in the UK is very environment friendly and they've been using LNG vessels for years," she said. "They've moved faster than the U.S." She also noted that California's diesel sulfur-content limits are stricter than North American ECA limits. California's limit for marine diesel oil is 5,000 ppm.

"One of the reasons we geared up for LNG is because of very strict air emissions permits for 'major source' rigs," Eddlemon said. If rigs in the EPA Outer Continental Shelf zone emit over 250 tons per year of pollutants, they are major source rigs, she explained. "Owners of these rigs must determine what their major pollutants--including NOx, SOx and CO2—are, and conduct a Best Achievable Control Technology or BACT analysis for them," she said. Rig owners can be held to best-control procedures under their air permits."

Eddlemon continued, "some rigs, depending on stipulations in their air permits, only allow vessels to burn low-sulfur fuel, and vessels can only stay near the rig for a limited time because of emissions limits in the rig's air permits." LNG contains almost no sulfur, and LNG used to fuel a vessel also emits less NOx or nitrogen oxide emissions, she said.

Thoma-Sea Taps Clients' Environmental Needs

Thoma-Sea Marine Constructors, L.L.C. responded to market needs when it began building diesel electric

The Stingray design – ABS SOLAS classed, Full Oceans, L&I, ACCU, FIFI 1, DP2, AMS – utilizes special software and a combination of large and small generators to maximize fuel efficiency.

OSVs that lower emissions and require less fuel. The Lockport, La. company is building a series of diesel-electric, offshore supply vessels now. Managing Director Walter Thomassie explains, "They'll allow for reduced emissions based on an optimized hull design, and the efficiency of the power plant system allows the vessels to reduce fuel burn significantly over conventional designs." The vessels have also earned the following class string-- ABS, AMS, A1, Circle E, Enviro, DP-2, FiFi-1, USCG Sub I & L."

The first OSV in the series will be delivered at the end of the year, followed by one in July 2013, another in September 2013 and a fourth in January 2014. "When we began this program in late 2010, our decision to build was market driven," Thomassie said. "Thoma-Sea and our customer at the time of design, Gulf Offshore Logistics, felt that we needed to offer a highly efficient, environmentally friendly option for servicing the offshore sector. The concept was developed in conjunction with Technology Associates, Inc. or TAI, the naval architects that did the engineering on the design." TAI is headquartered in New Orleans.

In 2010, Thoma-Sea merged its Lockport and Houma, La. facilities under one entity, Thoma-Sea Marine Constructors. The company also recently sold two, diesel-electric-powered platform supply vessels to GulfMark Americas.

Bordelon Uses Engines That Reduce Emissions

Bordelon Marine Inc. is building three 252-foot PSVs in Houma, La., with engines that will reduce emissions, Wes Bordelon, President and CEO said. "We began the design process in 2010," he said. "And even though it wasn't a requirement at that time, we decided to make our new vessels Tier 3 compliant." EPA Tier 3 emission standards reduce NOx and other emissions. The Stringrays' propulsion will be supplied by two Cummins QSK 60-M, Tier 3-compliant diesel engines that each drive a Schottel 1215, 220 hp Z-Drive. Each vessel will have two Schottel STT2, 1020 hp bow thrusters.

"The Stingray design – ABS SOLAS classed, Full Oceans, L&I, ACCU, FIFI 1, DP2, AMS – utilizes special software and a combination of large and small generators to maximize fuel

"Benefits of the weight savings include increased payload capacity at the same gross weight, which results in reduced CO2 emissions per payload unit. If increased payload is not a concern, weight savings result in reduced power needs, less fuel consumption and lower CO2 emissions."
– RiverHawk engineer Fabrizio Loi

efficiency," Bordelon said. "The vessel has the option to run on a single, low-horsepower generator, when operational power requirements are low." The first Stingray will be delivered in January, the second in September 2013 and a third in January 2014.

Bordelon Marine provides transportation services to the oil and gas industry in the Gulf of Mexico and around the world. BMI offers offshore vessels supporting construction, exploration, production, ROV and dive, oceanographic research and military operations.

RiverHawk Uses Weight-Saving Materials To Cut Energy Use

Tampa, Fla.-based RiverHawk Fast Sea Frames, a builder of high-performance patrol craft, relies on environmentally friendly materials to produce naval and maritime security vessels, RiverHawk engineer Fabrizio Loi said. In early August, the company's 43-meter, Advanced Multi-mission Platform or AMP completed acceptance trials in the Gulf of Mexico. In a nutshell, RiverHawk replaces traditional steel and aluminum materials with advanced composites to provide strength, stiffness and toughness for the hulls, decks and superstructures of its fast patrol boats, including the AMP and SeaStriker series vessels.

Weight-optimizing composite construction improves performance and reduces the environmental impact of ship operations, Loi said. "Benefits of the weight savings include increased payload capacity at the same gross weight, which results in reduced CO2 emissions per payload unit," he said. "If increased payload is not a concern, weight savings result in reduced power needs, less fuel consumption and lower CO2 emissions."

Texas-based James Jones, Americas Region Manager at Composites Consulting Group, said "CCG worked with RiverHawk and one of their contractors during the development of the AMP 45. Specifically, CCG consulted on fabrication of the composite hull using a vacuum-infusion process. DIAB structural-foam core materials were used throughout the hull to provide a lightweight, robust structure for the vessel and assist with the infusion process." CCG is a division of DIAB Group, supplying structural core materials to marine, aerospace, transportation and other markets.

"Lighter, composite vessels reduce fuel consumption or allow for larger payloads or higher speeds at the same fuel consumption," Jones said. Other benefits from using composite materials include reduced maintenance and lower lifecycle costs. Large vessels can utilize hybrid approaches, such as metal hulls and composite superstructures.

Feds Will Keep Pushing For Lower Emissions

Industry members said they're keeping an eye on EPA emissions regulations, which will become increasingly stringent over the next decade. Builders will continue responding to the needs of clients, wishing to save on expensive fuel, and will use lighter construction materials when it's possible. There's more than one way to get green and more than one reason to do it. Those who embrace both concepts will likely be the long term winners in this increasingly competitive, highly regulated operating environment. That's something you can take to the bank.

Gulf Coast to West Coast:
Converting an Oil Spill Response Vessel

By, Raina Clark

The West Coast arm of the National Response Corporation, NRC Environmental Services (NRCES), recently welcomed the 144-ft NRC Quest as the newest and largest vessel in its fleet. Converted from a Gulf Coast OSV – originally constructed in 2002 by Master Boat Builders, Inc. of Alabama – to its new role as a West Coast oil spill responder, the vessel is homeported in Astoria, Ore.

The Quest now serves as the primary offshore oil spill recovery vessel (OSRV) for the geographic area surrounding Astoria, where the Columbia River meets the Pacific Ocean. "The Columbia River is the second most active marine approach from the sea on the coast of the Pacific Northwest," said Robert Huston, head of Marine Operations for NRCES and project manager for the conversion. "The Columbia River bar has long been titled 'the graveyard of ships' and the strong currents and extreme river bar conditions make it an area of potential risk for shipping."

The arrival of the NRC Quest greatly improves emergency response capabilities in a dangerous area and one with a strong emphasis on environmental safeguards. "All three West Coast States (California, Oregon and Washington) have spill response regulations that are more stringent than the federal OPA 90 standards, so we had to keep that in mind while outfitting and positioning the NRC Quest," said NRC's President, Steve Candito.

According to NRC, the Quest is unique on the West Coast in that it is both a spill response vessel and a salvage support vessel. Beyond emergency response, the Quest is also equipped to partner with marine contractors and ocean research organizations to provide marine services throughout the Pacific Northwest and Alaska. "Our goal with the Quest was to make her available to support as many different types of marine operations as possible," Huston said.

Converting OSV's into spill response vessels is "common for NRC, but not all that common in the industry," said Candito. "When others were building new vessels back in the early 1990s after the passage of the Oil Pollution Act, NRC pioneered the multipurpose oil spill response vessel concept by converting existing OSVs into Oil Spill Response Vessels that could also be used in regular commercial services."

Conversions vs. Newbuilds

Newbuild vessels take a great deal of time and money to design and construct, and as Huston also noted, "the potential revenue stream to support a newbuild is just not there from a business for profit prospective [within the environmental response industry]." Converting a vessel can be a workable alternative to a newbuild, especially when starting with the right type of boat. Smaller offshore supply vessels (OSVs) are particularly well suited for conversion to oil spill response vessels (OSRVs) and are becoming available in the Gulf Coast. "As the oil production in the Gulf of Mexico moves farther offshore, the smaller OSVs like the NRC Quest become surplus equipment. Vessels of this size do not have the capacity to carry supplies in the volumes necessary to be efficient for supplying the offshore oil rigs."

As potential conversion projects, these boats already have a number of things going for them, Huston said. "They have tankage that can be modified for use as oil recovery storage. The low, clear deck provides a perfect work area for

handling containment boom as well as skimmer systems and oil/water separators."

While the Gulf of Mexico may be the best place to find a small OSV's, NRCES found that the downside was getting the vessel from one U.S. coast to the other. "The most challenging part of the process was waiting for authorization from the USCG MSC to leave Louisiana on the transit to the West Coast. The heightened international security both in the U.S. and in the Panama Canal Zone has changed both how a vessel such as this can be crewed as well as the route it must sail on an international voyage."

Once the vessel did make it to the West Coast, some unique considerations for operating in the Pacific Northwest waters had to be taken into account. "Vessels that operate on the West Coast and in the Gulf of Alaska are exposed to cold water and sea conditions that are specific to this part of the U.S.," said Huston. "Here in the Northwest we have very deep waters with rocky shores and significant tide cycles and currents. The Quest has been outfitted with cold water survival suits and life rafts that are required in the waters of the Northwest and Alaska. Also, significantly more anchor and chain is required to secure the vessel in the currents and wind conditions present in this region."

Making the Conversion

"We took control of the Quest on April 1, 2011 in Morgan City, La.," Huston said. "We spent four months in Louisiana having the engines rebuilt, dry docking the vessel for service of all the underwater equipment and having all ABS and USCG inspections brought up to date." Working with Columbia Sentinel Engineering of Seattle, the extensive conversion of the NRC Quest took the best part of eight months and was completed in Port Angeles, WA by Straits Marine. The Quest now boasts an offshore skimming system capable of about 5,500 bpd, as well as an ocean rated containment boom and oil dispersant application. Onboard tank capacity is almost 900 barrels of recovered oil.

The conversion included installation of two cranes, a four point anchor system, and support capabilities for a crew of 20 and a small support boat. The forward crane has a capacity of 2,000 lbs and a reach of 25 feet for handling equipment and self-loading. The aft crane has a capacity of 5,900 lbs and a reach of 68 feet and can lift anchors and buoys as well deploy underwater survey and ROV equipment. "The installation of these cranes and the new anchor windlass forward required the design and installation of a complete hydraulic system by Maximum Performance Hydraulics of Seattle," said Huston.

Two Manitowoc 390 double drum waterfall winches were installed on reinforced frames toward the forward

end of the working deck. These winches are independently powered and controlled to support the four-point anchor system, which is capable of holding the vessel on station in depths of 300 feet and wind sea state five and swell state four for diving operations. For standby operations, the vessel is rated for wind sea state seven and swell state seven.

Main Particulars	Machinery	Electronics & Controls
Length o.a.: 159 ft (48 m)	Main Engines: 2x CAT 3508 B LS	Radar(s): 2x Furuno 1933 C/NT
Length b.p.: 144 ft (44 m)	Brake Horsepower: 1,500	SSB: 2x Furuno FS-1503
Beam: 36 ft (11 m)	Propellers: HS HTB-4B 64x55	Internet Email: Globe Offshore
Depth: 12 ft (4 m)	Aux Gen: 2x CAT 3304T@99 kW	VHF: 4x Icom M 502
Light Draft: 7 ft (2.1 m)	Bow Thrusters: Marprop 300 hp	Autopilot: Robertson AP-45
Loaded Draft: 10 ft (3 m)	Northern Pacific Crane: 22 Ton 68′	Weather Radio: XM
Lightship: 398 LT (405 MT)	Aurora Crane: 2.5 Ton 25′	Iridium Satellite Phone

"Many of the electrical systems aboard the vessel also had to be modified and upgraded to support the additional hydraulic motors, lighting, MSD system and the watermaker," Huston said.

The NRC Quest's 24'x 80' clear deck supports containerized equipment, shops that can be assembled and secured and a decompression chamber if necessary for diving operations. The side bulwark openings on the deck allow for the placement of a launch and retrieval system (LARS) for the deployment and recovery of a diving bell.

"In order to make it easy to change the service of the vessel we installed a false deck with container sockets, welded tie down points and a surface that can be welded to without the need for gas-free tanks for hotwork," said Huston.

The NRC Formulae: Economics 101 for Response Tonnage

The universal challenge facing salvage and emergency response vessels is to keep equipment employed while not answering distress calls. Even when there are no emergencies to respond to, a vessel represents a huge capital investment and a constant set of maintenance and crewing expenses. NRC Environmental Services found a way to reduce the capital expenses by converting a suitable, existing vessel and by outfitting that vessel to perform a number of non-emergency tasks. Perhaps the conversion of the NRC Quest will encourage other West Coast companies and organizations to add to their fleets and further improve the capacity for spill response in the region.

The NRC Quest, a mini supply vessel from the Gulf of Mexico, converted to an oil spill response vessel and relocated to the West Coast

A Manitowoc 390 winch being lifted aboard the Quest in Port Angeles, WA

"... the Quest is unique on the West Coast in that it is both a spill response vessel and a salvage support vessel. Beyond emergency response, the Quest is also equipped to partner with marine contractors and ocean research organizations to provide marine services throughout the Pacific Northwest and Alaska."

New Solutions Soothe Sub M Uncertainties

Germanischer Lloyd, Baker Lyman Sub-Chapter M Alliance brings affordable, turnkey TSMS solutions – and compliance – to towboat operators.

By Joseph Keefe

When a family-owned, Gulf Coast based marine firm known primarily as a Chart Agent branches out into the world of maritime software, that's big news. When a global, U.S. Coast Guard recognized vessel classification society acquires a world class survey and engineering firm to form a fully integrated technical consulting company, that's arguably even bigger news. And, when those two entities – Baker Lyman (BL) and Germanischer Lloyd (GL) – this summer announced a strategic partnership intended to provide a turnkey, complete Towing Safety Management System (TSMS) design, auditing and record-keeping service to domestic towing firms, that news caught the attention of everyone. It shouldn't, however, catch anyone by surprise.

According to the U.S. Coast Guard, as many as 5,000 vessels will be affected by coming subchapter M rules. Separately, AWO statistics indicate that 67% of the domestic fleet were members in 2002; leaving almost 1,800 domestic towing vessels not under the AWO Responsible Carrier Program. These form the greater majority of affected operators when the Coast Guard's new subchapter M rules become law. All will need help with initial implementation and then again, to remain in compliance going forward.

With industry worried about a looming dearth of TSMS service capacities for the impending Sub-Chapter M implementation, the new pact between these long time maritime providers promises, in Baker Lyman's words, "a TSMS 'one stop shop' for Sub-M impacted operators. GL & BL will cross market each other's product & service lines; creating affordable, scalable, and flexible TSMS solutions for any sized fleet." In the meantime, inland operators not necessarily accustomed to the close regulatory scrutiny that the Sub-M rules will bring find themselves scrambling to find a viable solution. With the advent of the BL/GL working agreement, they may have finally found that solution, and more.

Meet the "Sub-M Solutions" Team

Baker Lyman & Co. has been around since 1919; a lot longer than most marine businesses. Backed by credibility and a long history of selling a wide range of items to commercial mariners – including ECDIS software, traditional charts and other navigation software products – Baker Lyman developed the new CORSAIR software because the market demanded it.

CORSAIR is a Tug/Workboat Fleet Management System which includes the Towing Vessel Record (TVR) to assist in meeting audit requirements mandated by the NPRM. Released in 2011, Baker Lyman's CORSAIR – billed as an affordable and scalable solution – has been sold

to a number of companies that include small to mid-size fleet operations. In part, the result of the collaboration with former USCG officials, Chief Engineers, and Operations Managers, BL's CORSAIR seamlessly facilitates the towing audit process and assessment and is specifically designed in a scalable format for commercial compliance, planned maintenance, document control and dispatch. But, software is only one piece of the Sub M puzzle.

Germanischer Lloyd and its sister company, Noble Denton (acquired by GL in 2009) form the basis of a global network that provides certification/inspection processes within the tug and barge, workboat, and offshore energy markets. GL, bolstered by its worldwide lead containership classification, is recognized as a top tier classification society. It is also the largest inspector of inland towing vessels in Europe.

Serving clients from the oil and gas sectors, shipyards, ship owners, designers and financial institutions across the wide spectrum of marine and energy industries, GL's workforce now amounts to more than 6,400 employees in 80 countries. Together with Noble Denton's technical and survey expertise which extends into many specialties, the two present one of the more diverse maritime services groups on the planet. The new partnership with BL widens that scope of service even further.

Leveraging Synergy: Everyone Wins

The strategic alliance commenced in August with a network of sales, administrative and field personnel deployed in key TSMS regions. *It works like this*: Baker Lyman will provide the TSMS Company/Vessel Assessment, TSMS Plan Creation, CORSAIR Towing Vessel Record, and annual TSMS Internal Audits. Germanischer Lloyd (USA)/ Noble Denton will provide TSMS Plan Certification, TSMS Audit & Survey Services, TSMS Vessel Reclassification, and TSMS Training through GL Academy.

The BL/GL relationship is contractual, although customers – according to their needs – will contract separately with each. That said, the two firms working together, are stronger. In this relationship, everyone wins. GL wanted to strengthen its domestic inland contacts and get better access to the U.S. brown water markets. BL had those contacts. Likewise, BL, well known in domestic maritime circles, yearned for the reach afforded by a major, global classification society. 200+ years of combined cumulative maritime experience is further bolstered by a cadre of more than 100 U.S.-based GL surveyors, who already possess Coast Guard recognition for certain alternative compliance program (ACP) duties elsewhere.

From the customer's perspective, it arguably gets even better. Leveraging the combined expertise of the two firms, a

full subchapter M solution is delivered. Inspections in this case would be done under the same sorts of agreements with USCG that COI's and TVE's, for example, would be conducted. According to GL's North American Vice President Ryan Bishop, GL's services are based on a tariff system. He adds, "Through this partnership, we are able to provide integrated service to industry at a reasonable price. The new service will provide an economy of scale for inland rivers operators, a savings that GL is happy to pass along as we help customers with planning and logistics." He went to describe a system where one surveyor could tackle a fleet over the course of many days, saving, time, money and transit expenses over individual assignments, done one-by-one.

Looking Ahead

GL's Bishop told *MarineNews* in August, "Customers can get ahead of the curve now and show that they are prudent operators." He added, "GL wants inland operators to know that there are other options." Putting real meat to those comments, Baker Lyman then announced in August the appointment of Tug & Barge Solutions, LLC (TBS) as the lead implementation manager for Baker Lyman's signature "RCP-TSMS Model Transition Plan". Simply put, the "RCP-TSMS Model Transition Plan" allows current AWO RCP companies to enroll into a statutorily certified TSMS process prior to the Sub-Chapter M Final Rule, according to Corinne Titus, Baker Lyman's CEO.

The new initiative, coupled with Baker Lyman's TSMS strategic alliance with Germanischer Lloyd and the CORSAIR Towing Vessel Record software, position BL as an attractive TSMS option for towboat operators. For its part, TBS helped to define not only the cost savings this package offers tugboat operators, but also put demonstrable function to a process that, today, many see as abstract. In other words, operators can now move forward with the transition to subchapter M compliance.

Rocky Marchiano, Director of Baker Lyman's Maritime Compliance Division, suggested that Baker Lyman will likely be the only option for AWO RCP enrollees for some time. To be fair, that remains to be seen. Coast Guard officials in August told *MarineNews* that, pre-subchapter M, not too many of the major classification societies showed real interest in the inland sector. Now, says the Coast Guard, that's changed. Hence, the BL/GL partnership might be first, but it is likely that many others will follow. After all, 5,000+ potential inspections beckon.

Still, Marciano is optimistic about his chances to garner a larger share of this market. He insists, "Since TSMS 3rd Party Recognized Organization applicants face a tremendous economic and legal challenge in order to gain USCG approval it's sensible to conclude that there will be few, if any, USCG approved TSMS 3rd Party RO's outside of Germanischer Lloyd and ABS." Marchiano adds, "Due to this probability, the Baker Lyman-Germanischer Lloyd TSMS Strategic Alliance will be left as the most affordable TSMS track industry-wide."

First out of the gate, and packaged in a turnkey solution that facilitates a logical TSMS transition plan, the BL/GL partnership is arguably good news at a time of real uncertainty for towboat operators. This and the high profile "RCP-TSMS Model Transition Plan" will likely spur more organizations – and more choices – into the mix. In the meantime, Coast Guard officials refuse to speculate on when the subchapter M rule might be finalized. Operators know only that it is coming. Fortunately, the solution may already be here.

Kvichak Delivers RB-M C to NYPD

Kvichak Marine Industries recently delivered the second 44.5' Response Boat Medium – C (RB-M C) to the New York City Police Harbor Unit. The first hull, P.O. Edward Byrne, has been in service since April 2010 providing maritime security and law enforcement along with search and rescue in the New York metropolitan area. A third vessel is currently under construction at Kvichak with delivery scheduled for late October 2012. These all-aluminum vessels are designed by Camarc Design, UK and powered by tier II compliant twin Detroit Diesel 60 series engines rated for 825 BHP each coupled to Twin Disc MG5114SC marine gears. Rolls Royce Kamewa FF375S waterjets are the chosen propulsion. The new vessels will be named at a special dedication ceremony to be held in New York. **Additional vessel features include:**

Overall length: 44.5'	**Top speed: >40 knots**	**Kohler 9kW genset for AC power**
Beam, overall: 13.7'	**(2) Rescue zones**	**Deck Heat**
Draft (RFS): 3.0'	**Vector-Stick integrated controls**	**Furuno Navnet system**
Fuel capacity: 495 gallons	**SeaFLIR Voyager III system**	**Redundant GPS & sounders**

Signal International Lands Contract to Build Largest Hopper Dredge

Signal International, Inc., has landed a $94 million contract from Great Lakes Dredge & Dock Corporation, (GLDD) to build an Articulated Tug & Barge ("ATB") Trailing Suction Hopper Dredge. The 15,000-cubic-yard-capacity Dual Trailing Arm Suction Hopper Dredge with a 14,000-horsepower tug is believed to be the first fully integrated ATB Dredge and the largest hopper dredge in the United States. The dredge barge dimensions are 410 ft x 92 ft x 36 ft (124.97m x 15.85 x 10.97m) with the tug measuring 150 ft x 52 ft x 36 ft (45.72m x 15.85 x 10.97m). The dredge will feature two 36-inch suction pipes and dredge at depths of up to 125 feet. The barge will have two electrically driven 800 horsepower tunnel thrusters. The tug will be classed ABS with A1, AMS, ACC, towing vessel unlimited notations. This ATB unit will be built to the USCG specification for Dual Mode ITB under NVIC 2-81. Both the tug and barge will be outfitted with an Articouple FRC 90 connection system. The ATB will be equipped with a direct high power pump-ashore system, a hybrid power sharing configuration between the tug and barge, dynamic positioning and tracking, EPA Tier III compliant engines, and additional proprietary features designed to minimize the impact of its dredging process on the environment. GLDD partnered with Ocean Tug and Barge Engineering Corp. for the design and engineering of the tug and with Bay Engineering of Sturgeon Bay, Wisconsin for the dredge.


Sulzer


Bowen


Huibers


Maitland


Moller


Salerno

Sulzer Nominated

Captain Arthur H. Sulzer, USN (ret) has been nominated by the Obama administration for the position of Member, Advisory Board of the Saint Lawrence Seaway Development Corporation. Captain Sulzer is a U.S Navy veteran whose assignments included Operation Iraqi Freedom and Operation Enduring Freedom.

Bollinger Appoints Bowen

Bollinger Shipyards has appointed Charles "Skip" Bowen to the position of Vice President Government Relations. Bowen joined Bollinger in April 2011 as Program Manager for the FRC "Sentinel" Class Patrol Boat building program at Bollinger's Lockport facility, following a 32 year career with the U.S. Coast Guard.

Huibers to Head Volvo Penta Americas

Ron Huibers has been appointed new president of Volvo Penta Americas. Huibers, currently President of Sales & Marketing North America within Volvo Trucks Americas, has been with Volvo Group for 20 years.

Maitland to Keynote SHIPPINGInsight Conference

Clay Maitland, managing partner of International Registries, Inc., which administers the Marshall Islands Ship Registry, will be the keynote speaker at the SHIPPINGInsight 2012 Fleet Optimization Conference, Oct. 8-10 in Stamford, CT. Maitland is founding chairman of the North American Maritime Environment Protection Association (NAMEPA).

Moller Appointed to NAVSAC

Jeffrey S. Moller, Blank Rome LLP Partner and Product Liability, Mass Torts, insurance Practice Group Leader has been appointed to the Navigation Safety Advisory Council (NAVSAC) as a member representing the viewpoint of the Maritime Law Association.

Salerno joins NAMEPA Board

The North American Marine Environment Protection Association announced that United States Coast Guard Vice Admiral Brian Salerno (Ret.) will join its Board effective immediately. VADM Salerno recently retired from the Coast Guard where he most recently, Salerno served as Deputy Commandant for Operations, U.S. Coast Guard Headquarters.

OilCareers.com Promotes Scott

OilCareers.com has announced the appointment of Karen Scott as the organization's Head of Marketing. Karen has over 15 years' experience working across a broad range of industries, with marketing roles at numerous international organizations.

UTEC Appoints COO

UTEC has announced the appointment of Brendan Ryan as COO. Brendan holds a BAI in Engineering and a BA in Mathematics from Trinity College, Dublin and a MBA from Texas A&M in Corpus Christi, Texas. He is also a Chartered Engineer from the Institute of Engineers in Ireland and will be based in UTEC's Houston office.

OMM Names Managing Director

Offshore Marine Management GmbH (OMM GmbH) has announced the appointment of Managing Director Klaus Klingelhöller to the company. Klaus joined OMM GmbH in early July of this year, bringing to the role over 25 years' experience of working within the renewables industry both on and offshore.

Austal Graduates Apprentices

Austal USA recently honored 15 graduates of Austal's cutting-edge four-year apprenticeship program yesterday at a ceremony held in the new Office Complex Multi-Use Room. The graduates received their certificates of completion and designation as Department of Labor Class A Journeymen. The graduating class consisted of 6 electrical journeymen, 4 pipe fitting journeymen, and 5 fabrication journeymen. Special recognition went to Bill Ray Stroup, Jr., as the class valedictorian, as he was presented with the "Ross Latapie Award of Excellence"; named in memory of Mr. Ross Latapie, a former apprentice.

Technifor Introduces TFG20 Fiber Gantry Laser

The TFG20 gantry enclosure is Technifor's latest laser marking solution. The table with X and Y axis numeric references, simplifies large batch marking and part serialization. This compact Class 1 laser enclosure sits on a bench or cart. The versatile 20W fiber laser marks a wide range of materials, including anodized aluminum, stainless steel and most plastics, and readily accommodates many shaped and sized parts. Technifor's T8000w software, specific for gantry marking, is easy to learn and operate. Once programmed, the onboard control panel simplifies file selection.

www.technifor.us

Monico Expands Expertise to Cummins Equipment

Monico has released a new product, the Custom Protocol Converter - Cummins Version, for monitoring of Cummins Equipment. For more than four years, since the launch of the CDL Gateway, Monico has been known for its exclusive ability to remotely monitor and control Caterpillar engines and gensets. Across industrial sectors, the company is recognized as CAT engine communication experts. Recently, through extensive field development, Monico has become more involved the world of Cummins engines as well. All capabilities come pre-configured for simple set up and use and can be customized using Monico's exclusive software, MoncioViewII.

www.monicoinc.com

Peerless Reintroduces the Sensata Klixon 6766-19 Series

Peerless Electronics Inc. stocks the Sensata Klixon 6766-19 series, a thermal circuit breaker manually switchable and ignition protected. It is ideally suited for rugged applications such as accessory and equipment protection for heavy equipment and marine equipment, as well as ignition protected applications. This roust, weatherproof circuit breaker is available in amp ratings from 35 through 150 amps.

www.peerlesselectronics.com/store/

Aker Selects Pemamek's Micropanel Welding Robot Line

Pemamek Oy Ltd was recently awarded a contract of Aker Philadelphia Shipyard, construction and delivery of a micro panel line. Commissioning in early 2013, the new modern micro panel line replaces the existing one, increasing the shipyard's productivity. Additionally, Pemamek Ltd contracted a yearly maintenance contract for the equipment and software for fully support in periodical maintenance and so enabling continuous production. The micro panel line utilizes high-tech Lincoln Electric Power Wave welding power sources and is based on Pemamek's patented Vision programming system, in this case equipped with two Motoman robots. The line is equipped also with a special welding floor type conveyor solution to make working on the line safer and to transport welded web plates smoothly.

www.pemamek.com

Jet Edge 90KSI Waterjets Cut Faster, Eliminate Taper

Jet Edge has introducing the Permalign EDGE taper control and bevel cutting technology and eco-friendly ECO-JET direct drive waterjet pump. The 90KSI (6200 bar) X-Stream-powered Mid Rail Gantry waterjet system features advanced closed loop filtration technology that reduces water consumption, eliminates the need for a drain and chills the water to extend component life. The Mid Rail Gantry, supporting multiple cutting heads, cuts precise zero-taper parts and bevels up to 55°. This system is designed to provide years of dependable service in harsh environments. Mirroring capabilities make it possible to cut part cycle time in half.

www.jetedge.com

Elastec/American Marine Acquires BoomVane Technology

Elastec/American Marine has acquired the BoomVane technology, expanding its range in the manufacture of innovative pollution control equipment. Developed and patented by ORC of Sweden, the BoomVane is an aquatic paravane system that enables oil recovery and debris containment booms to be towed by a single vessel, as well as to deploy booms in rivers and tidal waters without boats or anchors. Elastec/American Marine manufactures oil spill recovery equipment in North America with global distribution in 145 countries. Today, over 400 BoomVanes help responders to efficiently contain and deflect oil to protect sensitive shorelines.

www.elastec.com

PRODUCTS

PureDry Recovers 150 Tons of Fuel Oil

A newly installed PureDry, Alfa Laval's high-speed separator recovers re-usable fuel from waste fuel oil. The PureDry high-speed separator unit recovered more than 150 m3 of oil, returned same to bunker tanks for re-use. Waste fuel oil from settling and day tank drains, fuel oil filters and separators and diesel engines is separated from other waste oils and collected in a dedicated waste fuel oil tank. PureDry recovers the fuel oil fraction from the waste fuel oil and returns it to the bunker tank, reducing waste fuel oil by 99%.

www.alfalaval.com

Rugged, High-Quality Shore Power Devices

Hubbell Marine's USCG and ABCY approved, UL Listed 50 amp Twist-Lock shore power products are designed to deliver power in harsh conditions. Utilizing heat-resistant thermoset interiors and robust cord clamps, the 50 amp offering of inlets, plugs and connector bodies will stand up to whatever the weather dishes out. To seal out the elements, Hubbell Marine's 50 amp inlets employ a gasketed cover that closes when not in use. The nickel-plated contacts won't corrode and ensure a reliable electrical termination. Hubbell Marine's 50 amp devices come in 125 and 125/250 volt versions.

www.hubbell-marine.com

Pre-Engineered Fire Systems Use Unique, Safe Agent

Sea-Fire's pre-engineered NFD and NFG systems are automatically heat-activated, using 3M Novec 1230 Fire Protection Fluid. This non-toxic agent is the safest on the marine market, with zero ozone depletion and an extremely low Global Warming Potential (GWP) of just one.

Sea-Fire's pre-engineered systems protect areas from 25 cu. ft. up to 1,800 cu. ft., such as engine compartments, electrical control rooms, generator areas, paint lockers and lazarettes. Novec 1230 certifications include RINA, DNV, USCG, ABS and all major international approvals. Available worldwide, 3M backs its product with a 20-year Warranty.

www.sea-fire.com

Higher BN CYLTE CH Meets Slow Steaming Realities

Castrol has launched Cyltech 80 AW, an 80 BN (base number) cylinder oil. The Cyltech range has been developed for optimum engine protection in 2-stroke crosshead engines and specifically to match engine performance with the demands of varying sulphur fuels and the impact of slow steaming. Castrol says this premium product is the logical next step in assuring ship owners that the right lubricant is available to meet vessel needs in all operating conditions. The Cyltech brand now spans the 40 - 80 BN range and will be available from early June 2012.

www.castrol.com

Axiom Propellers Granted US Patent

Axiom Propellers has been awarded a US patent for its symmetrical blade design. The patent complements other international patents, giving Axiom Propellers worldwide coverage. The unique features of the Axiom Propeller include the shape of the blade with no twist with regards to pitch, its curvatures and diameters and the wake produced. The Axiom Propeller is suitable for yachts, workboats, ships and barges up to 150 feet, giving equal thrust ahead and astern, enhanced stopping power and a large reduction in prop walk while giving fuel savings of up to 15 percent.

www.axiompropellers.com

Nord-Lock Introduces Multi-Jackbolt Tensioners

The Nord-Lock Group offers a unique combination of bolting expertise and a wide product range, including wedge-locking solutions and Superbolt tensioners. The just released "Multi-jackbolt tensioners (MJTs) standard range" Superbolt catalog highlights one of the most innovative technologies available for tightening bolts & studs. MJTs offer simple and cost effective tightening, and have been proven in the field in every major industry, all over the world.

www.nord-lock.com

3rd Asst engineer

Job Location: USA, Cape May

Assist the Chief Engineer with the day to day operation of a 320 foot ferry vessel. Good benefits package.
Apply online at drba.net

Jim Gillespie
The Delaware River and Bay Authority
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N Cape May NJ 08210 USA
Phone: 609-889-7250
Fax: 609-886-1021
Email: james.gillespie@drba.net
Web: http://hyyps//:www.drba.net

Director of Maritime Division - JR 018134

Job Location: USA, Austin, Texas

Texas Department of Transportation

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Shipyard Superintendent

Job Location: USA, Brooklyn

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January
Training and Education

MARKET:
Passenger Vessels & Ferries

TECHNICAL:
Salvage & Response

PRODUCT:
Coatings & Corrosion Control

February
Bulk Transport Leadership Roundtable

MARKET:
Software for the Inland Operator

TECHNICAL:
Deck Machinery & Cargo Handling Equipment

PRODUCT:
Fire & Safety

March
Shipyard Report: Construction & Repair

MARKET:
Special Purpose Workboats

TECHNICAL:
Water Treatment & Technology

PRODUCT:
CADCAM / Design Software

REGIONAL FOCUS:
East Coast USA

BONUS DISTRIBUTION:
CMA Mar 18-20 Stamford, CT
AWO Mar 16-19 Washington, DC

April
Offshore Service Operators

MARKET:
Oil Spill Prevention & Response

TECHNICAL:
Satellite Communications for Workboats

PRODUCT:
Marine Propulsion Buyer's Guide

BONUS DISTRIBUTION:
OTC 2013 May 6-9 Houston, TX
Workboats Exchange Apr 1-4, FL

May
Combat & Patrol Craft Annual

MARKET:
U.S.C.G. Regulatory Update

TECHNICAL:
Pumps, Pipes & Valves

PRODUCT:
Outboard & High-Speed Diesel Propulsion

REGIONAL FOCUS:
Europe

BONUS DISTRIBUTION:
Seawork Jun 11-13 Southampton,UK

June
Dredging & Marine Construction

MARKET:
Shortsea Shipping / America's Marine Highway

TECHNICAL:
Newbuild & Repair Trends

PRODUCT:
Dynamic Positioning & Thrusters

THIRD ANNUAL MARITIME PHOTO CONTEST

July
Propulsion Technology

MARKET:
Training & Education

TECHNICAL:
Cellular Communications for Inland / Coastal Ops

PRODUCT:
Winches & Ropes

August
Salvage & Response

MARKET:
OSV Technology

TECHNICAL:
Workboat HVAC Systems

PRODUCT:
Marine Fuels, Lubricants & Additives

BONUS DISTRIBUTION:
Offshore Europe Sept 3-6 Aberdeen, UK

September
Workboat Annual

MARKET:
Marine Coatings

TECHNICAL:
ITB's & Pushboat Equipment

PRODUCT:
Diesel Engine Tech Guide

REGIONAL FOCUS:
Gulf Coast

BONUS DISTRIBUTION:
Int'l Workboat Nov 9-11 New Orleans, LA
OTC Brasil Oct 8-10 Rio de Janeiro

October
Manning: Recruitment & Retention

MARKET:
Workboat Designers

TECHNICAL:
On Board Comms / Handheld, Intercom & Headsets

PRODUCT:
Electronics & Navigation Trends

BONUS DISTRIBUTION:
SNAME Nov 6-8 TBA
Clean Gulf Nov 13-15 New Orleans, LA

November
Fleet Optimization Roundtable

MARKET:
Regulatory Compliance Equipment & Technology

TECHNICAL:
Inland Regulatory Update

PRODUCT:
Cutting & Machine Tools

December
Innovative Products & Boats of 2012

MARKET:
Construction, Special Operations

TECHNICAL:
U.S. Coast Guard & Maritime Security Workboats

PRODUCT:
Training & Education Facilities

BONUS DISTRIBUTION:
MARINTEC China Dec 3-6 Shanghai, CN

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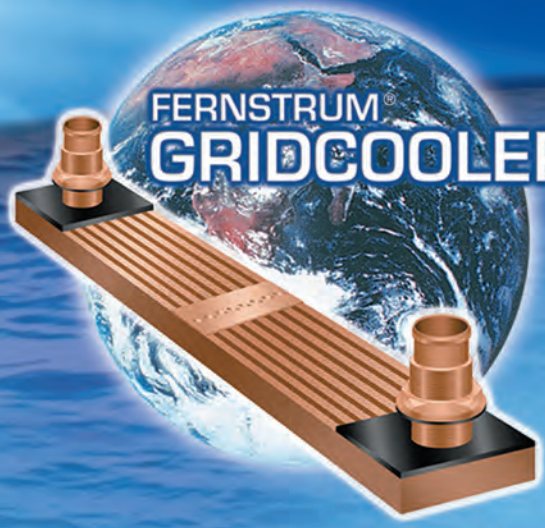

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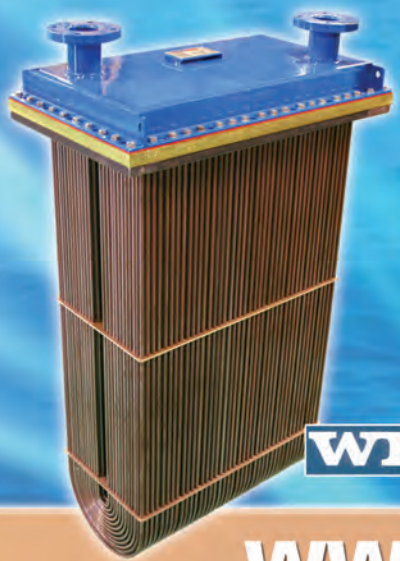

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