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Volume 27 • Number 4

Marine News

APRIL 2016

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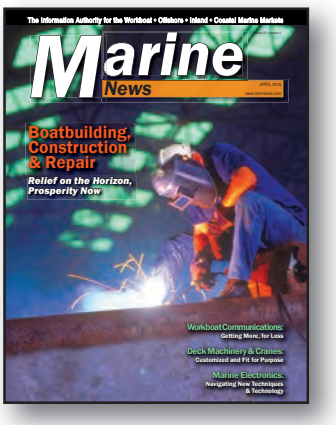
Features

ON THE COVER

Some sectors of the domestic boatbuilding industry have struggled of late, but according to at least one builder, it doesn't have to be that way. The story begins on page 28.

(Image Credit: Tradesmen International)



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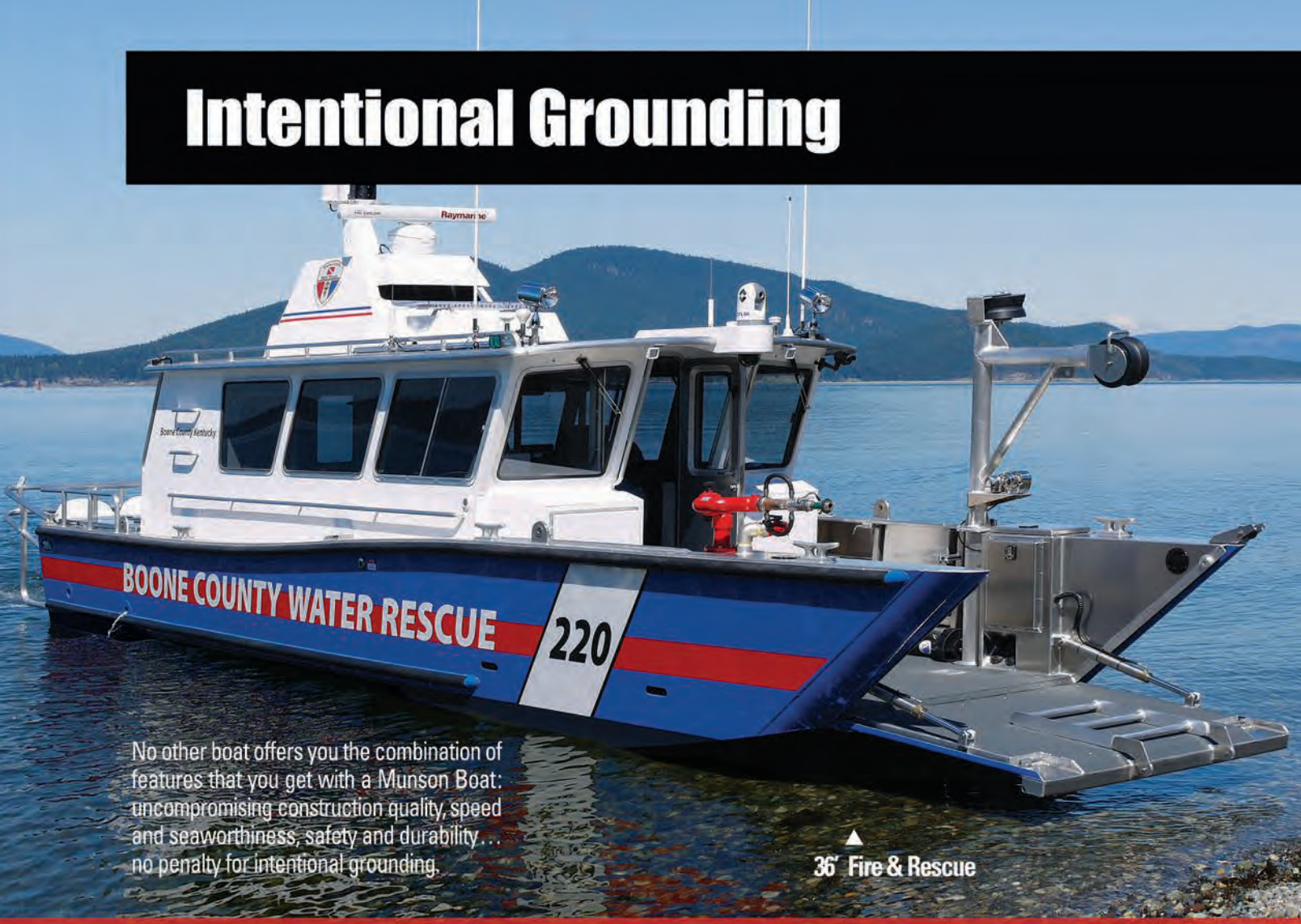

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(ISSN#1087-3864) (USPS#013-952)
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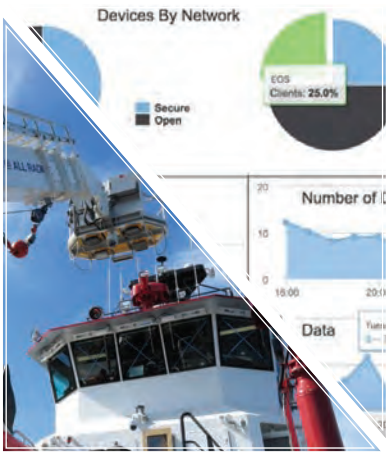

MarineNews (ISSN# 1087-3864) is published monthly (twelve issues) by Maritime Activity Reports Inc. 118 E 25th St. New York, NY 10010-1062. Periodicals Postage Paid at New York, NY and additional mailing offices. POSTMASTER: Send all UAA to CFS. NON-POSTAL AND MILITARY FACILITIES send address corrections to Marine News 850 Montauk Hwy, #867 Bayport, NY 11705.

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I am an optimist by nature. But, when it comes to boatbuilding, the central theme of this edition of your number one BPA audited circulation periodical in this genre, some might think that's a tough slog as we launch into the second quarter of 2016. Actually, not at all.

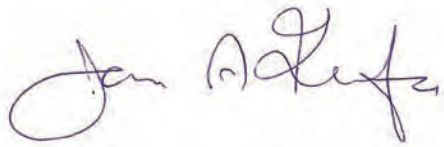
As this edition of ***MarineNews*** goes to print, the price of crude oil – West Texas Intermediate or Brent – was hovering in the neighborhood of USD $40. Depending on your frame of reference, that was the good news as the first quarter of a challenging business environment for the domestic waterfront came to a merciful end. For some Gulf Coast boat builders and repair yards, for example, and after enduring a year that saw the price of oil drop by more than $80, that's now of little consolation. For still others, it is valuable INTEL, but only one piece of their business puzzle. All of that said; there are many places beyond energy and offshore operations from which workboat builders can derive their profits. Those who plumb all available pipelines are more likely to survive the downturn than those who do not.

Imagine leveraging domestic and foreign customers, (federal and municipal) governments and commercial, recreational and workboat and municipal services alike, all in one boatbuilding portfolio. If that formula sounds pretty good, then that's because it is. In this edition, we explore the exceedingly diversified backlog portfolio of one such West Coast-based boat builder. North River Boats, a relatively new enterprise by maritime standards, began in 1974 as a largely recreational builder. Through managed growth and careful acquisitions, this Oregon-based firm has made sure that none of its proverbial eggs ever reside in just one basket. That story begins on page 28.

Staying with the boatbuilding thread of this edition for a little while longer, it likely won't be too much longer before it also won't matter which sector of the workboat market that you concentrate on. That's because the long waited, much anticipated comprehensive so-called subchapter M towboat rules are finally just around the corner. *Really.*

For domestic workboat build & repair yards, these new rules just may be the biggest boon to business since WWII when FDR decided to crank out Victory and Liberty ships, and the go-ahead was given to Higgins Industries to build landing craft and PT boats. That's because more than 1,000 operators, operating as many as 5,200 previously uninspected towing vessels (UTV) are looking at modifications, upgrades, and in some cases, complete replacements of existing tonnage. Your best look at the numbers comes in this month's edition of **BY THE NUMBERS**.

Actually, SubM is just one part of the equation. Tightening EPA Tier requirements for engines, more specific VGP standards and the specter of (okay – I'm just dreaming here) a final Coast Guard edict on Ballast Water Treatment equipment mean that drydock space at ANY yard will very soon be at a premium. I rarely make predictions. This month, I bring you the good news.



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Subchapter M: *Looming Large*

It can be argued that the "M" in Subchapter M stands for **money**. *Shipyards should take notice.* In the beginning, the Coast Guard and Maritime Transportation Act of 2004 established new authorities for towing vessels. On tap for more than a decade, SubM addresses 'uninspected' segments of the commercial inland industry. In reality, this segment is anything but uninspected. Operators, with the American Waterways Operators (AWO), insurers, lenders and classification societies, have for years addressed most issues to be codified under Subchapter M. At long last, through Notices of Proposed Rulemaking and public comment periods, the rulemaking package was accepted by the Office of Management and Budget for review on February 16. The OMB review will take approximately 90 days. The long-awaited rule will likely be published in the Federal Register before the end of the second quarter. What does this mean and what's it going to cost?

The rules promise improved safety, decreased risk of accidents and injuries, property damage and oil spills. If so, the cost is worth it. It is, however, going to be expensive. The AWO's RCP program has (at last count) 230 operators, representing as many as 1,500 self-inspected vessels, leaving many vessels that may not be in compliance. Passenger vessels have long been subject to similar inspections to Subchapter M. Maintaining a vessel's Certificate of Inspection (COI) in that sector is already prohibitively expensive.

As SubM kicks off, competition for available shipyard services could be fierce and costly. After the first two years of COI compliance, as much as 25% of the inland fleet will be up for dry-docking annually. *That number, plus existing dry-dock, inspection and repair demands, should make shipyards happy.* For larger, cash-rich operators, rising costs of increased maintenance, compliance, inspections and repairs might not present a problem. On the other hand and for smaller operators, it could signal the death knell. Data (dated, but still quite valid) derived in part from estimates put together for the Coast Guard from ABS and the Towing Safety Advisory Committee (TSAC), *By the Numbers*, is therefore illuminating.

Just three years ago, ***MarineNews*** contributor Gary English reported that an estimated 1,059 operators, representing 5,208 vessels, would incur significant costs from implementing and maintaining compliance with Subchapter M. The phase-in period will be particularly difficult. Early in the Subchapter M process, the TSAC Economic Analysis Working Group (EAWG) and the ABSG issued reports detailing costs to the towing industry concerning the implementation of Subchapter M. **Table 1** presents the requirements and costs as identified by the TSAC EAWG of the new costs that would be incurred in order to bring a company with an existing SMS into compliance.

Large companies will spend more to implement and maintain an SMS, but the cost to a smaller firm will be more difficult to absorb. Additionally, each operator would have to consider additional costs associated with compliance. There will be new costs for dry-docking vessels. Tables 1 – 4 provide a brief summary of other potential time and costs associated with implementation. Remember that these numbers were put together more than five years ago. Rarely do costs go down over time.

It is possible that a number of vessels and entities will not survive the implementation of Subchapter M, despite a generous phase-in process. Additionally, the cost of Subchapter M will almost certainly be passed onto the customer either in the form of increased rates. It is finally time to pay attention – subM is coming. Are you ready?

SubM impact at a glance …

25:	Percentage subject to significant economic impact (>1% or revenue) in years 1 & 2.
33:	Percentage of existing companies (attrition) that may cease to exist as a result of subchapter M.
92:	Percentage of these companies that are small business (SBA 500 or fewer employees).
100,000:	Minimum estimated cost in USD to start an SMS from the ground up.
153 Million:	Estimated eventual cost in USD to industry.
256 Million:	Estimated benefit to industry in USD as a result of subchapter M.

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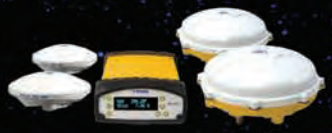

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Mechanical seals to facilitate dry bilges	$40,000
Electronic charting/AIS interface (Wheelhouse)	$1200 – $9700
Electric start/stop E/R equipment - Wheelhouse	$4500
CEMS specific:	
Noise reduction (additional insulation)	$1000 – $30,000
Blackout shades and green lighting	$1000
RCP third-party auditing/monitoring cost	$1800 – $5000
Total	**$76,200 – $143,700**

Table 1 *(800 – 2000 hp towing vessels)*

Company Size	Towing Vessels	Audit Team	Cost Plus Expenses	Audit Time (Days)
Small	<10	1 or 2	$2,500-$3,500	1.5
Medium	10 – 20	1 or 2	$3,000-$6,000	1.5 – 2.5
Large	>20	2	$4000 to $6000	2.0 – 3.0

Table 2 – *Cost & Time of Third-Party Audits of a Company SMS*

Size of Vessel	Length of Vessel	# of Auditors Per Vessel	Cost Plus Expenses	Days to Complete
Small	<65 feet	1	$1,000 - $2,500	1.0 - 1.5
Large	≥65 feet	1	$1,000 - $3,000	1.0 - 1.5

Table 3 – *Cost & Time for Towing Vessel Audits*

Category	Potential Per Vessel Range of Unit Cost to Comply with Standard
Hull and Machinery	$69,500 – $297,000
Navigation and Communication	$9900 – $38,950
Pollution Prevention	$16,020 – $125,600
Life-saving	$4716 – $11,859
Firefighting	$2,055 – $72,065
Total	$102,191 – $545,474

Table 4 – *Existing UTVs (Constructed prior to effective data regulation)*

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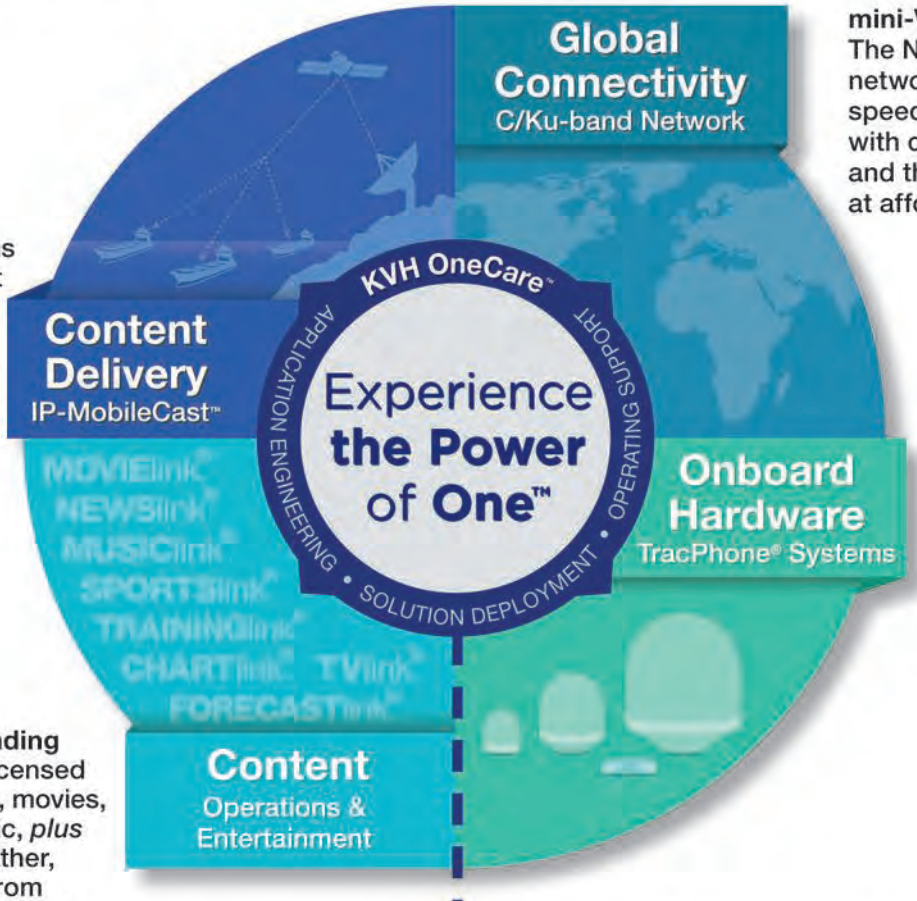

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President and CEO, Vigor Industrial LLC

For nearly two decades, Frank Foti has led Vigor's transformation from a single, struggling shipyard to a thriving, increasingly diversified industrial company with 2,500 employees, 12 locations and approximately $700 million in annual revenue. According to Vigor, Frank often describes his motivation in three words: "Industrial Jobs Matter." Committed to improving long-term, family-wage job opportunities workers and their families and communities, Foti and his management team have, over time, has worked to strategically expand and diversify the company, investing in training facilities and infrastructure along the way. Also according to Vigor, the firm has endeavored to partner with organized labor to develop the firm into a company driven by four core values: truth, responsibility, evolution and love. Under Frank's leadership, Vigor's annual revenues have grown from $80 million in the late 1990s to about $700 million today. At the same time the company has diversified to offer shipbuilding, blasting and coating, machining and advanced fabrication services at locations including Ketchikan and Seward, Alaska, Portland and Clackamas, Oregon, and Port Angeles, Everett, Tacoma, Vancouver and Seattle, Washington.

This month, the charismatic and enthusiastic Foti weighs in on the domestic shipbuilding scene during a time of challenges for the entire maritime cluster. Listen in as Foti tells it as only he can do:

Give the readers your broad stroke view of the shipbuilding markets today.

In two words: absolutely challenging. A large portion of US shipbuilding is driven by oil exploration. Few new vessel orders are being placed, vessels options have largely been canceled, and we have a glut of ships tied up waiting for work. That said; there are still some bright spots in certain niche markets. Ferry construction is strong. Vigor itself is currently building six ferries; two Alaska Class ferries, two 144-car ferries, and two all-aluminum 400-passenger only ferries. Patrol boats are another bright spot and Kvichak, our newest member of the Vigor family, is doing well in that sector. The fishing vessel market is waking up and while we are seeing signs of slowing in the tug and barge market there is still business to be had.

Where are we headed tomorrow?

Before the price of oil rises and exploration is resumed, it's likely the industry will see more consolidation.

How much has the energy crunch hurt backlogs?

There is no doubt the energy crunch has significantly eroded backlogs for shipbuilding in the U.S. and abroad. On a recent trip to Oman, Keith Whittemore, our EVP of

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*U.S. patent #9,145,280

business development, observed bulkers being converted to tankers for oil storage. This is happening everywhere.

Can you give us a sense of your backlog? How deep is it and how far out does it extend?

Vigor is a diversified company with the critical mass needed to provide stability for our workforce. 45% of Vigor's business is in ship repair, 40% in shipbuilding, and 15% in non-marine fabrication. Our non-marine business is growing, our ship repair business is expected to grow slightly from last year, and our shipbuilding backlog ranges from 1.5 to 3.5 years depending on the location. If and when the market for shipbuilding rebounds, we will be there.

We're arguably at the backend of one of the longest upswings in the U.S. newbuild markets that domestic yards have seen in many decades. But, this has always been a cyclical industry. That said; when do you see the pendulum swinging back up again?

I wish I had that crystal ball but I suspect we are a ways away. Likely a few events will need to take place before we see a significant swing of the pendulum. The price of oil will have to rise and oil reserves decline. Vessels currently tied up waiting for work will need to be back in service and new exploration will have to resume.

Recruitment and retention in shipyards is a big issue today. Tell us a little about your human resources philosophy. Is it yielding fruit and where do you see the biggest demand for personnel from your perspective?

At Vigor, it's all about understanding what our business needs are today and anticipating what it will need as we evolve. There is no question that finding skilled workers is a challenge so we've invested heavily in workforce development. In both Seattle and Portland, Vigor has partnered with Community Colleges to open training centers to create a pipeline of workers with the right welding skills for shipyard work. We provide space and tools and subsidize the salaries of the instructors, while the colleges administer the courses – including admissions – and issue certificates. Vigor provided input to help adapt the college's existing welding curriculum for shipyard work. In 2014 we began working with the Alaska Workforce Investment Board (AWIB) and the University of Alaska Southeast Ketchikan Campus (UAS-Ketchikan) to create an industry-led training program tied into our Ketchikan yard. All three of these programs provide the specific training necessary to help students land family wage jobs at our shipyards or other area employers. In addition we provide internships and support high school programs. Within Vigor, we provide on-the-job training, and we use our more experienced craftsmen to mentor and train. We are constantly developing internal talent and have training programs in place that cover employees from the shop floor to executive leadership.

What percentage of your work involves newbuild and what percentage is repair?

A few years ago, 80% of our business was ship repair. Now, thanks to our growth and diversification efforts, 45% of Vigor's business is in ship repair, 40% in shipbuilding, and 15% in non-marine fabrication.

Describe the Vigor portfolio of shipyards. How many do you have now and where are they located?

We now have a total of 12 facilities. Our Swan Island facility is a full-service yard in Portland, Oregon. This is where our new Vigorous drydock is located and is also our corporate headquarters. Our Clackamas facility (also Oregon) is primarily devoted to both marine complex fabrication and non-marine work. We perform a large amount of our non-marine fabrication in Vancouver, Washington. We have four facilities in the Seattle area, our Harbor Island yard which is a full-service yard; our Ballard location home to Kvichak's specialized aluminum workboat production facility; a state-of-the art metal processing facility in South Park; and an additional aluminum production facility in Kent for high performance vessels. We have four additional marine repair facilities in Washington located in Tacoma, Everett and Port Angeles. Alaska facilities include the full-service yard in Ketchikan and the repair yard in Seward.

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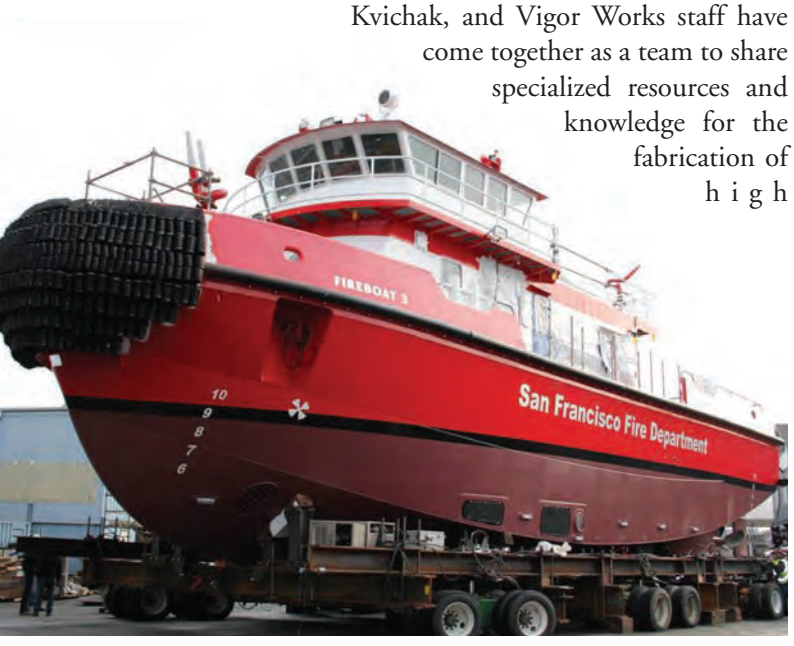
Your recent and robust expansion and acquisition program arguably has Vigor not only well diversified in terms of portfolio and capabilities, but also in terms of geographic reach. How is all that – the integration – and leveraging of different strengths coming together?

It's hard, and it's coming together in a wonderful way. In the work we do, in virtually all locations, every project is unique. Sure, we've had a few production runs of components or vessels, but production fabrication it is not. With nearly half our business being in ship repair, we figure things out as "ship happens." So, we place a premium on thinkers and doers who can approach every job, every day, with a "child mind plus." Child mind in the sense of looking at every situation fresh and on its on merits. "Plus" for drawing on the database of prior experience and seeing where that knowledge can be used to make things better. On our good days, we take the best of what our experience brings without bringing in the rigidity that comes from thinking that you already know. The cross-pollination of ideas, project planning and advanced manufacturing skills is exciting. We are much better builders/repairers today and expect to be even better in the future.

Give us an example of how synergy from yard transfers into better production and quality in another, within your portfolio of ship and boatbuilding facilities.

Probably one of the most significant synergies has been the collaboration of former Kvichak and the former Oregon Iron Works staff into the leadership ranks of Vigor's existing fabrication operations. Vigor, Kvichak, and Vigor Works staff have come together as a team to share specialized resources and knowledge for the fabrication of high performance military vessels, barges, ferries, and virtually everything we build.



Your new dry dock has arrived and now gives ship owners – foreign and domestic alike – more choices on the U.S. West Coast. How much traffic have you seen and is the dry dock being utilized to its maximum extent possible?

Since going into service in our Portland shipyard in November of 2014, Vigorous has been consistently booked, supporting hundreds of jobs and attracting work which could not have been done in the region without a drydock of its size. Repair work has included both military and commercial vessels, including two cruise ships. Following the acquisition of the dock we call Vigorous, we also invested significant funds to upgrade and transfer one of the Portland drydocks to our Seattle facility. The work performed will extend the life of the upgraded drydock for another 20 years.

What is the capacity of that dry dock?

Vigorous is 960 feet long by 186 feet wide with a lift capacity of 80,000 long tons. The added width of the dock has provided a lot of efficiencies for hull and fin stabilizer maintenance and our cold ironing capabilities have been very attractive to customers.

The domestic fishing vessel market is finally – after decades of malaise – perking up a bit. Are you targeting that market and do you have any of that business?

Yes, we are in active development of products and projects for the North Pacific fleet. These run the gamut from smaller aluminum fish boats to large factory processors. Our teams know how to build for the North Pacific and understand the needs fisheries in our region. In fact, Kvichak got its start back in 1981 building fish boats and has continued to do so for 35 years.

U.S. yards increasingly are finding ways to build competitively (against foreign yards) in certain niche sectors and in some cases, are exporting hulls to direct sales to governments and the private sector. This typically occurs in the OSV size and smaller. Does Vigor build for foreign clients and/or export new build hulls?

Yes. Vigor is exporting new builds in the military and some niche commercial markets. We recently delivered two pilot boats to the Port of Duqm in Oman, and over the years we have successfully delivered boats to Chile, The Netherlands, Russia, Canada, Nigeria, and Brazil. We currently have other military and commercial orders under active negotiation.

The Master's Authority: a Vital SMS Caveat

As safety management systems (SMS) on board vessels evolve, the vessel's master still holds ultimate authority.

By (Captain) Katharine Sweeney

Sweeney

Subchapter M is finally underway. A starring role in this new CFR is a safety management system onboard all vessels. While this system dictates how the vessel is to be operated and under what parameters, a key principle of any SMS is that the Master has the authority and the responsibility to override the SMS when safety of the crew, the vessel, or the environment is at stake.

There are hopefully good (and well documented) reasons why a company has chosen a particular individual to be master of its vessel and entrusted him or her with the capital asset, and capital liability, of the company. The master is the individual responsible for the overall operation of this vessel while underway or tied up to a dock. While the company has provided an SMS, there is no way the company could anticipate every situation that could arise on a vessel. That is where the master's authority comes into play.

Master's Authority Defined

Straight out of the International Safety Management (ISM) code, from its very inception, is the concept of the master's responsibility and authority. According to the code, the company should clearly define and document the master's responsibility with regard to:

1. ***implementing the safety and environmental protection policy of the company;***
2. ***motivating the crew in the observation of that policy;***
3. ***issuing appropriate orders and instruction in a clear and simple manner;***
4. ***verifying that specified requirements are observed; and***
5. ***periodically reviewing the SMS and reporting its deficiencies to the shore based management.***

The code also states that a company "should ensure that the SMS operating on board the ship contains a clear statement emphasizing the master's authority. The company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the company's assistance as may be necessary." These are strong words that inspire a certain pucker factor, as they call to mind any number of potential underway emergencies.

Also, and no less important, the code also requires that a master be: properly qualified for command, fully conversant with the company's SMS and that he/she be given the necessary support so that the master's duties can be safety performed."

Imagine a master being required to get approval from the office prior to responding to an emergency situation. Imagine, this same master not being able to reach the office to get this approval. An example would be the master wanting to engage the salvage tug prior to hitting the rocks. The master's authority is an extremely important caveat all companies must spell out in their procedures. The master must understand this basic tenet, how it works, when to use it, and any further action that is required incase this tenet is used.

Far better for a master to explain his or her actions to the company, then at a formal USCG hearing. As a currently licensed master mariner, a company may choose to no longer employ me as master because of my actions. However, if I have the same conversation with the USCG, my license may be at stake, at which point the option of working for the same company, or any company for that matter, as master may be mute.

The View from AWO and the RCP

The AWO's Responsible Carrier Program is not silent on the matter of the Master's Responsibility. The RCP stipulates that policies and procedures outlining the safety of the towing vessel are *the responsibility of the master.* The master is responsible for compliance with applicable local, state, federal, and international regulations and with the vessel's SMS. The master must review of the contents of the vessel's SMS and report non-conformities to shore-base management, and ensure supervision of all persons onboard in carrying out their assigned duties. The company must outline the details of the master's reviews, including elements such as the frequency, scope and reporting requirements of non-conformities.

Another requirement of the RCP is to include a procedure underlining that nothing in the safety management system applicable to the vessel shall be misinterpreted in a manner *that limits the master or mate of their own responsi-*

bility taking such steps as he/she deems necessary and prudent to assist vessels in distress or for other emergency conditions. In addition, that master has the ability to request the company's help when necessary and that the overall safety of the towing vessel is the responsibility of the crew. The crew is required to comply with the SMS and applicable regulations. The crew must also report unsafe conditions to the master and take action to prevent accidents.

One might think that this requirement is so basic that it does not need to be spelled out. That said; it needs to be spelled out so that all individuals employed either ashore or afloat in the company understand – be it the CEO, the Vice President of Operations, down to the ordinary seaman – the idea that the policies and procedures of the company are in place, but by no means undermine that the master is in charge, and may be required to use his or her discretion. It is the ultimate responsibility of the master to ensure overall safe operation of the vessel, even if this is at odds with the company, port engineer, vessel manager or terminal operator.

Crews working on board must also understand this basic concept. At the end of the day, the master is still the master. Policies and procedures are often written ashore, sometimes without proper vetting. All crew members must understand that they are responsible for adhering to these policies, but also responsible for their own safety, as well as the safety of the vessel, regardless of the procedures – as this goes hand in hand. Even properly vetted procedures might not cover all aspects of an operation, or nuances. And that is where the Master's Authority, as well as the crew empowerment, comes into play.

While the ISM code is generic in nature, and just indicates that the SMS must spell out the Master's Authority, the RCP defines it in more detail, and requires that masters and crew receive training regarding the Master's Authority. This is important training, as the subject matter is really the keel of any successful SMS. Routine review of the Master's Authority, with each master employed at the company, as well more generic training to all crews, at designated intervals, is also required by the RCP to be spelled out in your procedures. Consider requiring any instances the Master's Authority was utilized by a master to be included as part of the master's review of the management system (again, required by all masters at designated intervals).

Realize that there is much more to training than relying what the U.S. Coast Guard spells out as required on a rating's credential. The credential is just a start, a baseline minimum. There is training specific to a company's operation, and then there is the familiarization of the vessel and its equipment on board. The RCP is a good place to look as to what other company specific training should be included at new hire orientations, as well as designated interval training for the fleet. Validation of the training, as well as continual evaluation of the crew members employed on board, all go hand-in-hand to ensure all vessels are operated safely, for the safety of crew, for the safety of the vessel, and the safety of the environment.

Compliance Maritime

Captain Katharine Sweeney *is CEO of Compliance Maritime, provider of independent internal auditing of security, safety, quality and environmental management systems for vessel operators. Captain Sweeney is an experienced Master Mariner, safety expert and federally licensed pilot with over 25 years in the Maritime Industry. Contact her at ks@compliancemaritime.com*

How the Political Climate Impacts OPA 90 Responder Immunity

By Steven Candito

Candito

Many people today are frustrated with the current US political process as we endure various government stalemates on budgets, Supreme Court appointments, and, of course, the Presidential election. The general theme is voters are angry with the political establishment and, as a result, outsiders like Donald Trump and Bernie Sanders are doing well in the polls. Much of this anger is directed at the influence big money donors and lobbyists have over the process. Thus, Trump who has committed to self-financing his campaign and Sanders, who has grassroots support having sworn off Wall Street money, are both doing much better than most would normally expect. Perhaps not surprisingly, we have a similar dynamic occurring with the Oil Pollution Act of 1990's (OPA 90) responder immunity provisions.

As most in the industry are aware, immediately following the explosion on the Deepwater Horizon in April 2010, emergency response vessels rushed to the rig to save lives and begin the lengthy process of cleaning up the ensuing oil spill. Despite these valiant efforts to mitigate the environmental impact of the worst oil spill in U.S. history and OPA 90's responder immunity protection, these cleanup responders were "rewarded" by being sued and are still entwined in complex and protracted litigation.

In a positive development on February 16, 2016, after five years of litigation and millions of dollars in legal fees, the court dismissed most of the claims against the cleanup companies. However, the case is not over and legal fees continue because the ruling allows 11 claims to proceed. As a result, cleanup companies are still hesitant to engage in response activities in light of this liability risk.

Previously, in an effort to minimize the chilling effect of the suit's filing, a group of concerned industry members formed a Coalition. The Coalition has worked to develop a legislative amendment to OPA 90 that protects responders, still allows injured parties to be made whole, and does not increase Responsible Party (RP) liability since they are already responsible under current law.

Interestingly, the February 16, 2016 decision makes no reference to OPA 90's responder immunity provisions. OPA 90's responder immunity has several exceptions for claims based on actions such as gross negligence or personal injury. Since the claims against the cleanup responders in the Deepwater Horizon suit were for personal injuries and there were claims of gross negligence, OPA 90's responder immunity terms never really came into play.

Without the benefit of OPA 90's responder immunity, the judge looked to other well established immunity concepts and determined that the cleanup responders, who acted under the orders of the Federal On Scene Coordinator (FOSC) were entitled to "derivative" immunity pursuant to other federal laws including the Clean Water Act and Federal Torts Claims Act, provided the cleanup responders actions were consistent with the FOSC's instructions. Although most of the claims were dismissed because the plaintiffs never provided even very basic information that the cleanup responders did not follow the FOSC's orders, the 11 remaining plaintiffs that provided this minimal information can still proceed with their claims.

The decision is certainly significant and beneficial in that the court found private parties with no contractual relationship to the government are entitled to the government's immunity, provided such actions were consistent with the government's instructions. Very importantly, the decision recognizes that private parties who work with government employees may think twice about doing so if they are not afforded the same protection.

It's helpful that the court recognized this risk that responders may hesitate to act for fear of liability, but the decision does not solve the problem and encourage responders to act. While this ruling is favorable generally, it does not accomplish what the Coalition set out to do when cleanup responders' potential liability for "exposure" to oil and dispersants first arose in the litigation. More specifically, the Coalition is continuing its effort to amend OPA 90's responder immunity provisions to exclude "exposure" claims from OPA 90's personal injury exception. Without this type of more direct protection, cleanup responders are still at risk of at least incurring substantial legal fees defending themselves, even if they are ultimately found not to be responsible.

Perhaps most importantly, the court decision does not provide sufficient protection for cleanup responders to act immediately without considering the liability risks. This decision is certainly better than the prior uncertainty, but the ruling does not provide protection for responders that are not acting directly for the government, which is probably the case in most spill responses. Even on larger responses, where the government is clearly "directing" the re-

sponse, cleanup responders are still likely to hesitate while evaluating whether the benefits of responding outweigh the very significant legal cost and management distraction risks, if a particular response has the potential to result in substantial legal actions against them.

The Coalition's proposed legislative fix is simple and straightforward. It provides that responders would not be liable for "exposure" claims related to the spilled oil or dispersants that may be used during a response. It also discourages frivolous suits by establishing a presumption that response actions do not constitute gross negligence and requires claimants who are found to have filed meritless claims to pay attorneys fees.

Unfortunately, because of some minor, but politically influential lobbying organization opposition, the Coalition's proposal has not made it to a Congressional vote. There has not been a vote despite strong support from most interested parties including big oil, environmental organizations, and, of course, the response community that would directly benefit and no longer hesitate to respond. Specifically, the lobbying organization objected to the Coalition's proposal due to concerns that the exception for "exposure" claims would potentially expand RP liability. However, as previously noted, the RP is already responsible for any such damages.

Once again, we have the legislative process being stymied by a well-funded lobbyist acting for a vocal minority, rather than a needed legislative solution being implemented that the vast majority prefers. One can only hope that the outrage that many are expressing about our current political climate as evidenced by the oddities in the ongoing Presidential election will trickle down to this important issue. If not, we may not be able to count on the response community to respond immediately when the next calamity hits.

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Support for Uniform National Discharge Legislation Builds

AWO Pushes VIDA as the solution to the confusing patchwork of federal and state regulations that makes compliance unnecessarily complicated and costly.

By Joseph Keefe

Keefe

Even as the ballast water treatment issue becomes more and more confusing – both here and abroad – a united coalition of maritime stakeholders has expressed strong support for S.373, also known as amendment number 3170 (for the current energy bill). The law, known simply as the *Vessel Incidental Discharge Act* (VIDA), would establish a nationally uniform and environmentally sound standard for ballast water and other vessel discharges, in lieu of the current overlapping patchwork of federal and state regulations that makes compliance complicated, confusing and costly. The ongoing effort is the product of seven years of work spearheaded by the American Waterways Operators (AWO).

Today, regulations from the U.S. Coast Guard, the Environmental Protection Agency and as many as 25 individual states have spawned more than 150 state-specific requirements. Backing the unified AWO approach include nearly 60 organizations representing U.S. and international vessel owners and operators; fishing vessel, passenger vessel and charter boat operators; labor unions; industries that rely on marine vessels to transport essential cargoes in domestic and international commerce; marine terminals; and port authorities. Separately, (identical) companion legislation was also introduced in the House of Representatives in August of 2015.

AWO Vice Chairman James Farley, President of Kirby Offshore Marine, explained at a Senate Commerce Committee hearing last February, "The problem is not that vessel discharges are regulated; it is how they are regulated. The current unclear and inconsistent regulatory system makes compliance confusing and investment decisions uncertain."

In October, the U.S. Court of Appeals for the 2nd Circuit ordered the Environmental Protection Agency to reassess the standard to which it requires vessel operators to treat ballast water to prevent the spread of invasive species. EPA's current ballast water treatment standard, which is aligned with the Coast Guard's, is widely believed to be the most environmentally protective standard that can be achieved with existing commercially available technology. But, the recent ruling adds further uncertainty to an already untenable situation for vessel operators, and reinforces the need for Congressional action to fix this broken regulatory regime.

SITREP: VIDA

In March, ***MarineNews*** caught up with Craig Montesano, AWO's Vice President for Legislative Affairs, who provided a close-up on the progress of VIDA inside the Beltway. Montesano, in two decades of experience in field of government affairs, has served in positions in the legislative and executive branches of government and in the energy industry, including the office of Congressman Frank A. LoBiondo and NOAA. Arguably, his work on the Hill on behalf of AWO stakeholders is his most important assignment ever.

AWO had hoped to get the VIDA language placed into the Coast Guard Authorization Act. But, that didn't happen. As ***MarineNews*** was going to press, AWO had set their hopes on the Energy Bill. Montesano explains, "The problem there was simply time. And I think that there was a desire on a lot of our supporters to bring the Coast Guard bill to the floor and move it along that way." Beyond that, he admits, "Since VIDA is a somewhat controversial issue, it necessitated basically pulling VIDA out of it and letting the Coast Guard bill proceed without it. So, a tactical setback, but the plan moving forward had always been let's try to attach VIDA to any piece of viable legislation that is going to be moving from the Senate – that's how the energy bill figures into this. We see a real opportunity to attach the VIDA amendment to that bill and push it out of the Senate that way."

Defining VIDA

When it comes to defining what exactly VIDA will accomplish, Montesano distills the entire process down into one neat package. "The purpose of VIDA is to enact a single, national standard for the regulation of ballast water and other vessel discharges. That's important because it provides a regulatory certainty, number one, for our members who build new vessels. And right now, the uncertainty that comes with the building or even the refitting processes, if I install a ballast water treatment system, will that system be acceptable wherever this vessel calls?"

Unsuccessful in using the Coast Guard Authorization bill, and now, trying with the energy bill, Montesano is confident that the VIDA language will pass at some point during this session of Congress. He adds with enthusiasm, "We're very optimistic about our chances. We have the support of several key figures in Senate leadership on both sides of the aisle, and we'll be working with them and our cosponsors to push this forward, but we're feeling very, very good."

Meanwhile, back on the local level, progress is also being made. And, that's important because just because the federal government passes a statute doesn't mean that the states won't chafe under its yoke. According to Montesano, New York sent a letter to EPA that endorses the idea of a national standard. Separately, California, late last year, actually enacted a long-term delay of implementation of its ballast water standard. And, Montesano insists, "We believe that the California – what California did last year, in essence, made the closing argument for the need for a national standard."

Beyond the need for a uniform standard, AWO says that the bill will save the taxpayers a lot of money.

Montesano explains, "Precisely. There's really no need for duplicative federal regulations. In fact, there's an attorney who works for the American Maritime Partnership who, having done a survey of federal regulations, is convinced that this is the only instance where you have two federal agencies regulating the same thing." Asked who would ultimately be in charge of a uniform standard, Montesano responds without hesitation, "That's an excellent question and VIDA does define that. Under VIDA, the Coast Guard would be responsible for – in consultation with EPA – for developing and implementing the standard and enforcing it." He went

"The purpose of VIDA is to enact a single, national standard for the regulation of ballast water and other vessel discharges. That's important because it provides a regulatory certainty, number one, for our members who build new vessels. And right now, the uncertainty that comes with the building or even the refitting processes, if I install a ballast water treatment system, will that system be acceptable wherever this vessel calls?"

Craig Montesano,
AWO's Vice President for Legislative Affairs

The American Waterways Operators

on to tout the value of including EPA expertise on the ballast water and vessel discharge regulations. "You don't want to lose that expertise, but at the same time, dual federal regulation is not a construct that works. So the lion's share of the implementation would be on Coast Guard – as well as enforcement – and we think that since they are the maritime agency, that they are best-equipped to handle that."

He continues, "It is also worth mentioning that the second circuit remanded VGP back to EPA, and so that certainly raises the potential of EPA redeveloping its VGP in such a way to exacerbate the problem of two federal agencies regulating the same thing."

State's Rights: in the Mix

Ending the federal question, however, doesn't necessarily prevent states from pushing back. We asked Montesano what would happen in the case of legal action on the part of an individual state, post-enactment of VIDA. "My 'crystal ball' is no more clear than anybody else's, so I wouldn't want to get into the business of predicting what might happen after the bill is signed into law, but to go back to your original premise, for us, this is definitely an interstate commerce issue. The patchwork of regulations potentially impairs the ability of our members to deliver goods from point to point in a low-cost manner."

Addressing the issue of disagreements directly, he added, "The states still do have a role – first of all, they can petition for a higher standard, and if the Coast Guard determines that that standard meets the necessary criteria, they could nationalize a state standard. So there's that. Second of all, there's a lot of latitude for states to work with the Coast Guard in developing vessels' discharge regulations in ways that are tailored to the concerns that states have for their water. So whether it's biofouling in Hawaii, other concerns in another state, there is that latitude ... it gives them an avenue to petition for a higher standard and to work with the Coast Guard in developing sensible and state-oriented vessel discharge regulations." Because of that, support for VIDA is building.

At AWO, they are confident that the end of the legislative process is near, and that means the beginning of the "problem solving" can begin. And, that's good news for everyone.

Manage and Mitigate Risk on the Water
Strengthening Your Marine Insurance

By Tracy Markowski


Markowski

Early in the morning on August 29, 2005, Hurricane Katrina struck the Golf Coast of the United States. Hurricane Katrina was the worst insured loss event in the history of insurance anywhere in the world. It was bigger than 9/11. It was bigger than the earthquake and tsunami in Japan. Hundreds of thousands of people in Louisiana, Mississippi and Alabama were displaced from their homes. Barges were picked up by the waves and slammed onto shore, while some were moved so far inland that they ended up on top of freeways. Levees broke and flooded the streets, causing nearly 80 percent of the city to be under water. Experts estimate that Katrina caused more than $100 billion in property damage alone.

Hurricane Katrina is an extreme example of disastrous effects that severe weather conditions can have on many things and in particular on the marine industry. But Katrina is not the only example. In the midst of winter, El Nino is proving to be the strongest on record. Workboat owners need to be thinking about winterizing their insurance programs to protect themselves against costly damages. As weather patterns begin to fluctuate, workplace hazards increase, especially on a workboat. High winds destroy ships, storms and hurricanes cause flooding, and icy docks put workers at an increased risk for injury. Regardless of the size of the storm, dangerous weather conditions can have negative affects for workboat owners and seamen.

Among the unforgiving effects that weather can have on a vessel, the first is property damage. Harsh winds and rain cause docks to erode and equipment to wear down. Storms and melting snow cause ocean water to rise, leading to potential flooded docks and vessels.

This year's El Nino is having an opposite yet similarly devastating effect on the Great Lakes. Climate patterns have caused water temperatures in this region to increase. Warmer water is causing evaporation and subsequently, low water levels. Cargo carriers aren't able to transport as much as they usually do – with some having to shed more than 10,000 tons of cargo. Warm water temperatures are also resulting in less ice formation. Ice typically provides a helpful barrier between the lakes and the shoreline and without its protection; shores and fragile wetlands are more vulnerable to the wind and waves.

Workboat and brown water vessel owners need to make sure their insurance covers damages caused by winter weather conditions. The vessel owners' protection and indemnity policy generally provides for the owners' cargo legal liability, collision with other vessels and potentially piers, docks, jetties and other fixed or floating objects.

Additional coverage that a workboat owner should consider is charterer's legal liability. This is coverage for damage arising out of loading or unloading in unsafe berth or wharf conditions. The vessel owner should discuss with their broker getting the most coverage from their policy for all possible scenarios that may occur due to increased stormy environments.

The other potential liability resulting from unsafe conditions that workboat owners need to be aware of is the increased risk of workman injury. Freezing temperatures cause workboats and docks to ice over, leaving workmen vulnerable to slips and falls. Workboat owners should be salting docks and decks to help prevent injury and should be requiring their workmen to wear proper footwear. Additionally, workboat owners should also be aware of their crewmen's rights. These rights fall under The Jones Act and the United States Longshore and Harbor Workers Compensation Act (the USL&H).

The Jones Act, otherwise known as the Merchant Marine Act, allows injured sailors to make claims and collect from their employers for the negligence of the ship owner, captain or fellow member of the crew which, resulted in injury. Workboat owners also need to be aware of the USL&H. The act applies to workers on the barge or harbor, or any other maritime employees. It can create liability on the part of the barge owner for injury or death resulting from an accident occurring on the navigable waters of the United States. Workboat owners need to make sure their insurance policy covers potential liability under either the Jones Act or the USL&H, in case icy conditions result in crewman harm.

Additionally, workboat owners should be aware that property damage and injury coverage policies rarely include flood insurance. When Hurricane Joaquin hit South Carolina this past October, the state faced more than one billion dollars in flood losses, and most of it was uninsured. According to a poll conducted by the Insurance Information Institute, only 14 percent of Americans are insured against flooding. Workboat owners need to buy a separate flood policy through the National Flood Insurance Program, administered by the Federal Emergency Management Agency, or risk facing thousands of dollars in flood damages in the winter months.

Finally, it is essential workboat owners seek out an insurance provider that specializes in marine exposures. A provider with a niche focus on marine insurance will be able to provide workboat owners with deep expertise and a great understanding of the industry. Specialized insurance providers can also offer innovative solutions that add unique value to their business.

ProSight Specialty Insurance

Tracy Markowski has been in the marine insurance business for over 25 years. Prior to working at ProSight she worked for several other large marine insurers, including Munich RE in the United States and Germany.

Surviving – and Thriving – in a Challenging Boatbuilding Market

North River Boats' formula for success: anchored in a diverse portfolio and customer base.

By Joseph Keefe

Tucked away in Roseburg, Oregon, North River Boats began simply enough in 1974 by building jet powered boats to run shallow, technical white water rivers. Over time, the company also developed a solid reputation for jet boat designs. Later, as sport fishing regulations, seasons, and species evolved, North River expanded to build deep vee outboard powered recreational boats to fish larger rivers, estuaries and the ocean. The firm is also known for another reason: its diversified production of hulls, delivered to an equally wide range of clients, both domestic and foreign.

Situated on 9.5 acres with two large detached manufacturing facilities, the boat builder boasts a full array of offices, large boat fabrication, paint preparation and coatings, canvas, upholstery, outfitting and warehouse operations. Today, North River Boats employs 127, up from about 75 people when CEO and President Brent Hutchings took over the company in August 2012. Enjoying steady annual growth – in good times and bad – a diverse portfolio of output and clients has kept this west coast builder on even keel, even as others falter in a slowing marine economy. How that came about is equally important.

Looking Back: Laying the Keel for Tomorrow

North River's 2002 purchase of Almar Boats in 2002 was a key move for the firm. Mike Blocher, North Boats' Director of Sales and Marketing explains, "Almar Boats was established about the same time as North River, but Almar focused on commercial and government boats. This is something that North River had done on a small scale,

but Almar dramatically broadened North River's capabilities into complex workboats. Both factories remained open until the beginning of 2008 when Almar was absorbed into the North River Boats factory in Roseburg."

Coming quickly up to speed on the complexities of the commercial and government boat world, North River then began building on the original Almar designs and expanding their portfolio diversity in terms of vessel sizes and types. Today, the firm's business split is about 40% commercial/government boats and 60% recreational boats. The largest boat delivered to date is a Crew Transport vessel delivered to Trinidad & Tobago that – 52 feet LOA – equipped with twin diesel waterjets. Blocher adds, "This is soon to be surpassed, as we are designing a 56.5' x 17' crew transport vessel that will be delivered by the end of the year."

Diverse Portfolio

In addition to as many as eight different recreational models that are sold through a dealer network, North River is capable of building more than 40 commercial boats annually. Building everything from charter fishing boats, U.S. Coast Guard Sub Chapter T Passenger Inspected boats, Hydrographic Survey boats, Law Enforcement and Patrol, Fire Rescue, Vessel Assist and for the U.S. Navy, North River's reach into almost every aspect of the workboat market is deep.

But Blocher says that the variety and number of North River's customers is just as important. "Our customer base is as diverse as our boat portfolio. One of the things that set us apart from other commercial boat builders is our ability to efficiently design and build one-off products. Many of our competitors go after large government contracts that have multi-year IDIQ delivery orders. We have done a great job at going after the 1 to 10 boat contracts. We are able to deliver world-class products to a broader customer base."

Buying a North River Boat can also include training and re-activation on commercial and government models. "We always conduct the re-activation on every vessel. This is to ensure proper delivery and set-up of the boat prior to it going into service. These are expensive boats and it is our responsibility to make sure the boat is functioning properly before putting it into service," said Blocher.

Although the recreational market remains North River's largest in terms of revenue, Blocher says the firm remains committed to not having more than a small percentage of our business with any one customer. "Although the recreational market is a large part of our business, we have many dealers within that market. This gives us the flexibility to adjust depending on how each market segment

"Since boat building is an inherently cyclical business, North River has worked hard for many years to develop customers throughout the United States and the world. Our sales staff regularly exhibit at international trade shows to maintain our global focus. We also work to spread our exposure across industries and agencies within each geographic market."

– Brent Hutchings, CEO, North River Boats

Credit: North River Boats

is doing. Our recreational business is sold out through our dealer network until the model year change in August with steady growth expected for the 2017 model year." In 2016 alone, North River will produce as many as 325 recreational hulls. But, he adds, "The commercial market remains very strong for us. We are growing both internationally and with private commercial customers and staying steady with government work. We have a solid backlog with only a handful of open spots between now and spring 2017."

With an eye towards the future, North River is aiming to add capacity that will eventually allow another 60 recreational boats and 20 commercial boats to be produced annually. Most boats are newly designed to meet current customer needs. Blocher explains, "We have several boats that are entirely new to North River, such as our Crew Transport boat and our Riverine shallow jet boat to name a couple."

North River Boats only builds aluminum boats. Blocher spelled out that business strategy by saying, "We have very skilled personnel throughout our company with the majority of the production staff having over 10 years of experience. We believe in making the highest and best use of our limited capacity and building what we know best, which is aluminum boats. We have no intention of building other than aluminum boats."

Beyond Our Shores

North River has also been exporting boats for several years. Aggressively concentrating on the Caribbean and Latin America markets, the firm typically ships 3 to 5 boats annually into this market. Blocher adds, "We recently completed three boats that went to Israel and are working on projects and quotes in many countries at this time."

Closer to home, a relationship with Trinidad Pilots started through Almar Boats shortly after North River acquired Almar. The Pilots were looking for a more efficient and safer method of transporting their pilots. Their search took them to Almar Boats, and a factory visit was the first step in developing a long and mutually satisfying relationship.

Bridge Control Services Limited (BCSL) is based in Trinidad and Tobago and provides marine transport services to the Trinidad and Tobago Pilots' Association and other companies in various sectors. A long-time North River customer, their fleet includes jet-propelled boats capable of speeds up to forty knots, all fully certified to effectively execute a wide array of services. Darren Josa, Director at BCSL, told MarineNews in March, "We have 11 North River boats in our fleet, ranging in sizes from 38 feet up to 55 feet. The majority of BCSL's fleet are pilot boats used for Launch Services and there is also one dedicated crew/ supply boat."

Blocher told *MarineNews* in March, "I believe that we were one of the first companies to include roof top boarding for pilot transfers. By using roof top boarding, the pilot can enter/exit the vessel closer to the top of the ladder. The majority of incidents occur with the pilot falling from the ladder so by giving the pilot fewer rungs to climb we have improved safety for the transfer. This, combined with the speed of the vessels (approximately 40 knots), enables Trinidad Pilots to grow their business by opening up the vessels to various other uses as well as reducing the travel time to and from transfers."

We asked Josa why BCSL had purchased so many North River Boats and he replied, "North River has continuously proven to be a reliable boat building supplier, who provides strong and unique vessel designs suitable to our company's needs. We keep coming back because of their professionalism, competitive prices, excellent customer and after sales service, their dependability when it comes to meeting our time-frames for delivery and the quality and durability of the vessels. North River also offers a wide range of vessel designs."

One of North River's latest designs for BCSL is a crew transport vessel provides seating for 24 passengers and a maximum load of 3 tons of cargo. Service speed is very important to BCSL's customers, so they require a service speed no less than 30 KT. The new boat will be fitted with triple Caterpillar C12 705hp marine diesel engines with ZF 360 transmissions and Hamilton HJ364 jets. Other features include an exceptional fendering system, and state-of-the-art navigational system.

Josa says that BCSL's goal is to be the premier and most innovative maritime service provider in the region. "That being said, we always look for suppliers who can contribute to our overall goals," he adds. And, while price is important to BCSL, Josa says it isn't the only reason that they keep coming back, year after year. "The maintenance costs for the North River vessels are economical and parts for

North River Boats' Roseburg, Oregon facility

Credit: North River Boats

repairs are easily accessible," he explains, adding quickly, "With regards to prices, North River's prices are comparable with other competitors. However, what sets them apart from the competition is the customizability of their boats, the after sales service and the working relationship we have developed with their staff."

Many Designs for Myriad Customers

According to Mike Blocher, a key aspect of North River's success is the firm's ability to custom design for a wide range of customers. With two in-house designers, North River will reach outside to get help when appropriate. Blocher explains, "We have a great design team and generally do the majority of design and calculations in-house. For the times that we do need to sub-contract a certified PE we use Boksa Marine Design in Florida. We also use a local PE in Seattle Washington for some of our US Coast Guard Sub Chapter T Passenger Inspected boats."

The firm's pilot boat designs are a perfect example of their design capabilities. "The twin diesel Hamilton Jet design is great for coming alongside ships at pilot transfer speeds. Traditional propeller designs can get 'stuck' to the side of the ship making it hard to pull away from the ship after the transfer is complete," Blocher explains, adding, "With the twin diesel jets it is very simple. The ability to adjust the buckets during transfer not only helps keep the hull against the ship during the transfer but allows the operator to easily pull away when the transfer is complete. It is very important to work with Hamilton Jet on these pilot boats to get the cavitation ratio correct. Our background is with jet boats and we do an excellent job at making sure we pair the right hull with the right engine and jet combination."

Out of those plans come many different types of vessels and the firm has delivered or is in the process of building a wide variety of hulls. The portfolio, in addition to its considerable recreational output, includes:

38' Valor Fire Boat to North Kitsap Fire and Rescue in Washington State
Two (2) Fire Boats for the U.S. Army
11 U.S. Navy Force Protection Large boats (fleet protection / law enforcement vessel)
33' – 38' Pilot Boat with twin or triple outboard propulsion and standard cabin configuration
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45' – 57' Pilot Boat with choice of standard or aft cabin (Choice of twin or triple jet or twin propeller)

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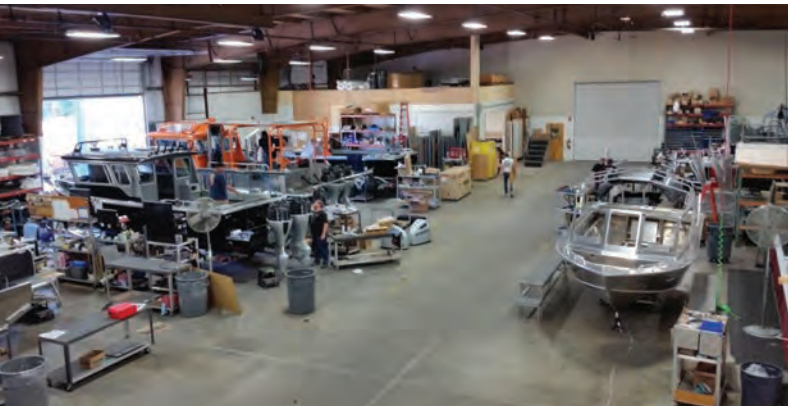
"Our customer base is as diverse as our boat portfolio. One of the things that set us apart from other commercial boat builders is our ability to efficiently design and build one-off products. Many of our competitors go after large government contracts that have multi-year IDIQ delivery orders. We have done a great job at going after the 1 to 10 boat contracts. We are able to deliver world-class products to a broader customer base."

– Mike Blocher, North Boats' Director of Sales and Marketing

Sectors, Service and Selection:

Thriving – and not just surviving – in boatbuilding today involves many things. For North River, it means delivering aluminum quality and variety to commercial, government, and recreational clients; domestic and foreign. CEO Brent Hutchings told MarineNews, "Over the last three years, sales have tripled and we continue to see strong demand across the three primary market segments we serve: Recreational, commercial and government. We owe our success to our amazing employees who deliver the best quality and service available in the heavy-gauge aluminum market."

At the same time, Hutchings also says that North River's diversification strategy is deliberate, adding "Since boat building is an inherently cyclical business, North River has worked hard for many years to develop customers throughout the United States and the world. Our sales staff regularly exhibit at international trade shows to maintain our global focus. We also work to spread our exposure across



industries and agencies within each geographic market."

North River's approach insulates the company against the economic cycle and is the foundation for its growth and success. The business model also enables knowledge transfer from one segment to the other. So far, it's a winning formula, in good times and bad for the domestic boatbuilding markets. In any endeavor, being all things to all people is a difficult thing to do. North River Boats doesn't claim to do that. Arguably, their business model is about as close as it gets.

Taking the Furuno 15X8 series Radar *Out for a Spin*

Furuno's newest entry has found a welcome place on inland waters.

By Kathy A. Smith

Images above courtesy: SDS Lumber Company

Furuno's newest radar is now on the market. The first workboat installation of the company's FAR-15X8 series was completed in late February and early March. Following installation, test runs were carried out on the *Bruce M*, a 65-foot, 1900 Hp inland pushboat operated by SDS Lumber based out of Bingen, Washington. The vessel works the Columbia Snake River system, mainly pushing either construction or wood chip barges. The man at the helm when the initial test took place in Hood River, Oregon waters was Captain Gary Collins, SDS' Marine Superintendent.

A Test Spin of New Features

SDS Lumber is not new to the Furuno line of products. The company was looking to upgrade its radar equipment on *Bruce M*, and purchased the FAR-15X8. "We immediately noticed the picture on it is a lot clearer," says Capt. Collins. That's due to a new feature called ACE (Automatic Clutter Elimination), an automatic rain and sea clutter suppression tool that gives what Furuno calls unprecedented clarity with a single dedicated key – the only workboat radar Furuno has developed with this feature.

Furuno's Bill Haynes, Deep Sea Product Manager, explains, "We wanted to reduce the amount of time the operator has to play around with the radar to get a good picture. That's one of the reasons for developing ACE. When you turn ACE on, the processor automatically looks for patterns of interference and eliminates them while maintaining excellent target and land mass clarity."

SDS' Captain Jim Taylor took the *Bruce M* on a run from Longview to Astoria in early March, pushing an empty barge on the passage down, returning to Astoria with a barge full of wood chips. The trip began in the late afternoon and lasted 15 hours. Capt. Taylor found the ACE function enabled the crew to easily see targets despite intermittent heavy rain, choppy seas and squalls. "This was my first chance to adjust everything and tune it up," he says. "I turned ACE on and off to see how it functioned. It works really well."

Another new feature of the FAR-15X8 series is the Target Analyzer function, which not only tracks targets but

Furuno FAR15x8 Radar Series

Courtesy: Furuno USA

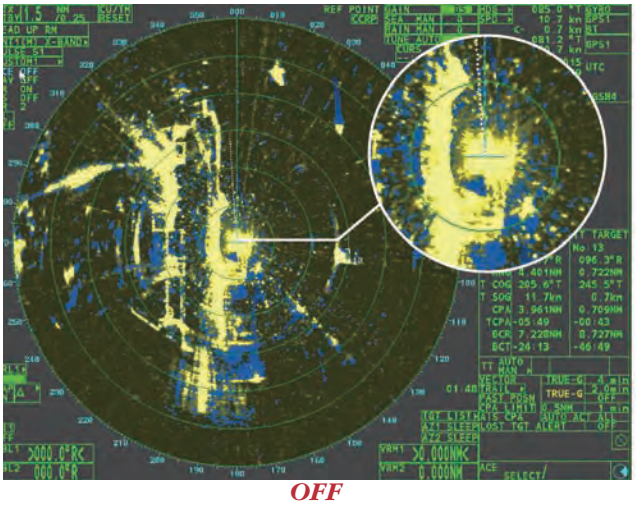
"You don't need any gyroscopes. The unique thing is that it puts out three axis speed; fore/aft speed, transverse speed and stern speed. You can tell if you're being pushed or if your tow is dragging in a different direction."

– Bill Haynes, Furuno Deep Sea Product Manager

assigns each different colors, depending on whether the target is moving or stationary. It is particularly useful under heavy rain or snow conditions where surface reflection can cause interference and noise and it can also place hatching over heavy rain areas, allowing a clearer view of potential targets. SDS' Collins was impressed with the feature. "When you have a target that's moving at you, the target changes color. That shows you it's a moving object and not just a buoy," he says. "That's going to be really helpful in high traffic."

The new radar also offers Fast Target Tracking which can display the speed and course vector of any target in just a few seconds. "Normally when operators click on a target to acquire it and

Automatic Clutter Elimination (ACE)



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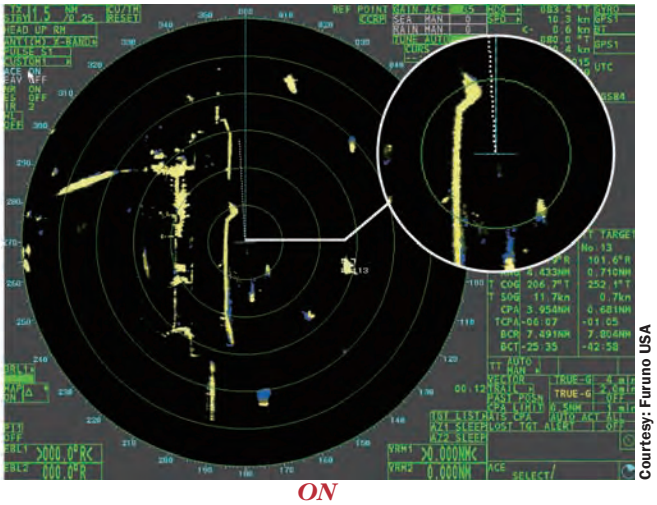


ON

Courtesy: Furuno USA

get information, it takes from 30 seconds to a minute to get good data," says Haynes. "If a coastal vessel is amongst a lot of marine traffic and small boats without AIS on them, operators need to be able to tell the direction the boats are headed and they can immediately get a vector with FTT."

Nuts & Bolts: Setting Up

The FAR-15X8 series comes in either a 12kW or 25kW configuration. The data displays can be customized to the user's preference – up to four TT targets can be displayed as well as two AIS targets. The zoom function allows for enlarging incoming targets for increased situational awareness. The unit works on a scalable Ethernet Network System; the data link offers high-speed and stable navigational data sharing for interswitching as well as sharing data between ECDIS and GPS plotters.

The 15X8 is available in a "black box" configuration but is also available with SOLAS compliant 19" LCD (Cat.2, 500-10,000GT) and 15" (Cat.3, <500GT) LCD monitors. The radar is tested to IEC62388 and IEC62288 standards, which meet requirements for IMO / SOLAS. Additionally, Furuno has improved overall unit operations by employing a touchpad on the standard control unit. For single hand operation, an optional track ball can be connected as well as a USB mouse.

Furuno suggests for best all-round situational awareness, two accessories can be combined with the FAR-15X8 series. The RD50 high contrast remote display unit can be attached to the top of the 15X8. The RD50 displays a wide variety of data from onboard sensors such as speed, heading, course, depth, wind direction and RPMs, as well as the rate of turn and rudder angles. The unit has an 8.4" color LCD which can display information in digital, analog and graph formats. Additionally, up to 10 displays can be connected with a daisy chain cable.

"You can create different screens of the data sets, but the rate of turn is really accurate," says Haynes. Capt. Taylor found the rate of turn function extremely useful. "It's more precise than the analog type and faster. The increments are smaller," he says. "Each trip you go out on, you have a chance to learn a little more about what the unit can do."

The GS100 Satellite Speed Log is unique and new to Furuno's line up as well. The 5.7" color LCD unit can be attached to the bottom of the RD50, atop the 15X8. "It uses two GPSs and quickly performs a phase correlation for true heading information, not magnetic," says Haynes. "You don't need any gyroscopes. The unique thing is that it puts out three axis speed; fore/aft speed, transverse speed

Courtesy: Furuno USA

Furuno GS100 Satellite Speed Log

and stern speed. You can tell if you're being pushed or if your tow is dragging in a different direction." The transverse speed and stern speed allow navigators to quickly find out the behavior of the vessel in challenging conditions. In fact, according to Haynes, Furuno has found that even on cruise ships the product is installed on, the speed is accurate to within inches per second. The unit also delivers roll, pitch and angular information for navigation equipment such as Radar, ECDIS and AIS.

Added Value: Safety & Situational Awareness

For smaller, inland workboats, the equipment promises ease of operation, a compact installation on sometimes crowded wheelhouses, and better resolution in bad weather and choppy waters. Already in operation for SDS Lumber Company, the choice to upgrade to the Furuno FAR-15X8 series has so far been met with enthusiasm by boat crews, who readily appreciate the added safety that more and better features bring. Captain Taylor says the 15X8 radar will help improve vessel safety. "The picture is one of the best I've ever seen. I look forward to using it more," he says. Furuno's Haynes adds, "For situational awareness, I can see no better product suite to have in front of a professional mariner to run a vessel that pushes and tows barges. The 15X8 series is the best radar we've ever introduced in the history of the company. I'm that confident about the performance of it." And, that's a pretty good place to start for Furuno's newest entry in the highly competitive Radar markets.

Kathy A. Smith is a Victoria, BC-based maritime writer who has penned over 100 published trade articles.

Credit: Stevens Towing Co., Inc.

AIS Regulations Present New Responsibilities – and Opportunities

March Coast Guard deadline represents milestone for AIS use in U.S. waters.

By Jules Riegal

From increasing situational awareness and enhancing the safety and security of maritime transportation, to its use in accident investigation, search and rescue, Aids to Navigation and asset monitoring, the role of AIS (Automatic Identification System) as a flexible and developing technology continues to grow in significance. The month of March 2016 – has come and gone – and represents an important milestone which will increase the prevalence and general awareness of AIS. As new United States Coast Guard regulations are introduced, more commercial vessels working along US coasts will need to be equipped with AIS, affecting all mariners in US waters.

The new AIS mandate will require a wide range of US-flag and foreign-flag commercial vessels operating along US coasts, in ports, rivers, lakes and seas, to install and operate a USCG type-approved AIS transceiver before the March 1 2016 deadline. Owners or operators affected include existing AIS users who operate commercial self-propelled vessels of 65 feet or more in length or, for towing vessels, 26 feet or more and more than 600 hp; passenger vessels certificated to carry more than 150 passengers; vessels that move or carry certain hazardous cargo; and vessels that engage in dredging in or near a commercial channel.

Most commercial vessels will need to install AIS Class A devices, but certain vessels, including fishing industry vessels, dredges and small passengers vessels that operate outside US Vessel Traffic Service (VTS) Areas or at speeds less than 14 knots, can use the considerably less expensive Class B device. The Coast Guard estimates that the cost per vessel will be $3,200 for a Class A device and $700 for a Class B device, which includes operations and maintenance costs.

After taking many years to finalize, the rule became effective on March 2 2015, with compliance required on March 1 2016. Those who fail to comply risk a civil penalty. Vessels that operate solely within a very confined area, or on only short scheduled voyages; or that are not likely to encounter other AIS-equipped vessels; or whose design or construction makes it impracticable to operate an AIS device may seek – in writing – as much as a 5-year exemption from this requirement.

Product images above courtesy: ACR Electronics

Credit: Fishin' Frenzy

"We have seen the use of AIS in general increasing as both leisure and commercial users discover it is a tremendous benefit to have this new level of safety in addition to other equipment such as an EPIRB or radar, for use as both a safety and navigational tool and also as a potential aid for search and rescue. It is particularly important during night fishing offshore or for anyone on the water at night or during times of poor visibility or squally weather. Instead of just seeing lights in the distance, AIS enables vessels to see and identity other boats, check their course and movements and therefore establish whether they are in danger."

– George Poveromo, ACR offshore spokesperson and saltwater fisherman

Regulatory Review

The USCG's new AIS rules and requirements are intrinsic to the international development of E-Navigation, an effort adopted by the International Maritime Organization (IMO) and the International Association of Marine Aid to Navigation and Lighthouse Authorities (IALA). As the USCG's regulatory project officer and subject matter expert for AIS, Jorge Arroyo has served the USCG for 30 years, the last 16 years as a program and management analyst at the Office of Navigation Systems at USCG Headquarters.

He told MarineNews, "The AIS regulations implement both the international Safety of Life at Sea (SOLAS) Convention and domestic (Marine Transportation Security Act of 2002) AIS carriage mandates. However, even if you are not required to have AIS, you will want to have it because of the broader situational awareness it provides, which in turn not only enhances your navigation safety, it will increase efficiency and reduce costs."

He continued, "The ultimate goal of e-Navigation efforts and the new AIS requirements in the US is to use timely and reliable information to make the US Marine Transportation System operate better. The aim is to provide tools that enable and improve the transfer of near real-time data between and among ships and shore facilities, and that integrates and transforms that data into decision and action information."

Benefits of AIS

The installation of AIS transceivers on more commercial vessels will pro-

vide benefits for owners and operators. AIS enables the identification of previously unknown radar and visual targets, allowing the captain or crew to locate and communicate with other AIS-equipped vessels nearby by digital data transfer of navigational and vessel information and providing information like the vessel's identity, MMSI, type, position, course, speed, navigational status and closest point of approach (CPA).

Operating in the VHF maritime band, the AIS is a shipboard broadcast system, which does not require external equipment of infrastructure as transponders do. It is capable of handling well over 4,500 reports per minute and updates as often as every two-to-ten seconds.

System coverage range, which is line of sight, can vary to approximately 20nm between ships, 50 miles from terrestrial base stations, to thousands of miles from satellite receivers. An AIS system consists of one VHF transmitter, two VHF TDMA receivers, one VHF DSC receiver and standard marine electronic communications links to shipboard display and sensor systems. It works in an autonomous and continuous mode alternating on two world-wide designated radio channels to avoid interference problems. AIS is unique because it operates with a self-organizing TDMA. Rather than dropping calls when a cell is congested, it organizes the uses of frequency such that a vessel will always receive broadcasts by those vessels that are closest to it, and that may pose the most eminent threat of collision.

A Class A transceiver has a higher transmit power and transmissions are sent very frequently, every few seconds, and given priority over information from a Class B transceiver. Coast Guard approved Class A transceivers, such as ACR Electronics' AISLink CA1, have a large, built-in LCD display, multilingual capability and other additional features. Meanwhile, Class B devices, such as the AISLink CB1, operate at a lower power and reporting interval and require a chart plotter to display data.

AIS in Use

Stevens Towing Company, Inc, a midsize freight transportation company based on Yonges Island, South Carolina, has AIS installed on all its tugs. The company regularly services the East, West, and Gulf Coasts of the US, including the Western Rivers and Great Lakes, as well as international Ports.

Benjamin B. Smith, Stevens Towing's VP of Operations explained, "We have AIS installed on all of our tugs and are aware of the various uses – the most important of which is in navigation. Our AIS signal is delivered to our navigation software (Rose Point) which gives our operators the visual reference of the vessels around him, their course and speed and where the vessels will meet. That information removes a big chunk of uncertainty for

the operator of the tug and his decisions can be made in a timely and effective manner. It also aids in bridge to bridge communications in that we can identify the name of the vessel that may be in a crossing situation."

Smith insists, however, that in the river systems, his crews have seen the greatest impact. "It used to be that we would have to listen to VHF 13 to identify vessels coming down river while we were going up river. With AIS and the navigation software, we can see all the vessels on a graphic display before they are visible to the operator, and the passing arrangements can be negotiated well in advance with much less stress. Overall, AIS is a big plus for commercial tug operators."

Steven Towing Company's Tug Island Pilot

ACR Electronics, a Drew Marine Company, offers fully-featured AIS Class A and Class B devices to serve the needs of customers with the upcoming mandates and provide additional levels of navigational safety to mariners. ACR also recommends AIS users electing to join AMVER (Automated Mutual Assistance Vessel Rescue System), a computer-based voluntary global ship reporting system, sponsored by the USCG.

ACR offshore spokesperson and saltwater fisherman George Poveromo said, "We have seen the use of AIS in general increasing as both leisure and commercial users discover it is a tremendous benefit to have this new level of safety in addition to other equipment such as an EPIRB or radar, for use as both a safety and navigational tool and also as a potential aid for search and rescue. It is particularly important during night fishing offshore or for anyone on the water at night or during times of poor visibility or squally weather. Instead of just seeing lights in the distance, AIS enables vessels to see and identity other boats, check their course and movements and therefore establish whether they are in danger."

Separately, professional fisherman and 'Wicked Tuna' star Captain Greg Mayer installed ACR's AISLink CA1 Class A transceiver on board his 53ft Custom Carolina Sportfish, Fishin' Frenzy, which operates in the dangerous waters of the Outer Banks. Mayer explained, "The added visibility provided by AIS is another measure of safety that I feel is invaluable with the amount of ship traffic in the area, especially at night as a back-up. Last summer, I identified a radar target as a tug and tow, calculated his heading, and slowed down to let him pass. About 20 minutes later, a fellow fisherman who was a few miles behind me with no radar heard the tug, but narrowly missed running between the tug and tow. With AIS installed, I could have identified the tug and informed my colleague about the tug's exact location and heading to avoid any confusion whatsoever."

AIS Regulation Information online: www.navcen.uscg.gov

Controlling Connectivity Costs

Bluetide Communications' Access Management Portal (AMP) application for wireless network management is changing the way workboat operators manage data, crew and costs.

By Patricia Keefe

Thousands of miles, and weeks or months out at sea, the next best thing to physically being there, is an electronic connection home, and today, mariners increasingly are reluctant to board vessels without access to some form of it. "What seafarers want overwhelmingly is a cost-effective way to speak to, and see, their loved ones," notes researcher Futurenautics, adding that with millennials in particular considering access to the Internet as important as access to food and water, "the implications for the maritime industry are likely to be significant."

Internet access and cheap global roaming SIM cards top the list of desired amenities in recent surveys of seafarers. Workboat personnel use an array of connectivity applications – social media, Skype, Wi-Fi and email – to handle personal banking and financial needs, shop, make appointments, and to take training classes and certification tests. They also like to keep up with current events and to unwind after their shifts with various entertainment options – scanning the news, watching movies and TV series, playing games and general internet surfing.

It all sounds good. All of that takes bandwidth and lots of it. And, if access to communications and entertainment is no longer just an optional amenity for boat operators to provide, at the same time, making sure that this doesn't impact the bottom line is equally important. It turns out that both goals can be achieved.

Good Spend in a Down Economy

The ability to positively impact crew morale with online connectivity is especially important today given the aftershocks of falling oil and gas prices roiling the maritime sector. For example, Crewtoo's survey reports that seafarer wages have fallen by as much as 40% – the worst some mariners have ever seen. But recruiters and users alike don't expect to see organizations cutting existing services.

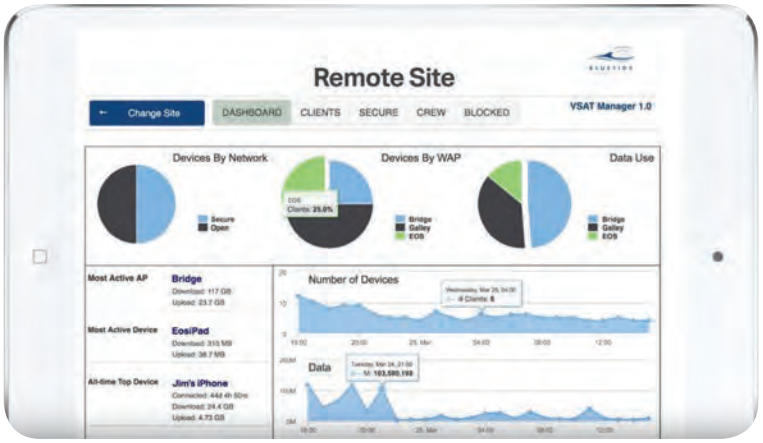
Companies already heavily invested in connectivity will keep those systems intact but probably hold off on expanding bandwidth or upgrading the current system, says Gladney Darroh, president and CEO of Piper-Morgan Associates Personnel. "In today's market, do you continue to gold plate something? Maybe silver-plating works just fine."

Economic pressures are also forcing companies to both squeeze more use out of, and get a better handle on, their communications network. A downward trend in connectivity equipment and delivery costs and system size combined with an uptick in subscription service offerings and an expansion in functionality is redefining shipboard operations. At the same time, savvy workboat managers are quickly learning how to manage their comms spend in new and economical ways.

Operational Efficiency Drives Boats

In the past, management used to just blindly throw more bandwidth (i.e. money) at problems; not any more. In addition to divvying up bandwidth between crew and operational apps, with management tools like Bluetide Communications' Access Management Portal (AMP) application for wireless network management, it's possible to monitor, from any location or device, network usage and change bandwidth allocations, divert traffic or incoming data dumps to unused channels, or even shut off access, in real-time, at the push of a button. Users can run the application or trust Bluetide to monitor network usage and make requested changes, like Jackson Offshore does. "It lets me focus on other priorities," says Trent Zimmer, Jackson Offshore's IT Manager.

Steve Burke, Regional Manager at Bluetide Communications adds, "AMP allows the customer to not only manage the system for the crew, but to manage for the end user paying for the service. In years past, they'd call, you'd open a trouble ticket, but no matter how much work you did, you could never validate or prove how the system was be-



AMP allows users to easily view active devices, the access point and data usage with the ability to instantly block any device(s) to free additional bandwidth for business-critical needs.
Credit: Bluetide

"AMP allows the customer to not only manage the system for the crew, but to manage for the end user paying for the service. In years past, they'd call, you'd open a trouble ticket, but no matter how much work you did, you could never validate or prove how the system was being used. AMP shows how long, who is using it and where they are, so it really gives a vessel manager a view into the satellite system that they never had before."

–Steve Burke, Regional Manager at Bluetide Communications

ing used. AMP shows how long, who is using it and where they are, so it really gives a vessel manager a view into the satellite system that they never had before."

Jackson's eight vessels access a 1024x512 bandwidth pipe via VSAT and backup Iridium phones service, WiFi and wireless access points, Bluetide Communications/ Hughes modem and below deck equipment, value-added services such as monitoring, and ancillary networks. The company dynamically allocates a percentage of its network to secure (corporate) use and a percentage to crew and guests. "This allows each sector to throttle up to 100% of the available bandwidth, but to never go below its allocation," says Zimmer. "It's a great approach to ensuring crew access doesn't interfere with corporate needs."

Beyond this, and perhaps just as important, AMP removes the need for physical interference, or having a first mate or captain take their eyes off what they are doing to try and trace down who is using the bandwidth.

Monitoring Makes an Impact

Reliable, affordable connectivity allows more than just serving up daily information dumps back to shore. It enables meteorological and nautical map updates on a scheduled basis, vessel tracking and safety monitoring. For instance, a camera onboard can provide onshore supervisors - and even clients – with a window into shipboard safety practices, which can be immediately corrected, as well as cargo security and density. Feeding a steady stream of equipment and fuel-related sensor data back to the home office allows for real time analysis, providing the opportunity for timely route, speed and crew schedule changes, equipment fixes or safety and security alerts.

Jackson Offshore is a good example of a company using its connectivity to improve vessel performance. "We have fuel tracking on several vessels that lets us see fuel flow in real time. It's also part of an electronic log system, which captures a ton of information – fuel flow, oil flow, consumption, temperature, pressure – you can see and make decisions based on that data," says Zimmer.

From a cost-saving perspective, he is particularly pleased with Bluetide. "They'll change the amount of bandwidth needed on 24-hour notice – that is almost unheard of in this industry. They let us monitor some of the bigger cost drivers – condition-based maintenance, fuel consumption, full access to generators and engines – so we can see what these are doing in real time. The system sees problems as they happen, so we can be proactive instead of reactive with a skyrocketing problem and save on costs."

"Something we tried to do in the market from day one is to be flexible, to be as open and provide the customer with as much data as can be provided, to give them visibility into the system," says Bluetide's Burke, adding "A CIO at a large OSV company was tired of hearing the answer to every problem on board is 'We need more bandwidth.' He challenged us; he worked with our R&D. What can we do to differentiate ourselves in the market and make sure the customer benefited from it? Having the ability to manage bandwidth on a vessel remotely or even on board has been a game changer for us, it really has."

Zimmer also uses vessel mapping fairly heavily. "Bluetide has a service – Bluevision – we've not seen elsewhere. It gives us the ability to use geo-fences to check on a vessel in real time. If it is in an area it shouldn't be, we get notified." Jackson also has just installed a tilt zoom camera that monitors back deck activity. "All the managers have access. It's useful from both a safety aspect and for clients to see availability of space on the deck," notes Zimmer.

Value of Data Exceeds Cost

The value of data returned to shore far outweighs the cost of the service. Not surprisingly, this means that going forward, ships will want to connect crews not just to family, but to everything they can, moving better connectivity to the top of not just crew, but operator lists as well.

And, according to Bluetide, the cost [to install] is minimal compared to the savings you will achieve. Burke explains, "When you look at the minimal investment involved, it takes literally one month to pay for itself. Depending what is in place, we can do it in two hours. We did eight vessels in 12 hours. We average a little less than a day in setting it up – we can get it operating in 5-6 hours."

Patricia Keefe is a veteran journalist, editor and commentator who writes about technology, business and maritime topics.

RAPP DELIVERS ON PUBLIC SAFETY

It is no secret that Rapp Marine engineers, manufactures, and sells winches and cranes for fishing, research, and offshore vessels. What you might not know is that 90 percent of all Rapp cranes involve some aspect of customization, applications and designs. Very few 'spec' cranes are sold. With this in mind, the first of two new fireboats being built by Foss Maritime for the Port of Long Beach (POLB) will include many unique features, not the least of which will be a custom designed Rapp Marine crane. The first of the two boats has been delivered and the second boat's construction is well underway.

STANDARDIZED FEATURES, CUSTOMIZED FOR YOU

You can't put a price on safety. With that in mind, the crane division of Rapp Marine U.S. puts quality at the top of the priority list. Benchmarked, standardized and customizable – Rapp Marine's array of crane options safely cover the full gamut of workboat needs. When in the case of a local port's fire department specifying its exact needs when it came to the desired lifting equipment, eventually, the new crane requirements went to bid, and Rapp got the contract. Looking at the final result, it isn't hard to see why.

On every assignment, Rapp Marine leverages their QMS processes to capture the specific requirements of each customer. With long standing customers in the fishing, offshore, and LNG markets, Rapp Marine is often depended upon to provide affordable, robust solutions to meet unique, one-of-a-kind needs. One example of this is a new crane design developed for Foss Maritime, who recently built a new Fireboat for the Port of Long Beach and is in the process of building another.

Port of Long Beach fireboats have many responsibilities. These include material handling, rescue ladder deployment, manual title basket rescues and much more. Ultimately, the port specified and ordered deck machinery that was equally versatile. The crane, billed nominally as a material handling crane, does so much more. The crane features a personnel basket that is self-leveling via a master-slave cylinder system. The basket can also be manually tilted and slewed; its underside is outfitted with four LED flood lights and comes with a night vision (360 degree rotating) camera.

In order to fit the crane into the tight space allotted on the vessel, but also be capable of achieving the required reach, Rapp engineers came up with a double-telescopic boom. Brandon Parker, Rapp's Operations Manager explained, "The crane can

be controlled via wireless remote, basket controls, or from the platform. A telescopic ladder is mounted to the boom of the crane. The crane's impressive lifting capacity is 3,000 pounds at radius, meaning that it can pick up 3,000 pounds at any extension and angle."

SAFETY FIRST

The first crane was delivered last fall. And, while the second crane has yet to be delivered, it has been completed and is ready to go. Rapp expects to ship it to the shipyard within the month. The crane comes with optional training – provided by Rapp for the operators. In this case, a full day of training was offered and accepted. A similar program is planned for the second unit, when it has been fully installed. The second fireboat for the POLB is under construction and is scheduled for delivery later in 2016.

In the marine industry, one of the most potentially dangerous pieces of deck equipment on a vessel is the crane. One size does not fit all. Hence, the prospective crane customer should look for a crane not only engineered and manufactured to the highest industry and quality standards, but also one which can be customized to specific local needs. And, on this occasion, that's just what the port of Long Beach did. **www.rappmarine.com**

Pontoon Deck Preservation for Floating Dry Docks

Courtesy: Vigor-Alaska photography

Always important, anything but simple, but often overlooked.

By Bill Kraus

Dry dock pontoon deck preservation is often taken for granted. In the flow of ever changing priorities for dry docks, it often gets pushed aside and/or delayed. If neglected long enough and often enough between preservation cycles, the thickness of the pontoon deck steel plates can be compromised. Salt water with chloride contamination causes accelerated corrosion while impact and abrasion damage from heavy equipment also take their toll.

For shipyards, the overall objective should be to provide a protective surface that will hold up over time, and that is easy to clean. Ease of cleaning can save a lot of cost each time after repeated dockings. All of that said; surface preparation is the key.

Coatings: Preparation is Everything

A clean sweep down of the intended surface areas should be done before the subcontractor arrives on site. Pressure washing at 3500 psi is the best way to remove chloride contamination, loose rust scale, and/or delaminated coatings. Weather can be an annoying problem, but if it interferes, it is better to call off work for the day than to have flash rust appear, or worse, coating delamination due to excess moisture.

Shot blasting is one of the most cost effective methods of removing the old surface down to a near white metal condition. A 3-4 mil anchor profile is preferred. Sand blasting is another method of surface preparation, but the containment required for sand blasting the entire pontoon deck in most locales makes this approach too expensive. Nevertheless, sand blasting is ideal for reaching areas – wing walls, and raised steel strips along the pontoon deck – that can be difficult to otherwise reach. In each case, a temporary shed can be constructed using PVC pipes and plastic sheeting which moves along with the sand blaster inside. Hand tooling should be kept to a minimum – it is labor intensive and expensive.

If an anchor profile already exists on the steel from past surface preparation efforts, then UHP (ultra-high pressure) water blasting at 35,000-40,000 psi is a modern alternative. Designed to suck up debris and water from blasting, it also leaves the surface clean and dry.

Chloride contamination needs to be removed to the level of 70 microsiemens of conductivity, even if it means more than one pressure washing. Otherwise, once the coating has been applied, galvanic corrosion cells will develop, causing delamination of the coating. Flash rust can be a problem for coating longevity, although a slight 'bloom' can be tolerated by some coatings. Before the work day ends and moisture appears, a primer coat should be applied to seal the freshly blasted steel.

Five Year Life Service

A high build coating system is best for longevity, and the proper equipment will involve the use of a plural component, heated airless spray machine capable of handling Part A/Part B ratios as high as 10:1. The coating system to be employed should include a primer coat in addition to the top coat. That's because the typical 10-15 mil coating system employed in the past is simply not sufficient. A 40 mil system is optimal, and extra millage may be required if pitting is severe.

At least two days should be allowed for the coating system to cure; at least 24 hours for foot traffic, 48 hours for vehicle traffic and submergence, a five day cure. An anti-skid treatment on top of the final coat – a 16-20 grit aluminum oxide or equivalent – finishes the job.

Calculating Costs: apples to apples

The coating system itself is always the least expensive part of the pontoon deck preservation process. In fact, the coating applied will typically amount to only 20% of the overall job, with labor and equipment to prepare the surface and labor and equipment to apply the coating making up the rest.

Pictured above is a Vigor-Alaska floating dry dock with CeRam-Kote Pontoon Deck Preservation System applied.

Full containment of the dry dock, if required in a given region for sand blasting, is very expensive and thus sand blasting should be avoided.

Surface preparation is the most expensive part of the entire process due to the labor and equipment involved. However, if the shipyard can clear the pontoon deck completely before surface prep commencing, and avoid unscheduled dockings from interfering, costs can be kept to a minimum. The performance of the surface prep subcontractor is typically enhanced if he is also responsible for applying the coating system. That's because, blame cannot be shifted to another party should something go wrong. The actual coating application, with proper equipment and coordination with the surface prep effort, can be the second lowest cost factor in the overall preservation process. Overcoat times between coats as specified by the manufacturer are critical for proper adhesion and curing.

The fewer the number of coats required to meet the specified mil thickness, the less the labor costs that will be accumulated. For example, if it takes five coats to achieve 40 mils in one coating system, but only 2 coats to achieve 40 mils in another, labor will be much higher in the former. Ceramic epoxy coatings can be more expensive per gallon, but if they can be applied in two versus five coats, the total material and labor costs will likely come out lower.

While dry dock availability is paramount, unscheduled dockings create a nightmare for cost effective accomplishment of the overall job. The goal should be 100% availability of the dry dock from start to finish of the job to experience maximum efficiencies in all areas of endeavor. Hence, coating should not be scheduled for this work unless there is a clear 'open window' to get the job done. This is the absolute key to minimizing costs. And, as a general rule of thumb, pontoon deck preservation represents less than 10% of the cost of steel replacement.

Finally, it is worth investing in a QC technician who can continuously monitor chloride contamination and anchor profile mil depth during surface prep, as well as monitor coating mil thickness during the application process. This technician can either be supplied by the shipyard or the subcontractor.

Examining Coating Systems

The typical two part epoxy system has been used for many years to preserve pontoon decks, and it is still in use today. However, the addition of ceramic particles, or ceramic particle loading, serves to enhance the mechanical properties of the coating far beyond a normal epoxy system.

Mechanical properties of the coating system are extremely important. CeRam-Kote 54 SST Primer with CeRam-Kote SPG (Sprayable Grout) Top Coat, for example, is one coating system recommended for pontoon deck preservation. John Vitzthum, Dockmaster for BAE Ship Repair-San Diego, has been instrumental in its development. When compared to a typical epoxy coating, this system features ceramic particle loading, which provides 5 times the adhesion, 4 times the impact resistance, 10 times the abrasion resistance, flexibility and dialectric strength sufficient to virtually eliminate galvanic corrosion. It also has excellent chemical resistance, and low permeability due to the 60% ceramic particle content. Finally, it is ceramics that provide the lubricity of Teflon, thus making the deck easy to clean, once coated. CeRam-Kote SPG is a 100% solids, high build coating which can be applied up to ¾" thick. In fact, it has been used to build up the thickness of steel plates to meet minimum thickness requirements. Bob Heger, President of Heger Dry Dock Engineering, referring to the CeRam-Kote product, said in January, "We recommend it to all of our customers." Recently, the CeRam Kote system was applied on a Vigor-Alaska floating dry dock. Dockmaster Greg Howe told ***MarineNews***, "This coating system is holding up amazingly well."

Images: Bill Kraus

Warranty: as important as the coating itself

The typical one year warranty offered for many coating jobs is insufficient. Insist on a multi-year warranty. Mil thickness is again very important as it has an impact on the warranty. Obviously, a 10-15 mil coating thickness is not going to hold up as well as a 40 mil thickness, which can yield a five year warranty, excluding extraordinary impact damage from heavy and/or sharp objects. The shipyard should therefore make arrangements at the outset for "field repair" of this kind of damage during the course of pontoon deck usage. All parties – the shipyard dockmaster, coating manufacturer and surface preparation and coating contractor – should a part of and signatory to the agreed to warranty.

Whichever coating manufacturer is selected, their factory technical representative should be on site throughout the project to supervise as necessary to ensure surface prep and coating applications are done correctly. If any other subcontractors are involved, such as for deck blasting, debris removal, wash down, etc., they should be under the control and responsibility of the prep/coating subcontractor to ensure performance. Once again, a single subcontractor to do the entire job will ensure better results.

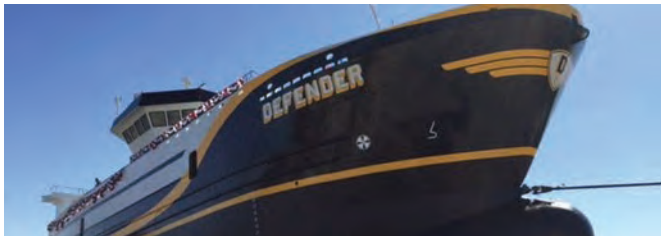
Bill Kraus *is a CeRam-Kote Tech Rep for Shipyards. Kraus holds degrees in both Electrical Engineering and Mechanical Engineering from the U.S. Naval Academy Contact him at* **bill.kraus@sbcglobal.net**

AAM to Construct USACE Survey Catamaran

All American Marine, Inc. (AAM) was recently awarded a contract by the U.S. Army Corps of Engineers (USACE) for the design and construction of a new hydrofoil supported aluminum catamaran survey vessel. The vessel will primarily perform survey missions and some dive operations in support of dredging work planned within the Corps' Philadelphia District. The 68' x 26' custom aluminum catamaran will be designed by Teknicraft Design, Ltd. of Auckland, New Zealand. This contract follows the successful delivery of the 62' Florida II, foil assisted survey vessel that AAM was previously awarded to construct for the USACE Jacksonville District. The aluminum hull will feature the Teknicraft Design signature hull shape with symmetrical bow, asymmetrical tunnel, and integrated wave piercer. A custom aluminum hydrofoil will be fit to span between the sponsons to generate lift of the semi displacement hulls and enhance performance. Power for the propeller driven vessel will be provided by a pair of Caterpillar C18 diesel engines rated 1001 bhp @ 2300 rpm, with an EPA Tier III emissions rating. Auxiliary power will be supplied via twin Northern Lights C40M.3 40.kW generators. The suite of deck gear includes a hydraulic A-frame, davit, scientific winch, and moon pool with deployable sonar strut.

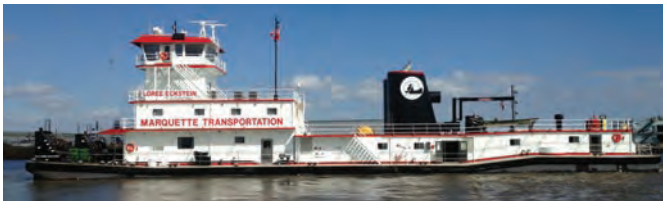
Jensen Maritime Completes Engineering Work for 170-foot Fishing Vessel Conversion

Jensen Maritime was recently selected to provide engineering services including structural and mechanical work for the conversion of a 170' long, 40' wide, fishing vessel for Global Seas and Patti Marine Enterprises Inc. The vessel, now named Defender, underwent significant conversion to make her the first fish pumping vessel in the Global Seas fleet. Because the vessel was being converted from fishing work on the East Coast (herring and mackerel) to West Coast fishing (pollock), a new fish pumping system was installed on the stern and a new full forward, sheltered fish distribution room was constructed for protection during the fish sorting process. Both changes make the vessel better suited for the operations and weather of her new Alaska fishing assignment. Structural work included: a stern extension, bulbous bow with refurbishing of the



thruster, whale back bow cover for the refurbished anchor windlass, an anti-roll tank, aft decks and bulwarks. Mechanical work included: rebuilding the main engines and generators, installation of new propellers, nozzles and Deflector Rudder system. And, electrical systems and wiring received substantial upgrades and reworks by the shipyard along with sandblasting, water blasting, deep cleaning, and re-coating. The vessel's sea trials are scheduled for March.

Gulf Island Shipyards Delivers for Marquette Transportation Company



Gulf Island Shipyards, LLC recently delivered the second of a 3-vessel new build program for Marquette Transportation Company of Paducah Kentucky. The M/V Loree Eckstein, named after John Eckstein's wife, was delivered on February 18, 2016 at Gulf Island Shipyards' Houma (South) yard.

This vessel is 180' x 48' x 11.5'. and is powered by twin EMD 20-710 G7C Tier 3, low emission diesel engines capable of producing over 10,000 horsepower via Lufkin gearboxes. Pushing the vessel are two ducted, stainless steel, 5-bladed propellers. There are two (2) sets of flanking rudders and two (2) sets of Becker "High-Lift" steering rudders which provide excellent steering control and maneuverability. The upper deckhouse is spring-mounted to the main deck reducing noise and vibration for additional crew comfort. The towboat is capable of pushing 40 barges up and down the Mississippi River and adjoining tributaries in a safe and environmentally friendly manner. The towboat M/V Loree Eckstein is a sister to Rick Calhoun which was delivered in August 2015 as well as the M/V Chad Pregracke which will be delivered in September, 2016.

Bouchard Transportation Celebrates Two New Vessels

Bouchard Transportation Co. recently celebrated the naming of the M/V Donna J. Bouchard and the B. No. 272 in New Orleans, LA. The barge, B. No. 272, was launched at VT Halter's Pascagoula Operations in Pascagoula, Mississippi, on November 20, 2015. The tug, Donna J. Bouchard, was launched at VT Halter's Moss Point Marine facility in Escatawpa, Mississippi, on September 15, 2015, and is named after the sister of Morton S. Bouchard III, President/CEO of Bouchard Transportation Co., Inc. Constructed independently of each other, and now paired, the M/V Donna J. Bouchard and B. No. 272 are now classified alongside the Kim. M Bouchard & B. No. 270 as the largest vessels to date in Bouchard's ongoing fleet expansion program. These are the second of two Articulated Tug Barge (ATB) units constructed by VT Halter Marine, Inc. (VT Halter Marine).

B. No. 272 at a glance

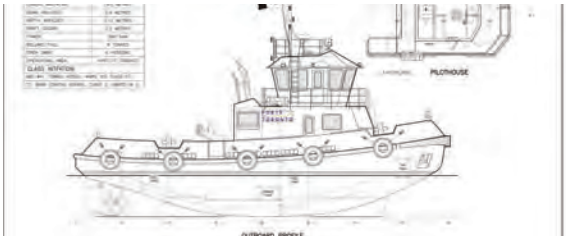
LOA: 628 feet	Capacity: 255,000 barrels
Beam: 91 feet	Class: ABS
Depth: 47 feet	Flag: U.S. (Jones Act)

Donna J. Bouchard at a glance …

Horsepower: 10,000hp	Class: ABS
Propulsion: Twin Screw	Service: Subchapter M
Built: VT Halter	Coupling: Intercon

RAL-Designed Versatile Tug for Port of Toronto

When the Port of Toronto's 45-year-old single screw tug, William Rest, got some hull damage while breaking ice, the incident lent new impetus to plans for a new boat. Like the original, the new boat would do a variety of tasks from tending to dredging, and icebreaking as well as assisting the Toronto Police and Toronto Fire Service marine units. While the older boat was not designed to break ice, the new one will have ice-breaking capabilities. With an overall length of 19.8 meters and, as a single screw tug, a beam of only 6.4 meters the design had to accomplish a variety of tasks. Robert Allan harbor tugs have a distinctive stern shape that gives then good performance in reverse. However that same taper could force ice to go under the hull and possibly damage the rudder. To prevent this, an "ice knife" has been added midships below the transom. This will effectively cut any ice and push it to either side. As some ice



may reach the 54-inch (1.35-meter) five-blade propeller, it has been designed with the extra blade thickness carried out to the tips for additional strength. The single engine propulsion for the new tug will be an inline six-cylinder Tier 3 rated Cummins QSK19-M producing 750 HP providing six-tons of bollard pull. The tug, named in a competition by Toronto school children, Iron Guppy will carry the distinctive Robert Allan style wheelhouse structure that has been proven to provide excellent 360-degree visibility.

Willard Marine's Twin Diesel RIB

Rigid hulled inflatable boats (RIBs) have come a long way since their initial development in the United Kingdom in the late 1960s. Long noted for their stability and safety in turbulent seas, they have found applications in rescue work and military settings. Willard Marine, Inc. of Anaheim, California has a long history of conventional hulls and RIBs. They currently produce a variety of models and sizes of RIBs from 4.9-meters up to 11.07. As are all the firm's RIBs, the SEA FORCE 1100 is available with either fiberglass or aluminum deep-V hulls. Primarily designed for the US Navy, the Sea Force 1100 has been internationally marketed and is also available for civilian uses such as whale watching or local tours. Designated "Landing Platform Dock (LPD-17 Class), LCS" by the US Navy, the RIB can be ordered with enclosed cabins or other superstructure modifications.


Matherly


Textor


Tubman


Fujiwara


Landay

Matherly Joins Delta "T" Systems

Delta "T" Systems has named **Tony Matherly** as its production manager. Matherly has worked in the marine industry for 25 years, most recently at Rybovich. Always in the systems end of ship and yacht building, he began his career with Broward Shipyard. In his new role, Matherly will oversee the production crew to ensure and improve quality assurance, and fabrication, assembly and delivery timeliness.

Sutherland Asbill & Brennan LLP Adds Textor

Sutherland Asbill & Brennan LLP announced today that **James M. Textor** has joined the firm's Energy, Environmental and Commodities Practice Group as counsel in the New York office. Prior to joining Sutherland, Mr. Textor was an attorney at Cichanowicz Callan Keane Vengrow & Textor, LLP. With nearly 35 years of experience – both in private practice and as corporate counsel for a leading oil trader – Mr. Textor is a nationally recognized admiralty and maritime litigator in state and federal courts at both the trial and appellate levels.

David Tubman Named Marad's Chief Counsel

Former FMC counsel **David Tubman** has been cleared by the White House and U.S. Department of Transportation and has been named as Chief Counsel in U.S. Department of Transportation's Maritime Administration (MARAD). In his former role, Tubman has worked for FMC Commissioner William Doyle since the beginning of 2002.

ClassNK Appoints new Chairman and Executives

Current Executive Vice President **Koichi Fujiwara** has been appointed as Chairman and President as well as a Representative Director of classification society ClassNK, effective 7 March 2016. Current Executive Vice Presidents Yasushi Nakamura and Tetsuya Kinoshita will continue in their present roles on the team, joined by Junichiro Iida as Managing Director. Noboru Ueda has stepped down as Representative Director, Chairman and President. Current Executive Vice President Tetsushi Agata has been appointed as an Executive Auditor as part of the Society's aim to strengthen its auditing system. Fujiwara holds a Master of Naval Architecture from the University of Tokyo, and served in Japan's Ministry of Transportation.

Landay Named SAFE Boats Board Director

SAFE Boats International has announced that Retired Vice Admiral **William E. "Bill" Landay III** has been appointed as a Director of the Board at SAFE Boats International. Landay retired in 2013 after more than 35 years of Navy service. His final assignment was as Director of the Defense Security Cooperation Agency (DSCA) from August 2010 until September 2013.

SUNY Welcomes Alumnus and Astronaut Scott Kelly to Earth

Last month, SUNY Maritime College alumnus **Scott Kelly**, '87, felt Earth's gravity for the first time in nearly a year. The astronaut safely landed in Kazakhstan after plummeting hundreds of miles to Earth from the International Space Station. Kelly will return to his alma mater to be given special recognition at the annual Admiral's Scholarship Dinner on May 3. Kelly has been a NASA astronaut since 1996. He has been into space four times.

New Director at Seattle Maritime Academy

Sarah Scherer has taken the helm of Seattle Maritime Academy as its new director this month after a well-rounded career in the maritime industry. The maritime industry veteran has ambitious plans for the Ballard campus, part of Seattle Central College. Scherer has nearly 25 years of experience in the maritime industry, including positions in hydrographic research, fishing vessel operations and oil spill response with the National Oceanic and Atmospheric Administration (NOAA). Scherer earned a bachelor's degree in Marine Sciences from Texas A&M University at Galveston, and a Master of Arts in Applied Behavioral Science in Coaching and Consulting in Organizations from Bastyr University.


Kelly


Scherer


Vengrow


Chang


Kuznetsova

Montgomery McCracken Adds Two Maritime Attorneys in New York

Montgomery McCracken has announced the addition of two attorneys to the Maritime and Transportation practice group in the firm's New York office. **Stephen H. Vengrow** joins the firm as a partner and **Eric Chang** joins as an associate. Both were previously at the maritime law firm of Cichanowicz Callan Keane Vengrow & Textor, LLP. Vengrow has more than 40 years of experience in maritime law. He focuses his practice on cargo claims, personal injuries, collisions, ship fires, land transportation, insurance, corporate litigation, and bankruptcy matters. Chang focuses his practice on complex commercial litigation and maritime matters.

Kuznetsova Promoted to INTTRA President, COO

Inna Kuznetsova has been promoted to President and Chief Operating Officer at INTTRA. Since joining INTTRA in 2015, Kuznetsova has served as President of INTTRA Marketplace, the company's core business. Kuznetsova has also lead INTTRA's eVGM Initiative and the development of an eVGM compliance software solution for carriers and shippers. The eVGM Initiative is a non-commercial group consisting of more than a dozen leading carriers, freight forwarders and ports working to develop technology and business process standards to foster industry-wide compliance with upcoming Safety of Life at Sea verified gross mass (SOLAS


Everett


Parsons


Carpenter


Allegretti


San Jacinto College

VGM) container weight requirements - and expressing a common preference for a digital approach to VGM compliance.

Trojan Battery Appoints Everett SVP of Engineering

Trojan Battery Company has named **Michael Everett** senior vice president of engineering. Everett oversees the company's product development, research and development, process engineering, technical support and various other analytical responsibilities for the company's worldwide engineering strategies. Everett earned a Bachelor of Science degree in mechanical engineering from California Polytechnic State University, San Luis Obispo, and Bachelor of Arts degrees in geology and zoology from the University of Vermont in Burlington, Vermont.

FMC Commissioner Doyle Welcomes New Counsel

The Federal Maritime commission has announced that **Patrick W. Parsons** has Commissioner William P. Doyle's office to serve as Counsel. Patrick is a 2015 graduate of American University's Washington College of Law. While in law school, he clerked in my Doyle's office for two semesters and later worked for the Department of the Treasury's Office of the Inspector General as a legal assistant, and after being admitted to the West Virginia State Bar, he was converted to the position of Attorney Advisor there. Prior to law school, Patrick graduated from West Virginia University.

Subchapter M Rule Enters Final Stage of Administration Review

The Subchapter M rulemaking package, signed by Homeland Security Secretary Jeh Johnson, was accepted by the White House Office of Management and Budget for review on February 16. The OMB review is the final stage in the Administration review process and takes approximately 90 days, meaning that the long-awaited rule establishing an inspection regime for towing vessels will likely be published in the Federal Register before the end of the second quarter. "For over a decade, AWO has strongly supported the Coast Guard as it has worked to develop a towing vessel inspection regime. We are very pleased that the end of the road to Subchapter M is in sight now that the rule is under review at the White House Office of Management and Budget," AWO Executive Vice President & Chief Operating Officer **Jennifer Carpenter** said, hailing the recent development. **Thomas A. Allegretti**, AWO President & Chief Executive Officer added, "The rule will raise safety standards throughout the tugboat, towboat and barge industry, incorporating and building on the safeguards that quality companies have already put in place and ensuring that all towing vessels achieve a minimum threshold of safety that is necessary to protect lives, the environment and property. We urge OMB to review the rule expeditiously."

Grand Opening of the Maritime Technology and Training Center

With the cut of a ribbon and ring of a bell, San Jacinto College marked the grand opening of the new Maritime Technology and Training Center on the Maritime Campus on March 8, 2016. The Center is located next to a turning basin along the Port of Houston at 3700 Old Highway 146 in La Porte, Texas – the ideal location for students training to enter the maritime industry, and for current mariners upgrading their U.S. Coast Guard certifications. Texas ranks third in the nation for all domestic maritime industry jobs, according to a PricewaterhouseCoopers Study released by the American Maritime Partnership. However, more than half of the industry's workforce is reaching retirement age. This is why San Jacinto College began offering its maritime training in 2010, which led to the creation of the Maritime Technology and Training Center.

HudsonAnalytix Becomes First U.S. Green Award Incentive Provider

HudsonAnalytix, an international marine risk management consultancy, has become the first U.S. company to be named an Incentive Provider for the international Green Award. The Green Award Foundation certifies maritime shipping companies and vessels that exceed legally required

HudsonAnalytix

ClassNK

standards in terms of environment, safety and quality of operations. Incentive Providers recognize and reward the efforts of Green Award certificate holders by offering them an exclusive savings on services.

ClassNK gains USCG authorization under ACP

The United States Coast Guard (USCG) has authorized leading classification society ClassNK to participate in its Alternate Compliance Program (ACP) in addition to granting the authorization to carry out statutory surveys for US-flagged ships in 2011. The ACP was developed as an alternative method for US-flagged vessels to fulfill the regulatory requirements for construction and operation. Under the program, ClassNK can now carry out a wide range of surveys and inspections on US-flagged vessels on behalf of the USCG.

NOIA's Luthi Pans Obama Administration's Atlantic OCS Lease Decision

National Ocean Industries Association President Randall Luthi issued the following statement following last month's release of the 2017-2022 OCS Oil and Gas Leasing Proposed Program: "The good news is that there are still offshore lease sales planned in the Gulf of Mexico and Alaskan Arctic. The bad news is the disappointing and mind-boggling removal of Atlantic Lease Sale 260

Luthi

Zukunft

Courtesy: Kirby Corporation

Kirby Corporation

from the 2017-2022 OCS Oil and Gas Leasing Proposed Program. This is a short-sighted political decision of an administration influenced by the radical and extreme minority devoted to keeping fossil fuels in the ground. The removal is not based upon science or good energy policy, and will certainly inhibit the economic opportunities and energy security of our country." Luthi added, "This is the wrong direction in efforts to continue the U.S. march towards energy independence."

Coast Guard Seeks Input for Atlantic, Gulf Seacoast Study

The U.S. Coast Guard is seeking input from commercial and recreational mariners for an assessment of navigation requirements on the Atlantic and Gulf seacoast. The Coast Guard Waterways Analysis and Management System (WAMS) survey is focused on the Atlantic Ocean and Gulf of Mexico Seacoast System, an open water system typically traveled by mariners arriving from an ocean voyage or transiting along the coast. Individual mariners and interested maritime industry representatives can provide input until May 31, 2016, at: ***https://www.surveymonkey.com/r/SeacoastWAMS***. The assessment is the first in a series of national-level reviews that are part of the Future of Navigation initiative.

Coast Guard Commandant Lauds Support for Service

U.S. Coast Guard Commandant Adm. **Paul Zukunft** delivered the 2016 State of the Coast Guard Address at U.S. Capitol Visitor Center Congressional Auditorium in late February. This was Adm. Zukunft's second State of the Coast Guard Address and he welcomed the opportunity to recognize Service accomplishments, reinforce his strategic intent and provide direction for the coming year. "Now, on behalf of the 88,000 women and men of the Coast Guard, I profoundly thank the 114th Congress and this Administration for delivering an authorization bill along with the largest acquisition budget in Coast Guard history," stated Zukunft. The commandant's speech focused on how the budget is being driven by strategy and how the budget will support his priorities to invest in the 21st century Coast Guard, sustain mission excellence, and maximize value to the nation.

Kirby Buys Seacor's Inland Tank Barge Fleet

Kirby Corporation has agreed to purchase the inland tank barge fleet of SEACOR Holdings Inc. from subsidiaries of Seacor for approximately $88 million in cash. The asset purchase will consist of 27 inland 30,000 barrel tank barges and 13 inland towboats, plus one 30,000 barrel tank barge and one towboat currently under construction. Also, as part of the agreement, Kirby will transfer to Seacor the ownership of one Florida-based ship docking tugboat. The deal is expected to close early in the second quarter of 2016 and is subject to certain customary conditions, including regulatory approvals. Kirby said it plans to pay for the acquisition using funds available under its revolving credit facility.

U.S. Shipping Corp. Receives the 2015 Benkert Environmental Award

IThe U.S. Coast Guard recognized U.S. Shipping Corp. with the 2015 Rear Admiral William M. Benkert Environmental Protection Bronze Award March 4 in New Orleans, LA. The biennial award program honors leaders in the field of marine safety and environmental protection. U.S. Shipping Corp provides long-haul marine transportation services in the U.S. Jones Act Trade. In 2015, the company safely transported over 1.8 billion gallons of petroleum, petrochemicals, and chemical products with more than 600 cargo transfers. Over the past four years, the company has achieved a significant reduction in its recordable injury rate, clocking over one million man hours without a lost time incident. It has also made a significant impact with environmental programs, achieving goals for waste management and energy efficiency.

Furuno's Solid-State Radome with Doppler Technology

The DRS4D-NXT is a Solid-State Radar with pulse compression and Doppler frequency shift sensing technology, built into a compact 24" Radome. This "NXT" generation Radar is designed for use with both NavNet touch and touch2 MFDs. The DRS4D-NXT's "Target Analyzer" automatically changes the color of targets approaching your boat to clearly show any hazards. Incredibly, "Target Analyzer" works independently of one's own ship speed.

www.FurunoUSA.com

Allied Marine Cranes

Allied Marine Crane's redesigned A-Frame crane drastically improves the safety and capability of the marine research industry. The A-Frame's cross beam rotates freely as it deploys, guaranteeing load and lighting are oriented throughout the entire range of motion. The Allied A-Frame also possesses a unique maintenance pin design that creates an additional degree of freedom to provide an unprecedented 172 degree range of motion.

www.alliedsystems.com

Alphatron Marine's River Radar

Alphatron Marine river radar model JMA-610 plays an integral role in the inland AlphaBridge. The JMA-610 is a cost-effective, user friendly, high quality river radar developed together with JRC. Available as a black box solution featuring a multi speed scanner, the superior radar picture, integrated AIS functionalities and a unique Photoshot recording function, this navigation center is considered the best of its kind.

www.alphatronmarine.com

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JA Moody Teams with William E Williams Valves

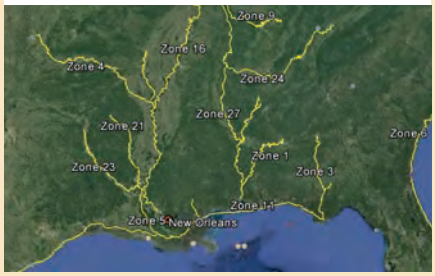
JA Moody has teamed with William E Williams Valves to offer both Commercial Marine and Navy Gate, Globe and Swing Check Valves. William E. Williams is a manufacturer of multi-turn valve products. JA Moody has been supplying the US Navy and Commercial Marine for over 65 years with butterfly valves. Now, the firm offers a full line of valves including pressure relief & safety valves and multi-turn valves.

www.jamoody.com

DataLog Software with NEW TaxLog Feature for Inland Operators

Economically priced DataLog Software with NEW TaxLog Feature for Inland River Operators automatically tracks main engine fuel consumption when vessels enter and exit any of the 27 taxable U.S. inland river waterways, greatly simplifies fuel tax reporting requirements and gives detailed fuel usage reports provide IRS audit protection. Eliminates guesswork of when a vessel operates in a taxable river zone.

www.floscan.com



CMR's BWTS Control Panels

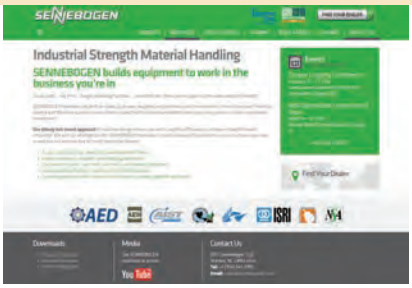
A new modular approach for Ballast Water Treatment Systems (BWTS) and marine control panels has been developed by CMR Group. Goldfinch is an advanced engineering process that is based around standard and modular panels for BWTS, enabling OEMs to expand and improve their offering through reduced lead times and cost savings. Using Goldfinch can reduce time-to-market lead times by 75% when compared to traditional systems.

www.cmr-group.com

Videotel, Safebridge to Facilitate Onboard ECDIS Certification

Videotel has joined forces with online maritime training business Safebridge GmbH, which specializes in ECDIS training, to provide shipping companies with the unique ability to certify their seafarers on ECDIS type-specific training while serving onboard. More than 30 ECDIS type-specific training courses will be available, which is the most comprehensive offering in the industry. Maritime regulations requiring ECDIS compliance on all ship types will continue until 2018.

www.kvh.com



Sennebogen Website Focuses on "Purpose-Built" Machines

Sennebogen's recently launched website is designed to turn the spotlight onto the users and the applications for purpose-built material handlers throughout the Americas. The new design provides a versatile platform that features Sennebogen machines on the job in each of its primary customer sectors: scrap & recycling, steel mill service, log-handling, port facilities and waste management.

www.sennebogen-na.com

Fast Bearing Turn-around with Vesconite

Vesconite and Vesconite Superclad replacements are available for immediate shipment. Vesconite is an internally lubricated polymer that excels where high load strength, dimensional stability, and zero swelling or softening is required. It performs in dirty and silty water and has long wear life so maintenance costs are reduced. Unlike metal bearings, oil or grease lubrication isn't needed, and it is compliant with EPA Uniform National Discharge Standards.

www.vesconite.com

Twin Disc Unveils New Website

Twin Disc's redesigned website is optimized for mobile devices and is simpler to navigate. The company's portfolio can be viewed by market segment. An extensive library of literature and online drawings are available for download, as are updated product bulletins. Marine customers can use the Transmission Selector Tool to easily locate the ideal transmission for their specific application, be it a recreational or commercial vessel.

www.twindisc.com

Schoellhorn-Albrecht's Low Profile Above Deck Capstan

Schoellhorn-Albrecht's Low Profile, Above Deck Capstan was a response to space and size requirements from the customer. Due to the boat's configuration, all capstan components were required to remain above deck. This new Low Profile capstan is designed with high efficiency planetary gearing, permitting smaller overall size, lower horsepower, lower power consumption while providing increased pulls. Schoellhorn-Albrecht manufactured and delivered the unit within just four weeks.

www.schoellhorn-albrecht.com

RSC Bio Solutions Gear Oil for Thrustmaster Gearboxes

RSC Bio Solutions' EnviroLogic 210EP readily biodegradable gear oil is approved for use in Thrustmaster gearboxes and thrusters. Thrustmaster has extended its existing relationship with RSC Bio Solutions, whose sustainable technologies are approved for use by Thrustmaster in workboat, marine and wind applications. EnviroLogic 210EP is a non-sheening, readily biodegradable synthetic ISO 100 grade gear oil that offers anti-wear and extreme-pressure properties, excellent corrosion and rust protection.

www.thrustmaster.net

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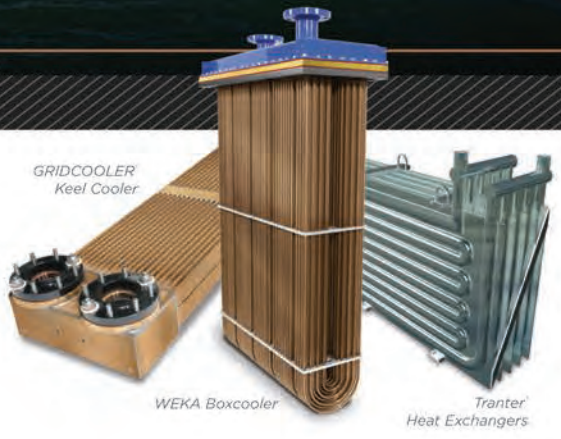

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