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Image courtesy: iStock

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It doesn't matter what kind of workboat operation you are engaged in. Eventually, the day to day work has to be optimized. That means employing the best technology available and for some, that means management software. That story begins on page 30.
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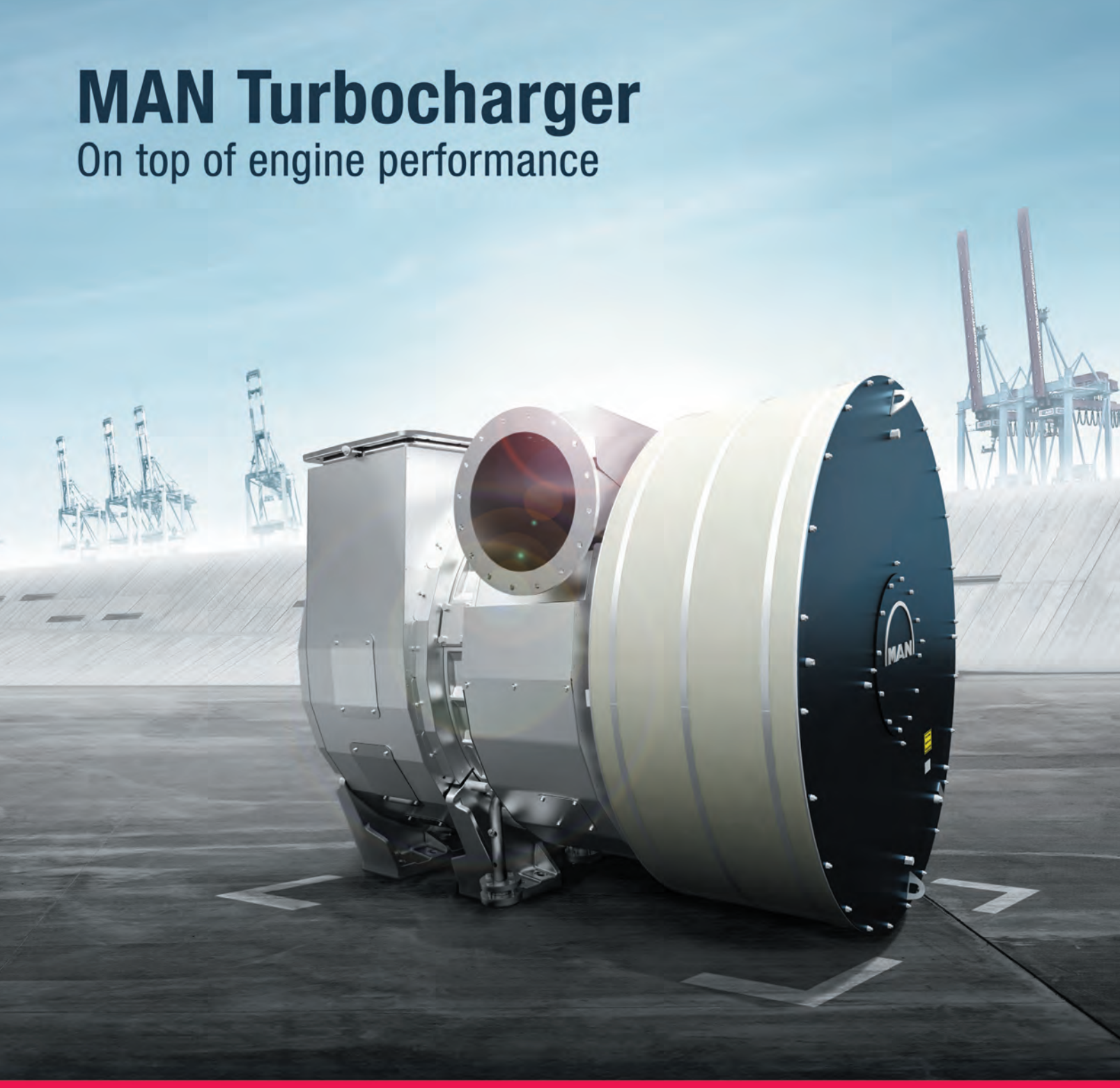

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Fleet Optimization is a broad term which *might* be described as the best practices and equipment that will make any collection of vessels more environmentally correct, economical and yes, attractive to prospective charterers. In this edition, it means whatever I say it means. Separately, and as the closely watched rig count in the U.S. Gulf in the U.S. Gulf continues to drop – dipping below 80 percent utilization as we went to press – so, too, go the rates for offshore supply vessels. As such, and if you operate a workboat in this climate, you can probably be forgiven if SATCOM, Software and water treatment technology (of all things) aren't necessarily the number one thing on your plate when you sit down at your desk each morning. That said; all three items, at one time or another, someday probably will.

It is clear – at least to me – that the brown water, workboat market has grown up considerably over the course of the last two decades. It already represents 99 percent of our commercial merchant marine in terms of hulls alone. But the sector has also embraced a technology boom that has its vessels literally bristling with leading edge equipment that, in some cases, eclipses that which is happening on the blue water, deep draft side. Beyond this reality, a more sophisticated and better educated mariner is now the rule and not the exception in this sector. Management software naturally comes along with all of that forward thinking, and the workboat world is steadily embracing its arrival. That story begins on page 30.

Operators and workboats can collect all the data that they want, but if that information isn't synchronized and shared across multiple internal stakeholders in near real time, it probably isn't doing anyone much good. Nor will it optimize your bottom line. For that reason, it may be finally time for workboat managers to take the final step that will tie all of their technology together. We're talking about SATCOM, of course. The days of putting up with spotty cellular coverage and slow data transfer are finally coming to an end. SATCOM for workboats is here; it is affordable and very soon, you won't be able to compete in these markets without it. Inside, you'll find out how and why.

"We're from the government and we are here to help." If you are one to cringe when you hear that kind of outreach from the federal government, this is the one time perhaps that you ought to think again. The U.S. Environmental Protection Agency's SmartWay program has reached the inland waterways. Encouraged by success on land, EPA has begun a new Barge Freight component of the program which they say will help to more completely determine the carbon produced by freight supply chains, and to see the environmental benefits of barge transport. It turns out that the EPA has a seat waiting for you at the SmartWay table. If that's not fleet optimization, then I don't know what is.

Joseph Keefe, Editor, keefe@marinelink.com

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Domestic Maritime Assets: Vessels – and People, too …

It doesn't hurt to take a hard look at the data every once in a while. Regular ***MarineNews*** readers know that we like to do it every 30 days or so. This month, we took a hard look at what makes the domestic waterfront tick: the boats in the water and the people who take them where they have to go. What we found is that the changing demographics of the U.S. maritime equation are telling, both in terms of vessels and manpower.

It is easy to look back on all the changes that have occurred since the end of the Viet Nam war. These variables add up to a cumulative disruptive event which, although different, isn't necessarily bad. A shrinking blue water fleet, along with the explosion of on board technology, has changed both the kinds of mariners and the types of vessels that we see in our collective domestic fleet. Hence, the shrunken (perhaps permanently) deep draft fleet has not yet translated into a shrinking pool of U.S. seafarers.

But, what does today's U.S. merchant fleet really look like? Actually, it is surprisingly robust and – you guessed it – heavily invested in the inland and offshore energy markets. The market trends do not show it changing in numbers radically over the past decade, but its makeup is shifting, ever so slowly. Holding steady at about 40,000 hulls, all but a handful can now be considered brown water and/or workboat hulls. And, the domestic deep draft fleet, despite a flurry of newbuilds, is not keeping pace on a tonnage or hull-for-hull basis.

In the past 35 years, it can be argued that there have been six disruptive events in the domestic maritime employment theatre that have profoundly affected the available mariner pool. These events include the end of the Viet Nam War, the introduction of renewable credentials, the EXXON VALDEZ Grounding / implementation of OPA-90, the introduction of STCW to seagoing requirements, 9/11 security enhancements, and the domestic energy boom. Nevertheless, as shown below in **table 3**, the mariner population continues to grow. And the U.S. maritime academies, as evidenced by the explosive growth in unlimited deck and engine licenses, continue to churn out licensed mariners. Indeed, over the past 15 years alone, and despite a shrinking blue water fleet, the total U.S. mariner population has increased by almost 27,000 seafarers, or a whopping 14 percent. It's also true that of today's 220,610 U.S. Coast Guard credentialed mariners, nearly 150,000 are considered brown water, so-called lower grade tickets, separated from the unlimited tickets by (a.) tonnage, (b.) horsepower, (c.) restricted operating areas or perhaps all three. And this, of course, corresponds to the fleet numbers and makeup in **Table 2**.

Other changes have occurred, of course. The explosion of technology aboard the brown water workboat fleets has created a much more sophisticated and better educated mariner. The domestic energy boom (is it over?) created great demand for qualified personnel and accordingly, salary ranges for certain job descriptions went up noticeably. In general, pay has been rising steadily for the better part of a decade.

Perhaps the most striking aspect of the domestic seafaring manpower scene is the breadth of categories under which a mariner can be placed. Some can claim literally a dozen different classifications.

In February, we polled the U.S. Coast Guard's National Maritime Center (NMC) for updated mariner statistics. Indeed, we could not have performed this exercise without them. What we found is that counting bodies is now an inexact science, especially given that the complexities of today's seafarer population are simply staggering.

Consider that today's domestic mariners are categorized by the geographical areas (waters) that they are certified to sail in (24), the tonnage of the vessels that they sail on (25 tons all the way to unlimited – 34 categories in all), the different types of vessels that they sail on (23) and finally, the job descriptions (the Coast Guard calls these 'capacities') that they sail on (95+). Now: consider the possible combinations in all of that and now you know what the Coast Guard deals with on a daily basis. Beyond this, these categories and myriad combinations don't even take into account the murky world of STCW certifications. The days of walking up the gangway of any vessel with a simple credential or license are over, forever. Maybe that's a good thing, especially considering the many different mission sets out on the water today. But, it doesn't make it any easier to qualify for a job, nor does it make it any easier for operators to find the right people for the right vessels at the right time. Nominally, on paper, there is no manpower shortage but the real question to be asked is whether the skill sets of the current pool of mariners matches the tonnage that they are being asked to sail on. Confused? So, too, are we. You are in good company.

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Table 1 – US Flag Oceangoing, Deep Draft, Self-Propelled Tonnage

TIME PERIOD / ERA	TOTAL SHIPS	TANK VESSELS
WW II	644	260
KOREA	1,268	455
VIET NAM	952	279
POST-VIET NAM	578	288
1997	302	145
2002	257	92
2006	197	75
2014	167	50

Statistics IAW MARAD and industry sources.

Table 2 – Domestic Fleet Breakdown (2004 – 2012)

	2004	2005	2006	2007	2008	2009	2012
Deep Draft	230	Not avail.	197	197	197	196	179
Lakers	50	49	48	48	48	48	50
OSV	Not Avail.	1768	Not Avail.	Not Avail.	Not Avail.	Not Avail.	1668
Inland/Coastal	37209	37936	38078	37589	37214	38553	37618
Tugs	5314	5290	5285	5356	5424	5735	5499
Barges	31266	32027	32187	31629	31212	32214	31550
Ferries	629	619	606	604	578	604	569
Total	38392	39156	39387	38903	38578	39929	40530

Table 3	August 2001		October 2006		February 2015 (*)		Diff. (2006 – 15)	
	TOTAL	W/STCW	TOTAL	W/STCW	TOTAL	W/STCW	Gain / Loss	PCT.
TOTAL POPULATION	193,000	28,442	209,800	49,900	220,610	60,607	+ 10,810	5.15 %
DECK LICENSES (unlim)	8,721	4,506	9,200	7,100	14,190	11,594	+ 4,990	54 %
ENG. LICENSES (unlim)	9,680	4,843	11,500	8,800	11,942	11,054	+ 442	3.84 %
QUALIFIED DECK RTG.		8,545	22,200	15,300	33,923	27,824	+ 11,723	53 %
QUALIFIED ENG RTG.		2,586	5,300	4,100	11,118	8,930	+ 5,818	109 %

(*) Current Coast Guard Data as compared to data compiled from combined MARAD and USCG Sources in 2002 & 2006.

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Steven A. Candito

President & CEO, NRC

This month's featured INSIGHTS executive is Steven Candito, President and CEO of NRC. He has extensive experience with OPA 90 compliance issues with particular focus on vessel owner and insurance matters. Mr. Candito was previously an attorney with Haight Gardner Poor & Havens, specializing in maritime litigation and environmental law. He also served as a marine engineer aboard Exxon USA's domestic tanker fleet from 1980 to 1985. Candito is a graduate of Hofstra University School of Law and the United States Merchant Marine Academy. He is a past President of the Spill Control Association of America. Listen in as he aptly describes the business model of the global 'for profit' response provider.

Flesh out for us the 'for-profit' business model of the OSRO NRC.

From a cost comparison perspective, as with any for-profit business, you must focus on making good business decisions, operating efficiently and continuous improvement. NRC has structured its business and operations to meet the needs of its customers while keeping its costs low and offering fair prices. A good example of this fact relates back to the genesis of NRC. At that time, MSRC was building 20 new response vessels at a cost of about $16 million each. NRC recognized that vessels with very similar hull characteristics already existed and many were out of service because of the market conditions in the early 1990s. NRC was able to buy existing supply vessels very cost effectively and convert them into Oil Spill Response Vessels (OSRVs) to meet the OPA 90 requirements at a cost of about $1 million each. With a significantly lower capital structure, we were able to provide our OPA 90 compliance service at much lower fees, even though our fees included a profit component. Those same innovative ideas continue today with our new compliance service in Alaska where we are making use of a combination of dedicated and non-dedicated resources to meet the regulations cost effectively.

Give us a sense of the size of your company – employees, assets, vessels, and geographical reach.

NRC's 3,000 clients include foreign and domestic oil majors and independents as well as manufacturers, utilities, architectural and engineering firms, and, of course, the transportation sector (shipping, rail, trucking, etc.). We also provide a variety of services to federal, state and local government agencies. Domestically, NRC holds the highest USCG OSRO classifications for all operating environments in all U.S. Captain-of-the-Port (COTP) Zones (except Alaska). With over 1,000 full time employees, NRC maintains personnel and response equipment throughout the U.S., Puerto Rico, and the U.S. Virgin Islands. NRC response equipment and resources are strategically positioned within the COTP zones in order to provide regulatory response and other environmental and industrial services to our clients. NRC resources include a Marine Resource Network, which supplements our owned fleet of 20 offshore OSRVs and Oil Spill Response Barges (OSRBs); as well as specialized response equipment such as shallow water portable barges, boom, skimming systems, response trailers and mobile communication centers. In addition to our owned equipment and full time personnel, NRC maintains an expansive Independent Contractor Network, which enables us to rapidly cascade response equipment and up to another 5,000 trained personnel to an emergency. Internationally, we operate a number of major response facilities located in the Mediterranean, Caspian Sea, Black Sea, Middle East and Far East regions.

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On a worldwide basis, NRC is supporting oil majors and independents by providing Tier I and Tier II response solutions as well as specialized support services to our worldwide clients. We also provide environmental and industrial services to the North Sea market.

Any business model solely dependent on spill revenue is likely to have challenges. So, what do you rely upon for income during the times that no events are occurring?

NRC is a fully diversified environmental services company. Emergency response to oil spills is just one aspect of our business. However, all of our business lines – standby services (including response) and environmental and industrial services – are complementary businesses. Our OPA 90 standby compliance business generates retainer revenue that supports the purchase, maintenance, and prepositioning of equipment as well as the training and prepositioning personnel, even if we are never called to respond. If this business were our only service, it would not be attractive to our investors because the potential revenue from spills is too unpredictable. Thus, we leverage our equipment, personnel and client relationships to generate revenue and profits from our other day-to-day environmental and industrial service lines.

Are most of your fleet assets non-dedicated vessels on retainer? What if one is in the middle of a cargo run when you need it most?

First, most of our owned vessels are dedicated to spill response. We have several owned non-dedicated vessels that routinely work in local activities such as bunkering, survey, or diving support. In these situations, the vessels must remain in a specific geographic area and their charters allow for their immediate release so that we can meet the OPA 90 time frames, if we need the vessel for a spill response. We also identify back-up resources from our Marine Resource Network if there is a chance that the owned resource cannot meet the time frame. This combination of dedicated and non-dedicated resources, along with some redundancy, enables us to keep sufficient resources in a standby readiness state leaving other assets available for project work. One of our programs has been to equip work or supply vessels with some essential response equipment. In a spill, these work vessels will often be the first on scene and have the capacity to immediately deploy boom or begin some skimming operations until back-up or more fully equipped dedicated response vessels arrive on scene.

You've asserted that routinely used assets and personnel operating equipment are more proficient when they use it frequently. Give us some examples.

It may be helpful to use a college sports analogy to better explain this point. When evaluating a team, we often look at the number of "returning" players that have had the experience of playing in real games from prior seasons. Now even though most teams practice a similar amount during the course of a season, we often give the edge to the team with more returning players because they have been "battle tested." We certainly still need to train and inexperienced teams can be good, but if I have a choice I am going with the team that has the most returning players. So translating that analogy to our business means personnel that are experienced in operating equipment almost daily in routine situations will operate equipment more effectively and safely during emergencies. Real working experience, along with strong training and exercise and safety programs, encourages the vitality of our operations and better management practices. Our diverse service offerings give us greater control over our project work and more oversight to vet our personnel, subcontractors, and business functions in non-emergency situations. It also enhances the services that we can offer to our clients.

With the new Salvage & Marine Firefighting rules, have lines between salvage, response and remediation blurred some? If so, is that a good thing?

The lines are still fairly well defined from a compliance perspective with the exception of Alaska where NRC as an OSRO and Resolve Marine Group (Resolve) as a Salvage & Marine Firefighting provider are jointly providing OSRO compliance services via our 1Call Alaska service. I am biased since we developed the service with Resolve, but I certainly think it is a good thing. On the OPA 90 compliance side, our 1Call Alaska service is helping to drive down prices and improve service. On the response side, we clearly will provide a more timely and coordinated salvage and spill cleanup response than has historically been available along the Aleutian island chain in Western Alaska. With that goal in mind, partnering with Resolve was clearly the most cost effective way to provide the needed and improved compliance service in Alaska. The response resources in this area have, until recently, been somewhat limited. Also, new add-ons to OPA 90 now require shipowners to have salvage and firefighting agreements similar to our traditional OSRO compliance agreements. NRC and Resolve have many shipowner clients in common and marine salvage response often goes hand-in-hand with oil spill response.

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ahowell@tdw.com

You have stated, "There is no doubt that NRC's presence in the market has kept not-for-profit fees in check." Give us a garden-variety example of that metric in actual practice.

Two good examples involve regulatory compliance services in the State of Washington and in Alaska. The non-profit cooperatives operating in both of these areas left few compliance options for the vessel operators creating costly fees for the shipping community. In Washington, the Department of Ecology (WDOE) requires tank and non-tank vessels to have additional response capabilities beyond those required by the Federal OPA 90 requirements. In 2014, NRC became a fully approved Washington State Contingency Plan holder, which gave our vessel clients the option to enroll under NRC's more economical umbrella plan for compliance with WDOE requirements. Prior to NRC receiving its stand-alone approval, vessels operators had one option for this requirement and that was to sign-up with the local not-for-profit cooperative. As a result of NRC entering the market in Washington and with our Alaska initiative to expand commercial services with 1Call Alaska, the fees for compliance services in both of these regions have become more competitive. As a result, we understand that the local not-for-profit cooperatives are also purchasing or contracting for additional equipment and are trying to become more user friendly by revising their service agreements to be in compliance with the International Group of P&I Clubs' guidelines. These improvements likely would not have happened without NRC's entry into the market.

NRC provides not only OPA 90 OSRO compliance services, but also many other environmental services around the world. Some describe this diversification as 'lack of focus,' but you call it critical to your success. Tell us why.

NRC has been strategic in diversifying into businesses that support and enhance our core service offerings. But it is not just about broadening our services, it is also about innovation and adding more specialized and unique capabilities to our business portfolio, such as our acquisition of SRS, a company that specializes in the routine transfer to highly flammable or caustic products as well as response to emergencies. As a result, our many clients have enjoyed the benefits of our innovation and cost effectiveness via great service and reasonable costs. Again, it's about adapting to the market, maintaining cost effectiveness, while increasing performance and work quality. These are the benefits we deliver to our clients.

Describe the most important lessons learned during and after the Deepwater Macondo incident?

NRC was one of the first contracted OSROs to be on scene at the rig site and maintained operations well beyond the capping of the Macondo wellhead. We were involved in most aspects of the 2010 response with crews spanning four GOM States. NRC deployed over 150,000 feet of offshore boom, 112 skimming systems, 14 dedicated response vessels and barges along with another 400 third party vessels sourced through our Marine Resource Network. NRC was also a major contributor to the aerial dispersant operations that were critical to the response effort; and we managed 48 decon sites through the response area. First, we learned that dedicated resources alone would never be sufficient for a large event. Second, no matter how significant the event, an OSRO should not move all its dedicated resources from other regions to the current event. Some resources should be left in reserve to protect other regions from a subsequent spill. The Macondo well release was a historic event for all involved in the response. It was a major undertaking to deploy the massive amounts of response equipment spanning four states along the GOM. Our ability to source and activate 400 substantial work vessels for the response effort was confirmation that our response business model, which includes both dedicated and non-dedicated resources and contractor networks, is the better option. While a tremendous amount of equipment was sent to the GOM, NRC still maintained sufficient equipment stockpiles in all other operating areas in the event of an unrelated spill during that time. Equipment readiness in areas removed from the GOM was a particular concern to many of our clients and we were able to satisfy that need, where not-for-profits that relied only on their own dedicated resources were challenged by this issue.

You talk about innovation from the private sector – tell us about where NRC is involved in spill research and product / service development.

Our strength is the creative and entrepreneurial approach we take to our business. Whether it is utilizing non-dedicated response vessels for project work, such as providing on-water recovery services to a major private space exploration company, to offering insurance liability solutions for our vessel clients during offshore oil spill incidents, we take a fresh look at the issues at hand and offer creative, cost-effective solutions. For example, in 2012 the OPA 90 regulations were expanded to require tank (and now non-tank) vessels to have aerial dispersant capabilities. This new

requirement as well as the dispersant litigation that arose from the Macondo spill led to concerns over the Responsible Party's liability when chemical dispersants are used in a spill. At the time, our competitor took a hardline approach that assumed no risk for such dispersant uses pushing all liability and risk to their clients via a short notice contract change. NRC's approach was to work closely with our clients and with their Protection & Indemnity Clubs (insurers) to provide better risk allocation to the vessel owner. Further, we implemented this enhanced contract option during our next contract renewal period, not on short notice. This solution meant increasing our own insurance coverage and agreeing to share risk with our client. NRC has also looked to research and product development to improve our operations. Finding response solutions in the heat of a response can lead to innovation. This was the case during the 2010 Macondo spill when NRC made modifications to a skimming system in order to more efficiently collect floating tar balls. This new system (Automatic Tilting Oil Skimmer) was later improved and patented by NRC. More recently NRC was one of three major OSROs approached by Booz Allen Hamilton and SEA Consulting Group to voluntarily provide survey information needed by the Bureau of Safety and Environmental Enforcement (BSEE) Oil Spill Response Division (OSRD). OSRD is updating its Oil Spill Response Plan (OSRP) regulations to reduce and mitigate risks associated with Outer Continental Shelf oil spills. The purpose of this project is to characterize regional oil spill response equipment, technology, and strategies for BSEE's OSRD regulation developers. At present, the study is still in process and information is still being compiled for submission.

Could Sub-$50 Crude Oil Sink Marine Financing in the GOM?

By Richard J. Paine, Sr.

The Gulf of Mexico basin is comprised of areas of various depths. Approximately 38% is shallow (about 65' deep); the continental shelf and slope account for another 44% (down to about 6800'); the balance is deeper than 6,800' and is, in some areas over 10,000' deep. It covers an area of over 579,000 square miles running 994 miles east to west and 559 miles north to south.

If the Midwest is the breadbasket of America, then the Gulf State's region and offshore areas are America's gas station. According to the U.S. Energy Information Administration, offshore oil production in the Gulf accounts for 17% of total U.S. crude oil production, 5% of the natural gas, and 45% of U.S. oil refining and 51% of natural gas processing plant capacity.

In 1991, a gallon of regular unleaded gasoline was about $1.00 at the pump. At the time of this column being written, after 17 straight weeks of declining prices, the national average is just above $2.00. It's been as high as $4.25 in New York – and not too long ago, at that. With a worldwide glut of oil and refined petroleum products, demand nevertheless remains strong with the average consumer keeping as much as $750.00 in gasoline costs in their pockets.

But the flipside of this consumer bonanza is the pain being felt throughout the oil and gas production world and no more obviously then in the Gulf of Mexico. Rigs are at the heart of the energy exploration and production business. The rig count table depicted below includes all jackups, semi-submersibles and drillships. Those rigs which have a contract in place are separated from those that are available. This does not accurately reflect working rigs as some are in transit, down for maintenance or otherwise not actively producing.

Real Conditions, Real Pain

With the decline of rig utilization from a year ago of 94.1% to the current 78.6% (some experts have put the number closer to 66%) it is not just the rig owners and personnel that are hurting. All suppliers to GOM energy exploration and production (E&P) industry are feeling the pain.

The supply boat and crew boat sectors are seeing utilization dropping in most categories. Most noticeable are crewboats under 170' declining year over year from 85% to 76% and those larger from 100% to 79%. Utilization of various sized supply boats is generally holding its own. While most dayrates are fairly stable, lower usage equals lower revenues.

And thus, the snowball effect begins. Small and medium size operations may find it increasingly difficult to keep up with the expense side of the ledger. Although cutbacks in operating costs like fuel, maintenance and personnel may ease the pain, some costs, including debt service, will not go away. This may lead to unhappy lenders, breach of covenants, depressed shipbuilders, and layoffs. Of course, operators who have hell and high water charters in their hands may fare better than those in the spot market. But with most charters running about a year, that reprieve may not last long. Those larger companies with more liquidity will be actively seeking to gobble up smaller operations that cannot weather this storm.

As the state of Louisiana has enjoyed the benefit of being the center of the U.S. energy universe, it also has suffered from the economic wrath of downturns in the Industry. Depressed crude prices create a domino effect. Since reve-

US Gulf of Mexico Rig Count February 6, 2015

	This Week	Last Week	Last Month	Last Year
Total Supply	120	120	119	111
Un-contracted	84	87	92	85
Contracted	66	67	73	80
Contracted Utilization	78.6%	77.0%	79.4%	94.1%

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nue from oil and gas exploration and production accounts for about 14% of the state's general fund, subtract it and deficits rise. Construction projects are put on hold, social services are curtailed, personal spending is down, and even the local Mom & Pop corner grocery takes a hit.

Then there are the lenders. Undoubtedly, financial statements will look a lot like the 2010 deepwater drilling moratorium was still in place. Falling revenue and declining vessel prices will skew a company's tangible net worth. Declining key ratios used in determining financial the condition of an obligor (liquidity, leverage, debt, return on assets and equity etc.) will make borrowing more difficult and certainly more expensive. Cautious to a fault and due in part to banking regulations, lenders will be reticent to provide financing on vessels that are in certain segments of the oil and gas business.

Bright Spots, Market Realities

But not all vessels in that sector may become temporary pariahs. As E&P on the continental shelf and slope becomes economically unfeasible, the mobility of jack-up rigs and other shallow water equipment allows them to be moved out of the area, reassigned or cold stacked to save money. However, deepwater semi-submersible rigs cost between $500 - $775 million, drill ships range from $550 million to $1.2 billion installation, installation, risers, riser tensioners, mud pumps, anchor winches, drill strings and mud storage facilities add many more millions of dollars and such rigs are not easily moved from place to place. Ramp-up to production status is expensive and reflects a large capital investment by the rig owner. Average day rates for various drillships and semi-submersibles range from $257,000 to $442,000 (as of February 2015) and currently, world-wide utilization of deepwater rigs is about 75%. With the cost of the rig, installation and operation being extremely expensive, the investment in each rig necessitates continued operation regardless of the current low price per barrel of crude.

Companies that provide services to the deepwater sector moving crew, parts, supplies, consumables, food and other necessities will continue for the foreseeable future, to keep their crewboats, platform and offshore supply vessels and anchor handling tugs, crews and vendors operating. For how long is the question.

As a reasonably seasoned commercial marine lender, I am hesitant to use the word never ... as in "I will never lend to a (insert adjective here) operator." For a qualified obligor, there would be little to stop me even if we were in a temporary downturn. Good lenders understand cyclicality and when one looks in retrospect at the ups and downs of this industry, somehow the sun always comes out after the storm passes. There is no doubt in my mind that this storm shall too pass. It may be rough going for a while, and there certainly will be changes in the cast of characters, but at the end of the day, all will be well and knowledgeable lenders will still be there when you need them.

Savvy stakeholders use this time to batten down the hatches, minimize expenses, and assiduously keep their financial records in order. Beyond this, it is a time to use available credit wisely and be on the lookout for opportunities. In the meantime, that motor home road trip beckons, buoyed by bargain gasoline and a look towards better times.

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Jones Act Proposal Could Have Gutted Shipbuilding & Weakened National Security

By Ben Billings, President & CEO of the Offshore Marine Service Association (OMSA)

U.S. Senator John McCain recently proposed an amendment to the Keystone XL pipeline bill that would eliminate a cornerstone of U.S. maritime policy dating back to the founding of our nation. The reservation of domestic transportation to U.S.-built vessels under the Jones Act ensures the existence and viability of America's shipbuilding industrial base. America's forefathers realized the importance of this industry as a critical source of sovereignty and security against foreign threats, and that need continues in earnest to this day. McCain spoke about his amendment on the Senate floor and made a host of inaccurate and misleading statements that warrant a response.

State of the Industry: McCain falsely stated, "We all know that the U.S. shipbuilding industry, because of the Jones Act, is moribund." In fact the opposite is true. Just four months ago, the U.S. Maritime Administrator reported that "U.S. shipyards are experiencing the greatest volume of shipbuilding activity in more than three decades," calling the surge in vessel construction a "tremendous renaissance." More than 700 vessels are on order, under construction, or have been recently delivered by approximately 200 shipyards nationwide. Much of that work is occurring at Gulf Coast yards to service the region's offshore oil and gas industry, including more than 130 offshore support vessels delivered last year. Other yards are adding state-of-the-art, Jones Act qualified product tankers, container ships, roll-on/roll-off vessels, barges, tugs, and ferries to the nation's Jones Act fleet of over 40,000 vessels. Contrary to McCain's statements, America's shipbuilding industry is alive and well.

Gas Prices: McCain claimed that the Jones Act "touches just about every American who buys gasoline," forcing "American consumers to pay exorbitantly higher prices." Where gasoline is distributed through maritime transportation, the true cost is about one cent per gallon. That's hardly exorbitant. And as the recent plunge in prices demonstrates, global supply of crude oil is the driving force behind the cost of gasoline at the pump, not the Jones Act.

Jones Act Costs – International Trade Commission (ITC) Report: McCain claimed the Jones Act costs the American economy $656 million annually according to the most recent data from the ITC. But what McCain didn't say is that the ITC disavowed that figure more than a decade ago because of its inaccuracy. After varying its initial estimates by a whopping 95 percent, the Government Accounting Office (GAO) sharply criticized the ITC's methodology and determined that ITC failed to account for the additional costs foreign vessels would incur complying with U.S. tax, labor, employee protection, and other laws to participate in domestic commerce. GAO described the ITC's findings as "unverifiable" and "incomplete." As a result, the ITC admitted in four subsequent reports – in 2004, 2007, 2009, and 2011 – that it was "unable to estimate" any cost of the Jones Act. In fact, GAO's review of the ITC's initial findings was requested by the Chairman of the Senate Commerce Committee at the time, John McCain. In other words, the figures McCain referenced on the Senate floor were debunked by an independent review that he himself ordered and subsequently disavowed on four separate occasions by the same agency that issued them.

Free Trade? Sen. McCain's proposal would end growth at U.S. shipyards and cause thousands of American families to lose their livelihoods. Foreign corporations would be allowed to overtake U.S. markets without providing reciprocal access or removing any of the government subsidies that underpin their unfair cost advantage. To champion this cause under the banner of free trade is absurd. Foreign shipbuilders practice nothing of the sort.

Jones Act Costs – Ignoring the National Security Benefits: McCain's remarks also ignored the Jones Act's considerable security benefits. In his response to the amendment, Congressman Hunter went on to say, "the Jones Act guarantees that we will not be held hostage to the whims and dictates of foreign ship owners and operators, to respond to disasters or support national security requirements." Hunter chairs the Subcommittee on the Coast Guard and Maritime Transportation and is the vice chair of the Subcommittee on Seapower and Projection Forces. When asked about Senator McCain's proposal, the Commandant of the U.S. Coast Guard gravely remarked, "I think at the end of the day, it will put our entire U.S. fleet in jeopardy." Once lost, shipbuilding facilities, technology, and workforce skills cannot be easily regained – a difficult lesson America was forced to learn at the beginning of the Second World War after decades of declining shipyard employment. As the Navy League of the United States put it, "the loss of the

American-built provisions in the Jones Act would have devastating ripple effects on all the sea services. Its immediate impact would be a reduction in the number of ships built in U.S. shipyards, which would result in a loss of jobs, a loss of industrial knowledge and skills, and a loss in America's edge in shipbuilding quality and technology."

Standing the Test of Time: McCain stated that the Jones Act is "archaic" and has outlived its usefulness. In fact, the Jones Act has stood the test of time precisely because of its continued importance and has enjoyed the support of every modern President. America is still every bit a maritime nation. More than 90 percent of goods are shipped by water in the United States. We are also a world power and force for good whose military might requires a robust shipyard industrial base and skilled merchant mariners. Waterborne transportation is still the lifeblood of U.S. commerce, and the importance of preserving our nation's security through industrial strength is not a passing trend.

A great nation such as ours cannot for one second entertain the notion that we should outsource to foreign nations the ship construction and repair needs of America's military, its offshore energy industry, or the population centers and industries along our inland waterways that rely on the safe and secure transportation of goods. Such a radical shift in U.S. policy would be disastrous to American jobs and security and seriously threaten our nation's ability to project power or deploy and sustain military forces abroad. In the midst of so much progress and strength in our shipbuilding sector, outsourcing this critical American industry is contrary to our national interests and makes absolutely no sense.

Editor's Note

Senator McCain's proposed amendment may have failed on this occasion, but the fact that it got as far as it did should be of real concern to the domestic waterfront and its stakeholders. OMSA and its members – and a dozen other organizations like it – remain on watch for the next assault.

Courtesy of Hedge Solutions

Hedging Your Bets

Up and Down brown water bunker pricing is giving small-to-medium sized operators heartburn. It doesn't have to be that way.

By Richard M. Larkin, President of Hedge Solutions, Inc.

The recent free fall in oil prices is grabbing the attention of many in the commercial marine business. Ferry services, cruise lines, tour boat operators, tugs, etc. all consume significant quantities of fuel to run their vessels. Customarily, the fuel cost is one of the larger slices of pie on the budget chart. Diesel fuel, or "bunkers" as they are often called, is a commodity; a synonymous product traded openly around the world. This factor causes significant swings in the price over the course of time that injects an enormous amount of uncertainty when attempting to predict where that cost is going to be throughout the year. For many stakeholders, fuel represents up to 15% of the total budget. Sudden price spikes – such as the one now in play – can significantly impact the bottom line.

Addressing the Problem

Over time, a variety of methods have been developed to deal with this problem, but most only mitigate the risk to a marginal extent. Some, such as fuel surcharges, are unpopular. Other methods, such as slow steaming or driving up fuel efficiency have certainly helped, but do not offer protection against price spikes. What's a Mother to do?

Hedging, a term defining the method of offsetting the risk of adverse price movements is a practice that dates back to the early 1600's when Dutch speculators created an exchange to trade Tulips, of all things. Later, farmers across the globe, including here in the U.S., adopted this tactic to offset the risk of adverse price movements between planting and harvesting seasons. Today, hedging is a common practice for those who trade, buy or sell virtually every commodity known to man. Soft commodity industries like coffee, sugar, and agriculture all participate in some kind of hedging activity. Banks even use hedging strategies to eliminate their risk to slow moving interest rates.

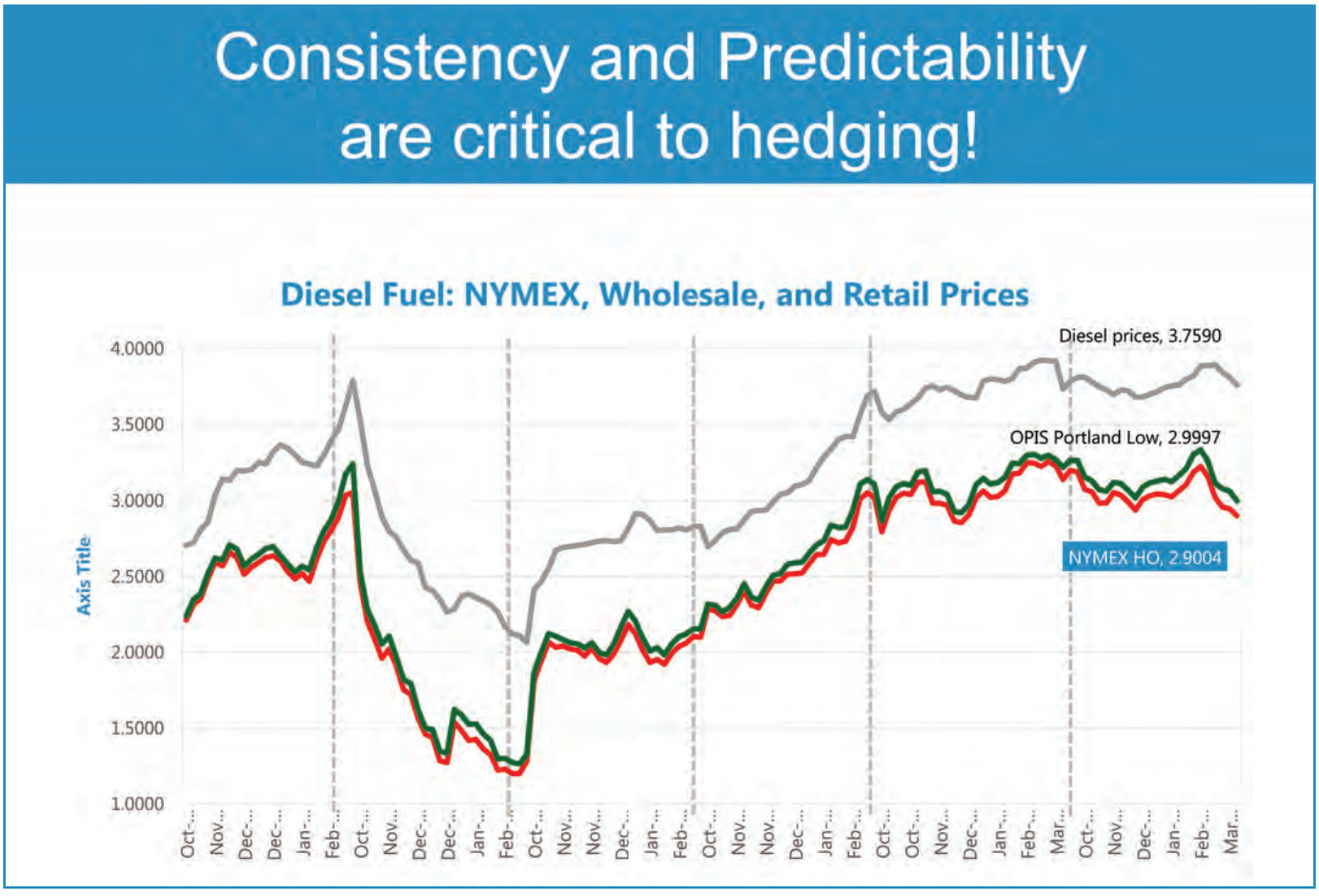
Nevertheless, for so many in the so-called small to midsize end user category, hedging, which can mitigate and often eliminate exposure to price uncertainty, is a misunderstood and opaque phenomena. In reality, the complexity of the practice is overstated, though it makes sense to recruit professional advice prior to engaging in any hedge program.

"... for so many in the so-called small to midsize end user category, hedging, which can mitigate and often eliminate exposure to price uncertainty, is a misunderstood and opaque phenomena. In reality, the complexity of the practice is overstated, though it makes sense to recruit professional advice prior to engaging in any hedge program."

Hedging 101

Many smaller companies assume that hedging is for the "larger corporations" with vast resources and expertise. But, that's not necessarily true. Small to mid-size operators can and do run successful hedging programs. So why don't more players hedge fuel purchases? Does it make sense to have a hedging program active in your company? As it turns out, that depends on how you go about it.

Typically, buyers have a basic understanding of what causes the price to go up and down. The commodity is transparent so that prices can be seen at any given time. The contract, or product, Ultra Low Sulfur Diesel, is traded on public exchanges (CME, ICE, etc.) like the stock market and this information can be easily accessed in almost any medium. It's also safe to say that the supplier that an operator is purchasing fuel from is reacting to daily



price changes and passing them on to the end user. Transparency, the ability for all the parties to view a universal benchmark for prices, is fundamental and essential to preserving confidence in the system. And it is the integrity of the exchanges that allow us to structure a hedge with the highest certainty that it will do the job intended.

The D.E.A.D. Rule

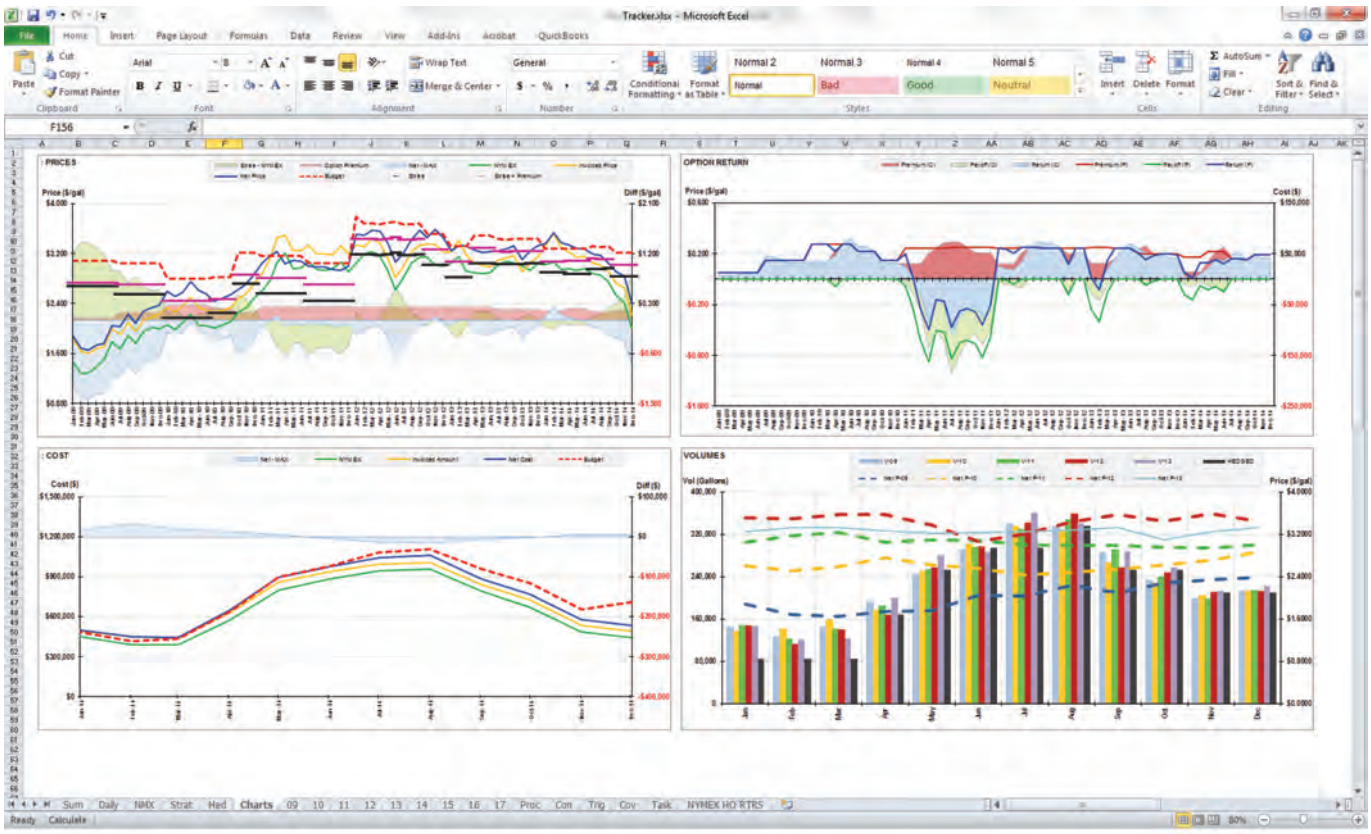
There are critical steps – the DEAD Rule – that should be followed when engaging in any hedge program. The D.E.A.D. rule (Development, Execution, Assessment, Discipline) is critical because if you don't adhere to these important principles and actions, your program is likely to fail.

Development: First you'll want to assemble the team that will be making the decisions on execution, providing and reporting on assessment, and maintaining discipline to the adherence of the plan. It is here where vital questions and issues should be answered and defined. What are your objectives? Budget certainty, removing volatility, eliminating the need for fuel surcharging, are typical factors, but there are many variables involved. And, myriad questions to be asked and answered.

Should you fix the price (no participation if prices fall) or cap the price (ability to procure cheaper fuel if prices fall)? How far into the future do you want to secure pricing? Seasonally, annually, or longer? Who will administer the program? How will you structure the hedges? Will your supplier provide you with options for hedging, allowing you to purchase fixed price contracts or even options on those contracts? What does the structure of your RFP contract look like? How much of your fuel needs will you hedge? All of it or some percentage of it? What will be the timing of purchases and executing hedges? Do you 'cost average' over multiple purchases or do you execute all at once based on a certain price level?

The **Assessment** component involves setting the objectives, establishing best practices, and providing clarity going forward. **Execution** and **Discipline** is a bilateral protocol: the significance of these two steps in the *D.E.A.D. rule* cannot be overstated. The volatile nature of prices changing every day and moving significantly up and down will inject an emotional component that you will want to eliminate. The only way to do this is to have a blue print, the plan you set in the development phase. This will allow you

An example of an Assessment reporting on hedging program. The Charts provide graphics on results.



to execute that plan with discipline.

Assessment also involves a tracking or accounting system that is set up in advance and provides a real time view of results, data management functions (actual fuel purchases, paper hedging reporting), and financial reporting. This exercise is essential to the process, providing proof and transparency on how the program is performing. Good reporting boosts confidence in the plan which is necessary to maintaining discipline in the execution of the plan. Most importantly, it documents the results and provides proof that your objectives have been met.

Case Study: Hedging in Actual Practice

A ferry service running several large boats to various islands on an annual basis has a fuel budget that represents one of its largest budget line items. Each year they must forecast fuel prices in order to set their annual budget. When prices rise, it is extremely difficult to get authorization to raise prices in order to meet their budget and hence, performance targets.

In 2008, fuel prices almost doubled in less than 6 months. Even more problematic was the timing – energy prices spiked during the peak travel season. They were forced to implement an emergency increase in fuel prices for the first time in their history. At first they theorized that fixing prices was the only way to manage the risk. However, after witnessing prices collapse at a faster pace than they spiked, they were concerned about the liability of fixing the price outright. This strategy had been considered several times and was also proposed by the fuel provider.

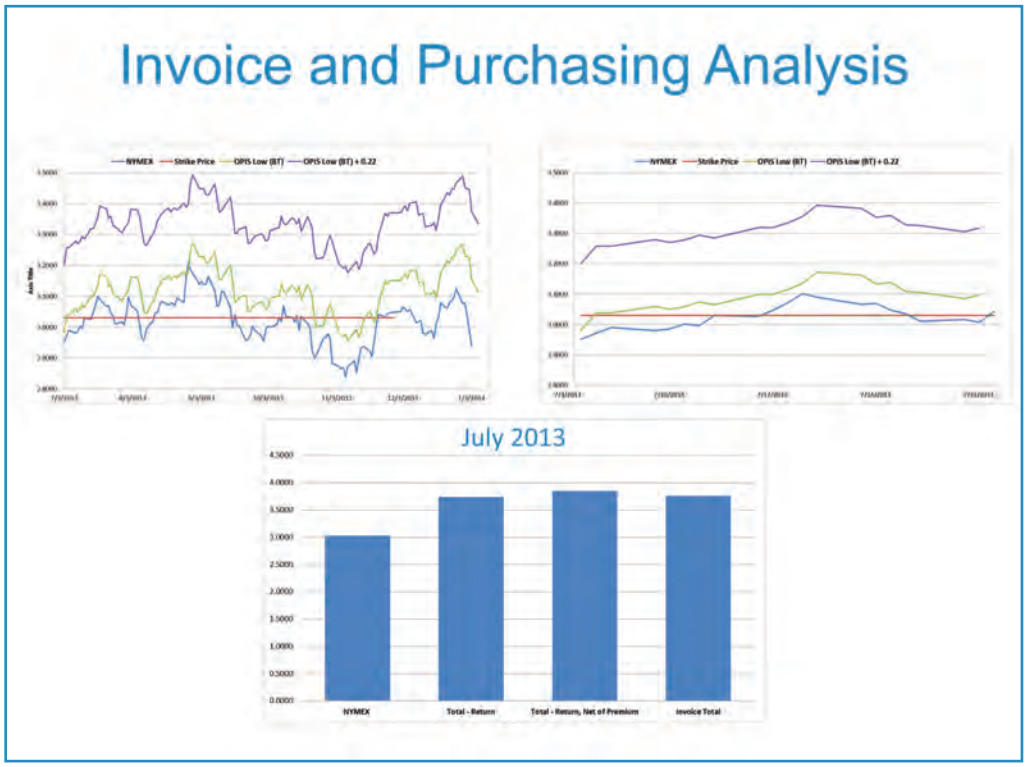
Eventually, this operator considered and eventually implemented a hedging program. Employing the D.E.A.D. rule, a program was set into motion:

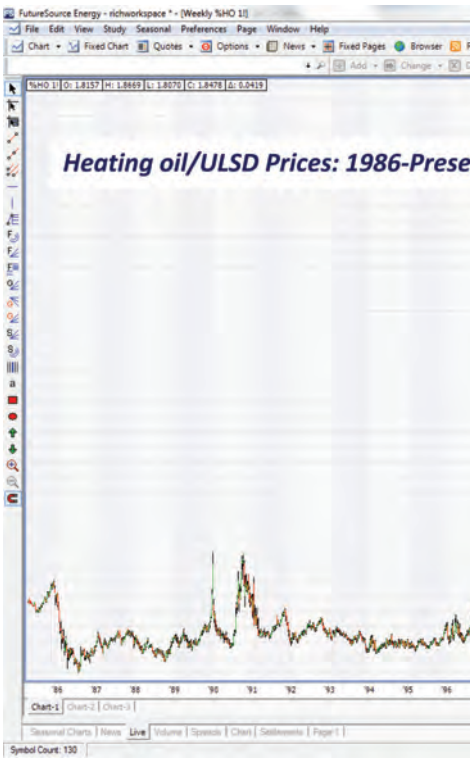
Development	Long term risk management and fuel hedging plan Hedged in 12-18 month cycles with a 5-10 year view.
Execution	Fuel procurement and hedges (including RFP process). Targets were set based on budget forecast and market levels; transparency achieved through procurement stage. Education and advice on fuel markets and hedging concepts.
Assessment	Tracking of real time view of results, data management, financial reporting. Physical to paper accounting and reporting / Quarterly review of hedging strategy, results.
Discipline	The results for the client have been impressive, both in empirical financial terms and in terms of their broader understanding of the fuel markets.

This client chose to "cap" their price using an options strategy. This allows them to budget for a price ceiling while maintaining the ability to participate if the market drops, something that cannot be done if the price is fixed. A new RFP process was built around a transparent price benchmark, managing vendor selection, and executed options trades. Now in their sixth year since the inception of the program, the client continues to demonstrate remarkable discipline when it comes to execution. Their reporting system gives them absolute clarity on the results which in turn gives them the confidence to execute and stick with their long term strategy.

What About Now?

With fuel prices at their lowest in nearly six years, it makes sense to at least consider hedging current levels into your budget for the near future. That said; a look at the 20-year fuel pricing chart provokes further thought to how to go about it. The chart reveals clear evidence that prices are not only unpredictable but they typically go down faster





> "Transparency, the ability for all the parties to view a universal benchmark for prices, is fundamental and essential to preserving confidence in the system. And it is the integrity of the exchanges that allow us to structure a hedge with the highest certainty that it will do the job intended."

than they go up, yet when prices do go up they tend to stay up longer. This is why it is important to understand how to cover risk without actually taking on more exposure.

If higher fuel prices will impact your bottom line, cause your company to be uncompetitive, or create other issues, then you should look at the cost/benefit of a hedge program. Any company, no matter the scope, can hedge its exposure. When measured by fuel consumption, this can involve those that use as little as 30,000 gallons and as much as 20 million gallons annually; proof positive that anyone can realize the benefits of a well thought out hedge program.

Will Paper Logs Sail into History?

Image courtesy: iStock

Helm Marine Software's product team leads burdened brown water workboat operators out of the wilderness – and confidently into compliance.

By Sarah McCoy

Four to six forms a day and that's before Subchapter M rules take effect. That is how many forms Helm Marine Software's product team figures a typical inland vessel must deal with, every day. Their research shows that OSV companies have around 100 different forms to complete and Dry Bulk companies have around 70.

Skip the forms, and under Subchapter M, vessels without Certificates of Inspection (COIs) won't be fined. They will also be tied up at the dock. Being able to quickly produce evidence of seaworthiness and safety management will be more important than ever. If a software system could quickly and efficiently access that data, could it be time to stop using paper logs? The answer is YES.

Convenience to Compliance

"Our whole mission is to bring convenience to compliance," says Rodger Banister, VP of Marketing at Helm Operations. Helm Marine Software has specialized in the workboat industry for its 16 years. Based in Victoria, British Columbia, for-profit Helm has earned a reputation for striving to improve the workboat industry's safety standards. Last year, Helm became a subsidiary of the not-for-profit, Tokyo-based classification society, ClassNK, itself a strong proponent of HSQE (Health, Safety, Quality, Environment). ClassNK also has deep roots in the inland, brown water sectors; not necessarily here in North America, but that could also be about to change.

Helm offers two software suites, Helm Marine Operations Software (MOS) and Helm CONNECT. Helm MOS, the older program, relies on installed software and Local Area Networks to transmit from vessel to shore. Helm CONNECT customers use the web. Both use an intuitive interface to record data and sync it back and forth from vessel to shore. Helm MOS customers include Blessey Marine Services, URAG, Seaspan, Crowley Marine Services and Florida Marine Transporters. The largest of Helm's roughly 1,000 MOS clients is the towing and emergency response company Svitzer. Still in beta form, the soft launch of Helm CONNECT already has three customers. "The first customer is a smaller OSV company looking to break into the deepwater market with larger vessels that have to be ISM compliant," explains Banister.

"The second customer is a large inland barging company looking to be prepared for Subchapter M. The third customer is looking to better manage maintenance tasks and give more transparency to its customers from a compliance point of view. They also really do not like their current maintenance software because it's too difficult to use."

Sub M Solution

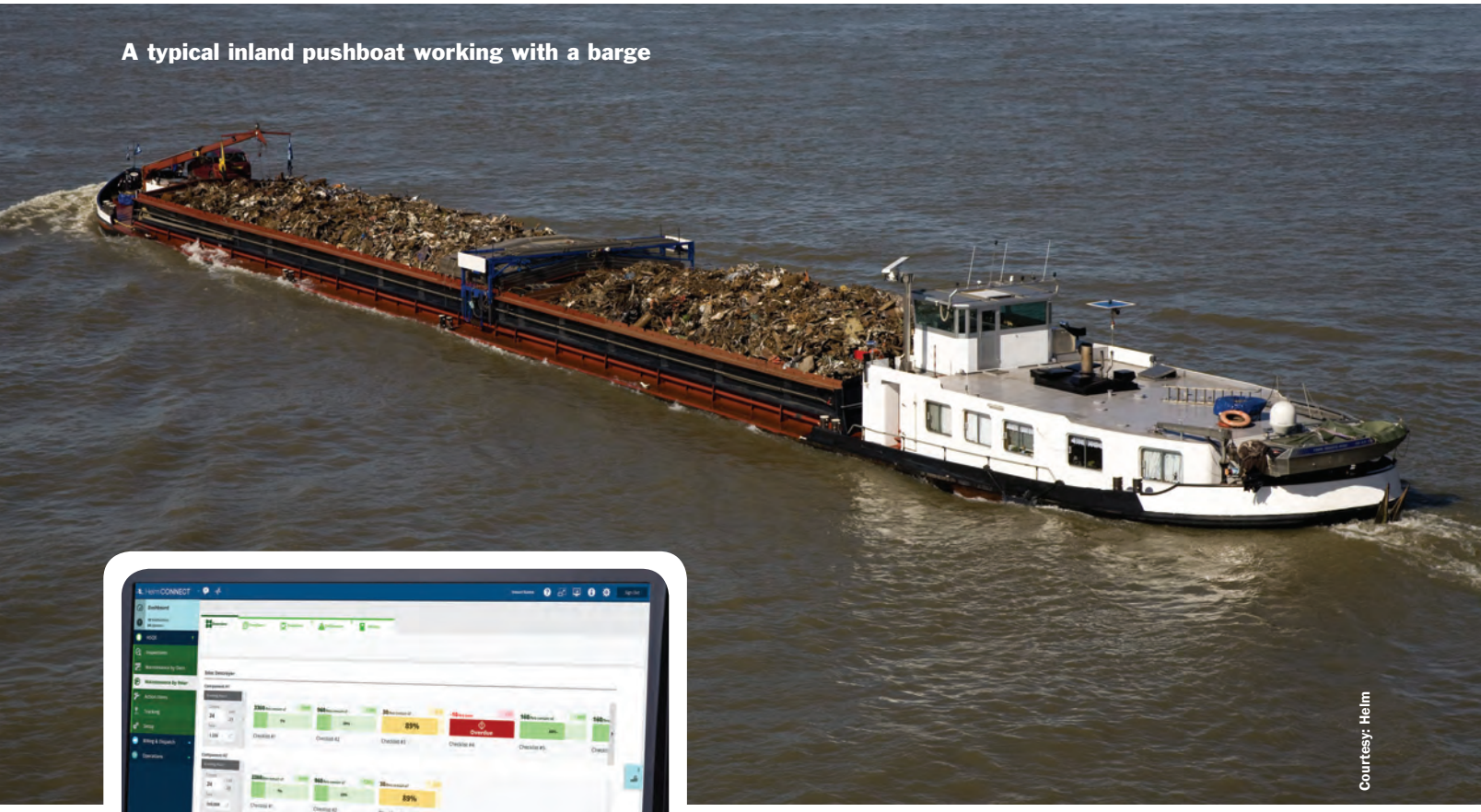
Helm's HSQE software addresses the Maintenance portion of Subchapter M for American customers. "It will be a complete solution that will record all Subchapter M requirements by the end of 2015," says Banister. "We have clients that are planning to use it for Subchapter M, but not actively doing so." The details of Subchapter M are yet to be finalized by the Coast Guard and the voyage from an older system into the digital world can feel like a leap of faith. But, as Helm CEO Ron deBryune explains it, "It is all based on the very simple principle: 'Say what you do, do what you say and prove it.' Turning reports and forms into information at your fingertips means having all the information saved and accessible, and that means creating a database."

Two years ago, Banister had a meeting with a man he calls "Captain Bob." "Captain Bob" arrived with a fat manila folder full of forms. "It really surprised me because I thought they were completing the odd form." But there were forms to fill out on a daily, weekly and monthly basis. Hundreds of forms. Operating efficiently is not just a matter of completing the forms, Banister points out. Crews must scan them, email them to the shore and store them onboard as well. With paper forms, "Once the form is completed, it's a static piece of information," he says.

"But if you want to use that information, to get smarter about how it is you run your compliance, how you run your preventive maintenance, somebody has to take that data and plug it into something else as well so it's not a waste of time that's happening," Banister says. If, for instance, an engine develops problems, digging through a massive paper log to find past readings and maintenance information can take time. In addition, "when you're keeping paper logs, oftentimes what happens is those logs don't find their way to the shore for three weeks at a time," says Banister. "Real time information helps them plan better and it helps them forecast better."

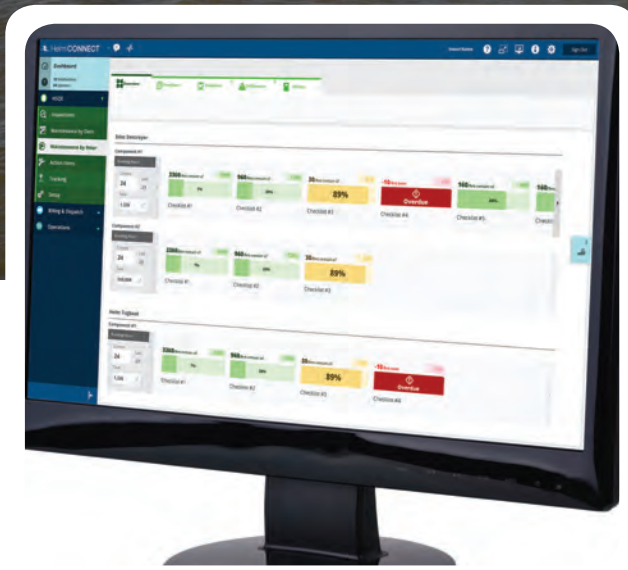
Automating Compliance

Plugging the information into software instead of using a paper system is called automation. While Helm's



A typical inland pushboat working with a barge

Courtesy: Helm



Helm Connect Monitor

software is far from the only choice out there, its newest offering may be one of the easiest to use. Web-based Helm CONNECT does away with specialized software installations and connects the user to shore through any tablet or computer. If the vessel has no cellular signal at that moment, the program saves the information onboard and syncs again when there is a signal. The software is web-based, runs on most browsers and is optimized for tablets. The computer or tablet only needs 8 GB Ram, a 2 GHZ processor, Windows 7 or 8, or 8.1 Windows Server. Helm recommends using Google Chrome or Internet Explorer 11 as a browser.

Banister says, "Hardware isn't a big concern because Helm CONNECT is delivered through the web. As for user hardware, the better performing a computer you're using, the better the performance will be. We do recommend a modern web browser." Helm's goal for CONNECT is that eventually it can be accessed from any device. Customers who buy the preventive maintenance bundle of five applications pay $150 a month. Some companies charge by the size of the vessel or the industry, says Banister. "We don't want to do that. We want to make it simple to do business with us."

Helm CONNECT

Helm CONNECT is built as a series of apps for various workflow-based tasks. Helm CONNECT HSQE focuses on preventive maintenance and compliance and Helm CONNECT Jobs helps with dispatch, scheduling and billing for harbor services. Customers buy only the apps they need.

To get started with CONNECT, users log into a website and download a small program onto a local computer. All that is needed is a TCP/IP connection, standard Internet protocol. Some companies buy overlapping cell phone service in order to connect as often as possible, but the program is designed to work without a connection to shore and will save the data for when a connection is available. Ideally, the software syncs every five minutes. It is agnostic about what type of computer or tablet is used. There is no minimum level of connectivity and the data can move as fast as the connection allows. There are no SATCOM partners. The software is built to be flexible enough to accommodate third party applications, so that all systems can talk to each other.

Bill Reid, VP of Product for Helm, says that customer data is secure, even when using the web. All messages are coded and both Helm and host Amazon Web Services are vigilant about keeping the data secure. Helm's software geniuses have worked hard to make the software as easy to use as possible. Helm aims to have the apps themselves act as a guide for users by using simple language and allowing the user to see only what they need with nothing extraneous.

Ultimately, Helm sees efficiency inextricably linked with safety. They are betting that their user-friendly software is a catalyst for a safety culture. According to Banister, "If people understand that safety is not imposed upon them but is intrinsically in their best interest, there's less resistance and more willingness to want to perform prescribed safety measures. Software that gets in the way of work will not be used and will not be a resource." Helm wants crews to shift from an attitude of "have to" to "want to" use the software.

To achieve this, the process of designing the software looks different than at many companies. Helm calls itself the first software designed by crews. Banister says that what often happens in industries, including the workboat industry, is that the people who are going to use the software are not the ones who design it. When they first start with a customer, instead of talking about software, Helm's staff asks, "How do you work? How do you go ahead and do what you do to achieve your goals throughout the day?" Eventually, Helm goes back to the client with a rough design of how the software works. It's a step by step thing that they themselves have created."

Looking Ahead

According to Banister, there should be room for Helm to grow in the workboat industry. He adds, "The way the industry breaks down is that there are many, many companies with fewer than ten vessels in their fleet and I think

Ron deBruyne,
Helm founder and CEO

that for the majority of those companies they are probably managing their preventive maintenance and compliance through paper and email." All of those are potential new markets for Helm. Separately, and as ClassNK provides an opening to other markets through 130 offices around the world, Helm also provides an introduction to ClassNK for the inland waterways industry.

Helm's founder and CEO deBruyne says, "The change in the regulatory environment could make workboat companies require class societies to support their safety management system." Banister is careful to say that Helm and ClassNK retain neutrality with companies not classed by ClassNK. "Privacy is our utmost concern," says Banister. He added that Helm will continue to operate as an independent company and its software will remain available to all regardless of class, shipyard or owner. Helm's client data and sensitive information will also remain confidential.

Confidently bringing convenience to compliance, one company at a time, is the ultimate goal of Rodger Banister and Helm. Eliminating the hassle of tedious paperwork is just another happy consequence of doing so.

***Sarah McCoy** is a journalist based in Seattle, WA. She has written articles for the Cleveland Plain Dealer and Business Ethics, among others. She enjoys living in the maritime neighborhood of Ballard on Puget Sound and sailing out of Shilshole Bay Marina."*

REPORTS	FORMS
Daily Engine Room Round	JSA – each time doing a dangerous task
Weekly Engine Room Inspection	Near Miss
Daily Engine Readings	Prestart Checklist – before starting
Monthly Inspection	Lock Out / Tag Out – before doing a task
Weekly Deck Inspection	Permit to Work – before doing a task
Crew On/Off Form – once every few weeks	Watch Change checklist – done every watch change
Pickup Tow – variable, every few days	Cargo Transfer checklist - variable
Barge Inspection – daily and weekly	Stop Work Authority

Source: Helm Marine software

"Hardware isn't a big concern because Helm CONNECT is delivered through the web. As for user hardware, the better performing a computer you're using, the better the performance will be. We do recommend a modern web browser."

– Rodger Banister, VP of Marketing at Helm Operations

An inland pushboat and barges on the river / photo credit: Helm


Courtesy: Theodore Griller

EPA's SmartWay Initiative Makes Way on the Water

By Joseph Keefe

Exhaustive studies by The National Waterways Foundation (NWF), a center for research and learning where industry leaders address public policy issues related to America's inland waterways system, conclude that inland waterways transport generates fewer emissions of particulate matter, hydrocarbons, carbon monoxide and nitrous oxide than rail or truck on a per ton mile moved basis. But, it's one thing to claim that metric, and another altogether to prove it to shippers and other freight stakeholders. The time to do that, says the U.S. Environmental Protection Agency (EPA), is now.

Since 2011, the EPA has fostered an initiative to protect public health and the environment and promote sustainable economic growth by reducing pollution from thousands of short-haul trucks that service the nation's ports. Under the SmartWay dray truck initiative, carriers signed an agreement with EPA to track and reduce PM 2.5 emissions by 50 percent and nitrogen oxides (NOx) emissions by 25 percent below the industry average over a three year period. Initial SmartWay partners included some of the nation's biggest retailers. Since that time, retailers, trucking and rail companies and manufacturers have reduced fuel use, cut foreign oil imports by 50 million barrels and saved an estimated $6.1 billion in fuel costs.

SmartWay Wades into the Water

Encouraged by its success on land, the EPA has since begun a new Barge Freight component of the program, with Ingram Barge Company announcing its participation in 2014. Ingram has been involved with the EPA in helping to develop, test and pilot the tool since 2010 and Ingram hopes that others will follow its lead in committing to improve efficiency and reduce pollution. SmartWay, currently composed of more than 3,000 truck, rail carriers and shippers that hire them, helps reduce emissions in order to help companies use less fuel, leading to cost and environmental savings. The new Barge Freight component of SmartWay will help shippers to more completely determine the carbon produced by their freight supply chains, and to see the clear environmental benefits of moving freight via barge

transport. That's because the EPA recognizes that inland marine freight movement accounts for more than 600 million tons of cargo, with an annual value in excess of $70 billion dollars, and is an exceedingly efficient means of freight transportation.

According to the EPA, shippers seeking the most environmentally friendly mode of bulk freight transportation will discover Ingram Barge Company as such a leader. SmartWay partners have saved over 121 million barrels of oil, which is equivalent to taking more than 10 million cars off the road, and has saved U.S. industry $16.8 billion in fuel costs since its inception in 2004. As for Ingram, the firm also received in 2011 the Southeast Diesel Collaborative "Leadership Award" for its environmental sustainability efforts utilizing advanced clean diesel technology on towboats operating on the inland river system. Today, Ingram is one of the largest inland marine transportation companies in the U.S. moving nearly 100 million tons of cargo annually on the nation's rivers. Ingram's David Sehrt, Senior Vice President and Chief Operations Officer, explains, "Our long-term commitment to air emissions reduction spans 15 years through a diesel engine upgrade and replacement program within our fleet of 130 towboats." Ingram was named as one of the first marine transportation companies to be accepted as a partner in the U.S. Environmental Protection Agency's SmartWay Program.

Not to be outdone, the American Waterways Operators, a 350-member trade association representing the U.S. tugboat, towboat and barge industry, announced in July of 2014 that it joined the SmartWay Transport Partnership. According to AWO, the move is a commitment to educate its members about the program's benefits and encouraging their participation as SmartWay Partners.

"This program is a natural fit for AWO and our member companies," said Tom Allegretti, AWO's President & CEO. "Water transportation is inherently the nation's safest and most environmentally-friendly way of moving commerce. More than that, AWO members take great pride in pushing the envelope as environmental leaders, constantly striving to improve upon their strong environmental record and achieve zero harm on the waters on which they operate."

In Practice: The SmartWay to go

A senior EPA official told *MarineNews* in February, "The EPA provides assessment and tracking tools for carriers to measure their environmental performance and reviews data before it is used. Currently the program offers tools for the trucking, rail, multimodal and logistics sectors. Barge is the newest addition to the SmartWay portfolio. Shippers using the SmartWay shipper tool can use this information to calculate their carbon footprint from their transportation operations." Beyond this, the information also helps companies better understand how selecting different modes and carriers to fit each shipping need could help them to reduce energy use across their transportation supply chain, which cuts costs and reduces emissions. At the same time, EPA respects and protects those participants' proprietary data.

Matt Payne, EPA Team Leader at SmartWay Transport Partnership

Each of EPA's SmartWay assessment tools help SmartWay partners – including barge companies – to look at their business operations from an environmental perspective. They can benchmark current energy consumption and emissions and quantify the benefits of changes in operational efficiency over time. Because SmartWay offers a uniform and integrated platform for sharing quality-checked data among carriers and their customers, participation in SmartWay offers carrier companies like barge firms a transparent and credible way to demonstrate how they are improving over time. Carriers like barge companies that cut emissions by saving fuel also see cost savings. That's a huge benefit.

SmartWay aims to facilitate more transparent and consistent information exchanges among the many participants in goods movement to support more informed business decisions; by serving as a 'clearinghouse' for best practices and information-sharing and, eventually, and by offering recognition and incentives for top performers.

Companies submit data annually. SmartWay reviews each data submission, then reports out the carbon dioxide, particulate matter (PM), and oxides of nitrogen (NOx) emissions, also annually. These are reported in both grams per mile and grams per ton-mile metrics. Currently, over

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– Tom Allegretti, AWO President & CEO

3,000 companies are registered with SmartWay, most in other modes, but clearly, EPA hopes that the Barge component will be as successful as its land based predecessor.

EPA in turn provides information to SmartWay participants about their carbon emissions from transportation operations. Since transportation is part of a company's overall carbon footprint, a company could chose to use this information in many ways, including for voluntary carbon reporting and disclosure. The information they get from SmartWay can also be readily integrated into a company's corporate 'green' efforts and used to benchmark and track environmental progress.

But, while the Smartway program is primarily about the environment, it also has other benefits. For example, an EPA spokesperson told ***MarineNews***, "Companies are always looking for ways to cut costs. By participating in SmartWay, companies have access to a set of tools developed for and with their respective industries, to help them assess and track fuel use, which translates to fuel costs. Companies with multiple 'fleets' can benchmark and compare these fleets' performance over time – and compare themselves to business peers. This business intelligence helps companies in making decisions about their transportation operations."

The principal data variables that influence the published emission factors are tons payload, miles operation, number and type of vehicles in a given fleet, age of the engines, and how much and what type of fuel is burned. Depending upon partner type, data from other EPA models may be used for some calculations. For example, EPA MOVES emissions factors are used in the truck tools to help calculate NOx and PM. Other pieces of data not directly used for the calculation are used to accurately identify and categorize partners, ensure data quality and guide partners in using the tool.

Collaboration

Before EPA developed the barge tool, it reached out to the barge community – companies and associations representing barge operators – to gauge their interest in EPA including barge transport in SmartWay. These stakeholders not only encouraged EPA to offer a barge tool for SmartWay, they shared valuable expertise and information with EPA to help develop the tool. In fact, two barge companies actually helped EPA to beta test the tool. Shipper companies have also been asking EPA to include barge in SmartWay, since most shippers want to see a more complete picture of their transportation supply chains.

In February, EPA held a webinar to describe the SmartWay program, demonstrate the barge tool, and answer questions about how join SmartWay. The webinar, led by Matthew Payne, EPA Team Leader at SmartWay Transport Partnership, was well attended and received by industry, demonstrated that already, there is broad and growing support or "buy in" within the barge community and within the customer base it serves. And, companies can join ***now***. The barge tool is available on the SmartWay web site and the EPA is encouraging all barge operators to take a look and consider joining. Any firm wanting to become SmartWay-registered this year would need to do so and submit data by May 6.

On the WEB: **http://www.epa.gov/smartway**

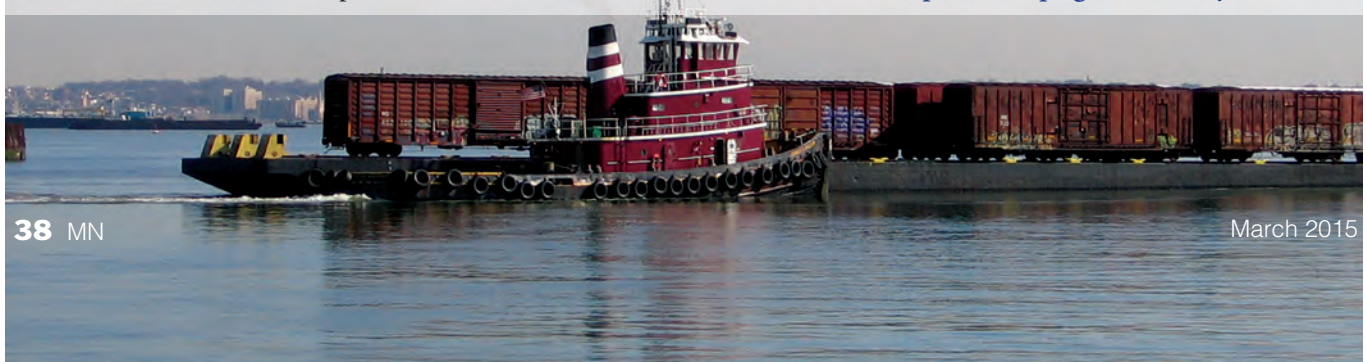


Photo: Donald Hutton

Affordable SATCOM for Workboat Applications

SATCOM edges closer to providing standardized services to the workboat sector. It's affordable now and someday soon, you won't be able to afford to be without it.

By Joseph Keefe

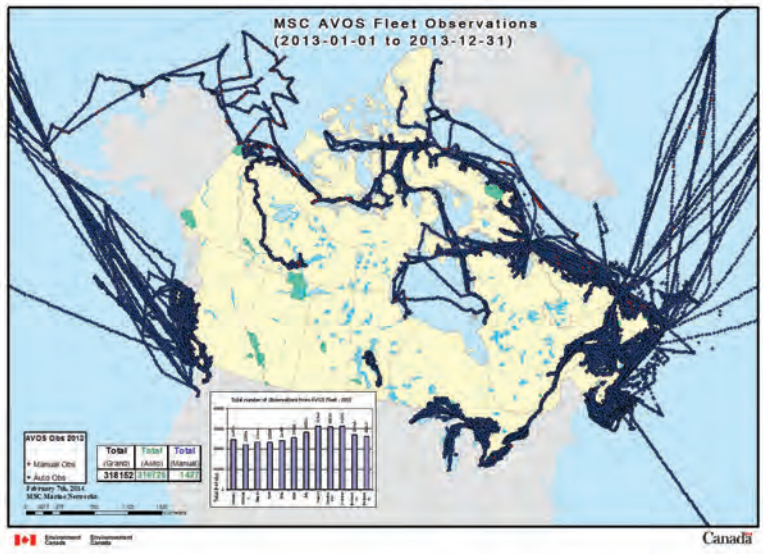
Dartmouth, Nova Scotia-based JouBeh Technologies today makes it possible for far flung workboats to transmit critical data back to principals and at the same time, allow regulators and operators alike the possibility of reliable asset tracking on the water. Maybe it's not YOUR workboat, but someday soon, it could be. As a reseller and integrator for Iridium Communications, JouBeh's business mix penetrates many sectors. On the water, what they are doing for the federal government of Canada in two different applications has potential for North American commercial inland operators, as well.

M2M via SATCOM on the Water

JouBeh has worked with Environment Canada and AXYS Technologies on an application that uses the Iridium 9602 device, transceiver. Specifically, the Voluntary Observing Ships' program (VOS) is an international initiative by which ocean-going ships are recruited by National Meteorological services to record and transmit shipboard weather. AXYS and Environment Canada partnered to develop AVOS – an automated weather station that transmits VOS program reports. Iridium's role is to provide a 9602 modem and controller board, and industry standard for direct RS232 communications, power conditioning and standard RF connectors for quick 'plug and play' deployment. The 9602W significantly reduces time and costs for any development and is ideal for machine to machine (M2M) applications. In this case, the AVOS controller processor, integrated into the ship's bow, measures wind, water temperature, temperature and relative humidity, barometric pressure,takes reading from the GPS receiver and then sends marine weather from wherever the vessel goes.

Paul Hill, Sales Manager for JouBeh Technologies, told *MarineNews*, "JouBeh supports AXYS Technologies as their preferred Iridium service provider. We supply both hardware (9602, 9603 and the 9522B modems) and airtime for their applications. In terms of the AVOS systems, these have been installed on approximately 75 CGC and other Canadian volunteer commercial ships. These were formerly INMARSAT satellite telemetry systems but were retrofitted and upgraded to Iridium Short Burst Data systems to help improve reliability, especially in Northern Arctic waters and generally anything above 60 North."

"Iridium's M2M devices are perfect for these types of applications due to the uniform global service and reliability provided by the Iridium network," said Bryan Hartin, Executive Vice President of Sales and Marketing, Iridium, adding, "Iridium is the only network which provides connectivity anywhere on the globe, even Polar regions. This provided Environment Canada with the confidence needed to standardize on Iridium, knowing our solution would provide the reliable throughputs they needed in their northern Canadian latitudes. Additionally, our M2M devices offer low latency and small form factors, and are



iridium Everywhere

Bryan Hartin,
Executive Vice President of Sales and Marketing, Iridium

priced affordably making them an ideal solution when you need to stay connected no matter where your work demands."

For Environment Canada, the data is especially important because the vessels travel in areas that are data sparse. And in this case, because these vessels travel primarily in the Arctic regions, usually above 70 N latitude, the use of Iridium is critical. Hill explains, "The sovereignty issue continues to be a hot topic as the Northwest Passage continues to break earlier and earlier each year with ice retreat. Commercial shipping is very attracted to the NWP to save time and fuel to and from Asian and European markets."

Separately, JouBeh – whose satellite footprint spans across many industry sectors and regions – also is heavily involved in the Vessel Monitoring Systems (VMS) and Global Monitoring game. One such application of VMS involves a contract with the Department of Fisheries and Oceans (DFO) on multiple projects, including their certified Vessel Monitoring Systems, using Iridium equipment and technologies. This involves as many as 1,500 fishing vessels. Using sophisticated cloud-based software allows for multiple devices to be integrated into the system, letting operators – and regulators – map, track and monitor assets in real-time.

Joubeh's Hill adds, "JouBeh supplies VMS service on both the west and east coasts of Canada. These are seasonal fisheries from Pacific Prawn to Snow Crab and ground fish. We resell the MetOcean Data Systems designed iTrac 2 VMS which is a SBD-based VMS system. The costs to users are typically under $100 per month for position location and e-log reports depending on the requirements of specific fisheries."

Affordability

In September of last year, Iridium reduced the pricing of its 9602 Short Burst Data (SBD) transceivers by up to 50 percent. Ideally suited for (M2M) applications including asset tracking, monitoring, fleet management and remote worker communications in areas lacking cellular coverage, every M2M solution needs an antenna and Iridium partners with industry antenna manufacturers who offer a range of antennas from very low cost patch antennas to packages that integrate an Iridium transceiver and antenna in a single environmental enclosure. For inland operators who struggle with data comms in areas that often have spotty cellular coverage, the Iridium solution is a viable alternative to cellular comms at a comparable price.

The Canadian Federal program employing AVOS and Iridium's 9602 uses a short burst/data package system,

producing 1kb/hour at a cost of about $50 per month. In the case of weather data from Canadian Coast Guard ships (CCG) ships, data is transmitted every 30 minutes at sea. Cost per byte has therefore gone down in recent years. In fact, the AVOS system and the Iridium connection provides for full transfer of each packet in less than 10 seconds. Beyond this, the low power footprint of the transceiver means it can be operated by battery power alone, in emergency situations where perhaps a vessel has lost all other power.

For data transmission, Iridium's solution provides real economy of scale. Paul Hill adds, "There is an at sea transmission rate of every 30 minutes and then a much slower rate if the vessel is docked. It can also completely shut down if the vessel is in dry dock for maintenance, for example. The cost of transmission has decreased steadily over the last ten years. Iridium's voice service costs are often confused with data only transmission costs." Nevertheless, operators can pair the Iridium data system with a voice plan, all on the same invoice.

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– Paul Hill,
Sales Manager for JouBeh Technologies

M2M on the Water – and you?

Iridium's satellite network provides coverage and backup capabilities for more than 80 percent of the Earth's surface where cellular is unavailable. And the M2M market is growing on the water. Iridium's M2M data subscribers, for example, have grown significantly and now represent 46 percent of the company's total customer base, accounting for as much as one-fifth of commercial service revenue.

Supporting and augmenting that growth is Iridium NEXT, a project that will eventually beef up and modernize both Iridium's global coverage, but also its bandwidth capabilities. Already underway, the program is on track for completion in 2017. "This is the key and in many ways this is the convergence in the mobile satellite service industry. Iridium NEXT will offer everything in one network that everyone wants – real time, broadband, low power, low cost and global coverage. Geo-stationary systems simply cannot do this. NEXT is due to begin to launch later this year and will come on line in 2017," says Hill. Beyond this, Iridium NEXT will be GMDSS approved which means one day soon, NEXT will be used to send AIS.

JouBeh's Hill says that, to an extent, SATCOM can be the answer for inland commercial applications, but also says, "Satellite systems are always a more expensive option than cellular systems. There may be cell coverage in those waterways. However, in terms of coverage satellite is always a better option. There is always a minimum of two Iridium satellites in view at any time from any place in the world. For low data throughput positioning requirements, SBD is ideal." At this time, perhaps, the best application for inland users involves location positioning and electronic logs (ships diagnostics).

Coverage above 70 North Latitude, low cost, low power consumption and a smaller physical footprint: those are all good reasons to choose Iridium solutions, but they also represent some of the best reasons for workboat operators – plying any waters – to look into a better way to facilitate data exchange between the office and the fleet. Hill adds, "It was the coverage in the North that really drove the swap-out," but also concedes, "INMARSAT in its own right has its strengths, too, such as bandwidth."

Increasingly, the use and exchange of real-time operations data, vessel tracking solutions and other high tech monitoring are all becoming part of the typical workboat's daily missions. Eventually, SATCOM will be part of that equation. In fact, it is here now. A little pricier than cellular coverage today, the only question left to answer is whether you can afford to be without SATCOM tomorrow.

Dometic's Workboat Play

Workboat operators are taking a second look at Dometic's SeaXchange Reverse Osmosis Systems as missions expand and demands on these vessels increase.

By Joseph Keefe

It's no secret that Dometic Group's products are sold in almost 100 countries, supported by as many as 6,000 employees. Better known on the water for their penetration of the recreational and yacht markets, Dometic's attention is now focused on the workboat sector as well. Beyond a complete range of air conditioners, engine room ventilation systems, refrigerators, awnings, cookers, sanitation systems, lighting, mobile power equipment, comfort and safety solutions, the need for a clean and reliable source of water is paramount for today's offshore fleets. That's where Dometic's SeaXchange Reverse Osmosis Systems come in.

Featuring a compact design that yields a surprisingly small physical footprint, as well as high quality components that are designed for continuous high performance, the SeaXchange RO System boasts high rejection levels with a user friendly interface. There is more than one way to purify water, but Dometic chose to use reverse osmosis because of its cost effectiveness and ease of maintenance. The system is designed to produce the same high-quality, purified water anywhere – in open ocean waters, in harbors or in brackish water, regardless of temperature or level of dissolved solids in the water.

How it Works

In the reverse osmosis process, feedwater is forced under pressure through a semi-permeable membrane, which removes nearly all the dissolved solids and produces fresh, potable water on the other side. This method rejects up to 99% of salts, contaminates, and pollutants.

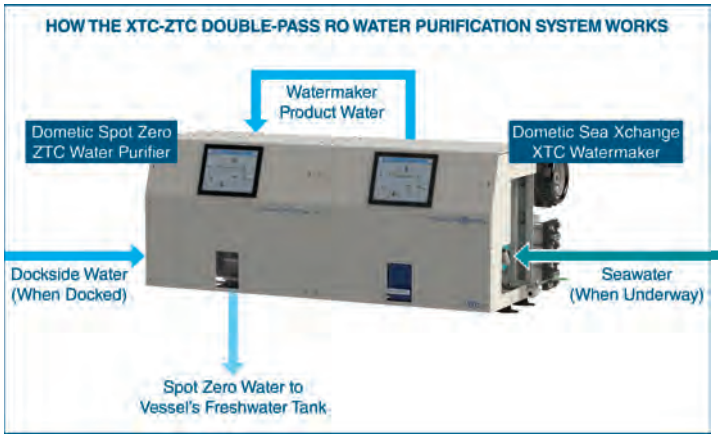
Dometic's Sea Xchange XTC and Spot Zero ZTC Series double-pass combination systems provide operators with the ultimate flexibility in purifying feed water from not only a dockside potable water source, but also from seawater or brackish water source. From a dockside source, with one touch, the Dometic Spot Zero ZTC Series fresh water RO system will automatically process and purify feed water and will remove 95%-99% of the total dissolved solids before sending the purified water to the vessel's onboard tank.

From a seawater source, Dometic's Sea Xchange XTC Series fully-automatic seawater RO system will first process raw seawater or brackish water, and then will send the product water from the XTC system to the Spot Zero ZTC automatic fresh water RO system for further processing to create a true double-pass process before the ultra-purified water is sent to the vessel's tank. According to Dometic's National Account Manager, Joe Pinto, this unique double-pass process produces the purest, cleanest water possible, whether the source is from land or sea. He adds, "Dometic is the only company in the marine industry that offers this unique combination of high quality water purification products."

Pinto explains further, "This is a true double-pass application, where the first pass is the seawater RO system, and the second pass is the fresh water RO system. This is how the two types of solutions are fundamentally different. Also, with our XTC/ZTC Combination Systems, the user is also able to process dockside water before it goes to the vessel's tank."

Workboat Applications

Recently, a Dometic RO system was installed on a dive-boat which will be delivered in the second quarter of this year to Aqueos, an offshore service operator that provides a full range of services that include Marine Construction, Commercial Diving, Remote Operated Vehicle (ROV), and Vessel contracting services. In this case, they are building a high speed dive boat designed to accommodate a crew of approximately 12 divers. As it turns out, weight considerations make it impossible to carry enough fresh water for hotel loads, showering and washing of equipment. And, the vessel will likely spend expended periods offshore serving Aqueos clients.



The SX Series system being installed is a seawater RO system only. The water system layout on the vessel is such that the product water from the seawater RO system goes directly to the vessel's water tank. In this case, the vessel's water system layout does not call for RO purification of dockside water.

According to Chris Allard, President of Metal Shark Boats, a Dometic watermaker made a lot of sense. He explains, "We installed a Dometic system based on our experience with the company, their support and service. And, we suggested the Dometic unit to our client who followed our advice."

Allard also addressed the power footprint of the unit, saying, "Relative to the other loads on the boat, the watermaker is a relatively small consumer. All in all, it is not a major cost driver on the operation of the boat." In practice, Dometic's sea water systems are energy efficient for typical systems powered by piston pumps. The operating energy requirement for SeaXchange systems, for example, is 2.25 kW. This requirement can readily be supported by most marine generator systems found on most vessels.

It also turns out that one of the most precious commodities on many workboats is space itself. That's not a problem with the Dometic solution. For example, the Dometic Sea Exchange Sea Water Reverse Osmosis system measures 18.5" x 48" x 24"; weights range from 145 to 175 pounds, depending on the model you choose. And for those with especially tight quarters, the SeaXchange system can be converted to modular systems in a couple of easy steps. The watermaker can be installed in the engine room but also anywhere a particular vessel has room for it.

This particular diveboat is intended to operate in the Gulf of Mexico initially, but eventually, it could provide worldwide service. And, at that point, the quality of water on board will be especially important. Where local potable water cannot be fully trusted, Dometic's SeaXchange will more than keep up with on board demand. The U.S. Coast Guard recommends 30-gallons/per person per day for drinking, showers, cooking and cleaning. In terms of safety alone, a reliable watermaker is an excellent investment. At many ports of call, such as locations in the Caribbean, Mexico, Central and South America, foreign marinas can charge as much as 50 cents a gallon, and in reality, the quality of that water provided is suspect.

Joe Pinto,
Dometic National Account Manager

Workboats: real world missions, demands

Dometic insists that watermakers are important for safety, fuel economy and convenience. That much is clear. Offshore service providers not accustomed to needing a robust, reliable water supply, might need to take a second look. As the deepwater oil and gas play takes operators further offshore, for longer periods of time and to places where shoreside water quality is at best, uncertain, the need for watermakers becomes more obvious. And, in a world of $50 crude oil, the bottom line is becoming even more important. The offshore service provider that can make its own water and not have to fill water tanks to the detriment of deadweight cargoes for their clients will create that much more of an advantage in a buyer's market for offshore support. And then there's the fuel economy to consider.

Dometic SeaXchange Sea Water Reverse Osmosis Systems come in capacities ranging from 600 to 2200 gallons per day. But, says Dometic, it's not gallons per day you should focus on; it's gallons per hour. In order to run your watermaker, you will need to operate your generator. Hence, if you run your generator for four hours per day, and need to make 100 gallons of water per day to replenish the previous day's supply, you will need a watermaker with a 25-gallon-per-hour capacity.

For Metal Shark, a rapidly expanding boat builder now with two Gulf Coast locations, the choice is clear. Chris Allard told ***MarineNews*** in February, "We have used Dometic products for many years on hundreds of boats. The company, service and support are all excellent – during installation, as well as post delivery." For the rest of us, something we take for granted – clean, safe water – is even more important when out to sea. As missions expand and change for more offshore operators, these firms are beginning to look at enhanced water making capabilities for myriad reasons. When they do, they will increasingly look to Dometic.

Key Benefits of Dometic SeaXchange

True water purification flexibility	True double-pass system	Purifies dockside water and raw seawater
One-touch fully automatic system	Mechanical override	Removes 95-99% of total dissolved solids
No additional accessories to buy	Low maintenance	Non-proprietary components
Stainless steel motors, pumps	Service, support (100 countries)	2-year parts warranty and a 1-year labor

Moore *Shallow Shuttle 23*

Moore Boat LLC recently delivered the first of three all new aluminum Moore Shallow Shuttle 23 RIB's to Seacrets, Jamaica USA after the vessel's successful completion of various sea trials and the U.S. Coast Guard's final simplified stability test. Designed in house with the assistance of CDI Marine's Band Lavis Division, the Shallow Shuttle is a unique water taxi with a Coast Guard small passenger (subchapter T) approved capacity of fourteen (twelve passengers, Captain and one Mate). The vessel has been designed to operate in the shallows of the Assawoman Bay efficiently moving patrons from other vessels to the beach of Seacrets, a large entertainment complex located in Ocean City, MD.

The Moore Shallow Shuttle 23, the first of a new series of boats from OceanCity-based Moore Boat, utilizes a full 5086 aluminum hull form boasting a 0.5" keel and a heavily reinforced, six chamber inflated collar. Powered by a single gas Mercury Sport Jet, the boat is capable of speeds approaching 40 miles per hour with the unique ability to transverse sandbars with depths as shallow as 4 inches. Notably – statically and lightship – the boat has a draft of only 10 inches.

Intended as a purpose-built water taxi and boasting a very stable platform, the vessel offers a central ergonomic focused helm, bench seating with storage, leaning helm seat, and abundant lighted storage. Within the small helm, the life ring, throw line and man overboard strobe have been integrated to save space and aid in rapid deployment. The motor box is gas-assist, allowing for easy servicing of the vessel's mechanics. The bilge air exhaust plenum is illuminated and constitutes just one of the many highlighted details of the build. The Shallow Shuttle has been Coast Guard approved to be constructed with a full canopy built over occupants, should the customer deems that necessary.

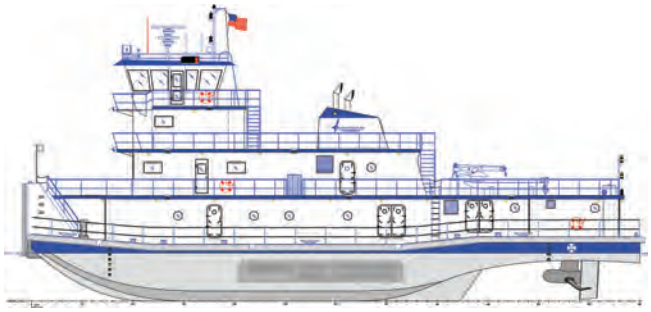
Moore Boat LLC creates vessels and hull forms that fill a void in the marketplace. Capable of operating in shallow areas – with particular emphasis on the inland waterways where dredging is at best spotty, and knowing the challenged ability of local waterways to secure funding for dredging in an atmosphere that rewards cargo tonnage and not necessarily need – Moore Boats are designed and perform well in shallow water while remaining more than capable in more challenging sea states. The Moore Shallow Shuttle 23 embodies that corporate philosophy.

www.mooreboat.com

Moore Shallow Shuttle 23 at a glance ...

Length (inflated): 23'	Fuel Capacity: 40 gallons	Propulsion: Mercury Sport Jet 250HP
Beam (inflated): 9'4"	Storage: twin glove boxes	Hull Material: 5086 Aluminum (.5 keel)
Top Speed: 36 knots	Static Draft: 10 inches	Storage: Forward port/stbd under bench
Max No. of Persons: 14	Lighting Package: Lumitec	Collar (6 chambers): DIB Boats
Planing Speed: ~ 7 MPH	Gauges: Mercury Smart Craft	Certification: USCG Subchapter T vessel

Eastern Shipbuilding's Vision for U.S. Inland Waterways



Eastern Shipbuilding Group, with 74 Inland Towing Vessel deliveries to industry since 2007, has introduces its vision of the future for inland waterways with its 120 foot, 4,200 horsepower Inland Towboat design named the THUNDERBOLT. The THUNDERBOLT combines Twin Electric V-Pod Propulsion and Diesel-Electric Technology, providing increased efficiency, performance, maneuverability, crew comfort and capacity. On the rivers, Thruster Propulsion Systems are starting to get noticed and are outperforming conventional nozzle propeller propulsion systems with main/flanking rudder steering. Eastern Shipbuilding Group, Inc. and Verhaar Omega, B.V. began discussions and realized they were driving towards a more refined towboat thruster propulsion system design. Eastern is now integrating their proven "Tiger Shark Class" Diesel-Electric technology into a refined, environmentally friendly, highly maneuverable Inland Towboat design. Eastern has worked with Gilbert Associates, Inc. developing its new fresh hybrid THUNDERBOLT diesel electric design. The THUNDERBOLT has been designed using ABS Class Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways-2014. It is also designed to the Proposed U.S. Coast Guard 46CFR (Sub-Chapter M) Towing Vessel Rules and IEEE 45 2002 Standards. In a nutshell, the THUNDERBOLT is a 120' Inland River Class Towboat with 690VAC diesel-electric and twin azimuthing Verhaar Omega electric V-Pod Propulsion Units. Cummins Mid-South, LLC is providing the generator package with 3 identical diesel-electric power plants, Cummins QSK38-DM. Each engine is rated EPA Tier 3, V-12 Cylinder, 38 Liter, 1,400HP @ 1,800RPM Marine Diesel Engine. These 3 engines provide optimal fuel consumption with 4,200 total installed horsepower. Each engine also powers a Cummins AVK DSG-74 water-cooled generator, which can supply at 990kW, 690 VAC at 1,800 RPM. The vessel's design offers enhanced performance of V-Pod propulsion, diesel-electric with constant speed generator engines, with less vibration and noise along with power management and automation. This results in lower operating costs, system redundancy, increased safety, increased crew comfort and less crew fatigue.

Thunderbolt Design Details at a Glance ...

Length (Molded): 120'	Hull Depth Amidships: 11'	Berths: Ten (10)
Beam (Molded): 36'	Design Waterline (DWL): 9'	Total Fuel Oil: 40,326 USG

Harvey Energy: Historic First for U.S. LNG Power

The first ABS Classification Certificate and the first USCG Certificate of Inspection for a vessel powered by LNG have been issued to Harvey Gulf Marine's Harvey Energy. The M/V Harvey Energy is the first LNG powered vessel in service in North America. Earlier, Harvey Gulf celebrated the first truck to vessel transfer of LNG, the first vessel to bunker LNG and was the first U.S. Flagged LNG powered vessel to enter into port while being powered by LNG. The vessel will be based out of Port Fourchon, LA and will immediately begin its long term charter role.

Harvey Energy at a Glance ...

Length: 310'	Draft: 24.5'	Built: GCSG	Power: 3 Wartsila 6L34DF df gensets
Breadth: 64'	DWT: 5,150 tons	Liquid Mud: 18,000 bbls	Fuel Capacity: 78,000 USG (LNG)

Polar Bear – An Alaskan-based Landing Craft

There is a high demand for landing crafts along the Alaskan coast. Thanks to their special design they are the optimal fit for the tides of the northernmost state in the United States. German emigrant Peter Schwartz – founder of "Alaska Marine Transportation & Salvage" (AMTS) – built the "Polar Bear" in 1989. 2013, the vessel was repowered with two MAN D2862 LE421 heavy duty engines and is now not only compliant with the latest EPA Tier 3 emission regulations, but also the fastest boat of its kind along the American west coast. Landing craft, although developed as military vessels, are also particularly well-suited to Alaskan coastal areas. In Alaska, there are only a few ports and most do not even have docks. Special vessels are often required to deliver goods. Landing crafts fulfill these needs. They are currently used to haul cargo and heavy equipment, or even serve as a drilling platform. With a width of 34 ft. the landing craft had a capacity of 220 tons, this vessel has been lengthened of 155 feet with an increased capacity of 280 tons. Certified by the Coast Guard in April 2014, it has a top speed of 14 knots and is billed as the fastest boat of its kind along the west coast. In this service, reliable engines are required. Schwartz, a long term MAN customer, chose to repower its vessel in December 2013 with the two worldwide first installed MAN D2862 LE421 heavy duty engines. The V-twelve cylinder engines generate an output of 900 hp each at 1,800 rpm. The D2862, like all MAN V engines of the latest common rail generation, meets the U.S. emission standard for commercial use EPA Tier 3. The twelve cylinder engine for heavy duty applications also sets a new benchmark for fuel consumption. With 212 g/kWh, the total cost of ownership is remarkably low. Beyond this and in order to fully utilize the vessels capacity, the engine room has to be as small as possible. With its compact design and light weight of only 5004 lbs, the twelve cylinder diesel engine fit perfectly.

Polar Bear at a Glance ...

Launch: Repower December 2013	Shipyard: AMTS (Tacoma)	Length: 155'	Draft: 5'
Engine: 2x MAN D2862 LE421	Speed: 14 kt	Beam: 34'	Crew: 4

The Marine Pumper: 13 years later, still going strong

MetalCraft Marine's FireStorm 40 is a no compromise pumper. And the Anne Arundel Fire Department, which took delivery of it FS 40 in 2002, is ample testimony to the fact that this robust and unique design is still going strong. MetalCraft continues to build the dependable and now familiar vessels, delivering one hull to the St. Louis Fire Department in 2014 last year and at present, they are building two vessels for the Vancouver Fire Department in British Columbia. The pumping arrangement enables the boat to pump water for fire suppression at maximum capacity while maintaining maneuverability. This allows the boat to act as a hydrant with an endless supply of water for supporting land units while remaining on station under its own power. One primary patient care berth with specialized storage for fire, response and medical equipment is incorporated into the cabin. There is a full cuddy with head and sink and two secondary patient care berths for emergency response. When fitted with two 1750 GPM rated firefighting pumps the FireStorm 40 can produce flow meter results of 4,000

GPM at 150 PSI and 4,800 GPM at 60 PSI. A remote operated monitor mounted on the roof provides the primary firefighting capability from a dedicated console within the cabin and secondary monitor(s) is mounted on the bow. Two 2.5" discharges and a 5" Storz outlet are fitted on the aft deck. Twin diesel inboard engines matched to water-jet propulsion units can propel the boat to speeds of 38 knots and allow the boat to perform emergency stops and change direction within two boat lengths. The added beam and length produce an over wide ratio providing a massive aft work deck that has a heavy loading capacity and greater performance under loaded conditions.

Kvichak Crew/Pilot Boat Deliveries

Kvichak Marine recently delivered two all-aluminum 36.6' Crew/Pilot Boats to Tymac Launch Service, Ltd. of British Columbia, Canada. The multi-mission vessels were designed by Kvichak for the specific use of transporting 12 or fewer passengers and will provide transportation for BC Coast Pilots, Government Officials, ships Agents & Surveyors, Longshoremen, Repair crews etc. The areas of operations include Vancouver Harbor, Indian Arm, Howe Sound, the Fraser River and Southern Gulf of Georgia Strait. Powered by twin John Deere 6090SFM85 diesel engines rated for 425 bhp and ZF 305-3 marine gears. The engines are coupled to Hamilton 322 waterjets providing a speed of 35 knots.

Kvichak Crew/Pilot Boat at a Glance ...

Length (overall): 39' 11"	Draft: 2' 4"	Cargo capacity (aft deck): 1,000 lbs
Length (molded): 36' 6"	Fuel capacity: 240 gallons	Seating: 1 crew & 12 passengers
Beam (overall): 13' 6"	Speed (design load): ~35 knots	Fendering: Duramax D rubber

LEEVAC's Hull 367 Launched for Tidewater

LEEVAC Shipyards Jennings, LLC launched hull 367 in late January. Designed by LEEVAC Design Services, LLC (300 DE-52 HAB PSV) is the first of a 2 vessel new-build program for Tidewater Marine. This is the first launch for LEEVAC in the New Year which marks a milestone for the company as it is celebrating its 50th anniversary. The vessel measures 300 ft. x 62 ft. x 24 ft. deep, has a diesel-electric plant, accommodations for 52 persons, and is ABS Classed XA1 XAMS, XACCU, OFFSHORE SUPPORT, XDP-2, XFiFi-1, HAB (WB), UWILD ENVIRO, and GP will be

certified for worldwide operations. The vessel will be delivered during the 3rd quarter of 2015.

Kvichak Crew/Pilot Boat Deliveries

The Mississippi River empties into the enclosed waters of the Gulf of Mexico. The sediment load settles rapidly to form many square miles of delta and shallow waters. Where the Mississippi meets the Gulf, shallow draft Lugger tugs have been earning their keep supplying the near shore oil industry. But their size has been limited by their draft which is subject to the prop size as much as the hull depth. Innovative tug designers and operators have found that three smaller engines, turning smaller props can deliver as much power with significantly less draft than a twin-prop boat with bigger engines. An additional advantage is that, in the event of loss of power from one engine, the operator can still rely on two engines for maneuvering. Rodrigues Shipbuilding is perhaps best known for in-house designed Lugger-type tugs. Their aft mounted deckhouse provides a convenient foreword deck space for cargo. A single drum aft mounted towing winch allows towing or, with blocks, the boat can be rigged as a pusher. Rodriguez recently delivered the Captain Nedo C. The vessel is a triple-engine Lugger powered by three Cummins QSK19-M engines each producing 660 HP at 1800 RPM. The 70 by 29-foot tug has a molded depth of 9.5 feet and is equipped with a M50 Pullmaster stern towing winch. Even though the tug has a hefty 1,980 HP, when light loaded with fuel and water, she only draws 6.5 feet.

BMT's REMBRANDT-INLAND Simulation Tool

Brown Water Training and Collision Reconstruction Taken to a New Level

By Joseph Keefe

When a new or expanded port is planned on an inland waterway, how do you assure the civil marine engineers and ship operators of feasibility and operability while at the same time allaying the fears of local residents that their quality of life and local environment will not be significantly spoiled? "Simple," says Paul Morter, Business Manager for BMT ARGOSS's brown water version of their tried and tested ship simulator REMBRANDT. "You take the ships and the port to them. This is exactly what we did towards the end of 2014. We delivered customer workshops and a public consultation for two planned overnight rest ports on the Rhine transport route between Germany and the Netherlands."

It was BMT ARGOSS inland waterways specialist Johannes 'Hans' Veldman who identified a potential market for brown water simulation through his work experience with the Dutch inland waterway networks.

Veldman has brown water in the blood, growing up afloat on the inland waterways of the Netherlands and beyond and has a broad knowledge of the European inland waterway network, the locks and other structures found on inland waterways. For example, he had significant involvement in the development of the hydraulic lock leveling system for the new canal between the rivers Seine in France and Scheldt in the Netherlands.

Another project attributable to him was the initiation of the completed Joint Industry Project "Improved Push-Barge Connection System" that resulted in an improved connection system for inland push-barges on inland vessels. "The BMT Group is very proactive in supporting well thought out ideas that require some development", explains Morter, himself a blue water Master Mariner. He added, "We received the full backing, including financial assistance, from the Group's innovation board to make the necessary adjustments to the software for this market."

REMBRANDT has been in existence for over twenty years, starting as basic, two dimensional software. Now a fully DNV type approved navigation and maneuvering simulator with high quality graphics and all the attributes of a modern day bridge simulator, the brown water version of the simulator has allowed BMT ARGOSS to extend this capability into the inland waterways market. For this particular market, portability is as important as capability, so not only was the software specifically adapted to the needs of brown water, but also the bridge infrastructure had to be fully portable and representative of the inland vessel bridge.

"Developing a brown water version of the simulator was not without its challenges", continues Morter, "Hans's experience was invaluable in this respect in ensuring that we got it right." Inland vessel bridge design is much more

Image above: BMT Personnel direct simulation operations.

Hans Veldman,
ARGOSS inland waterways consultant

Paul Morter,
Business Line Manager for REMBRANDT

A REMBRANDT inland simulation scenario underway

standardized than ocean going vessels so the layout of the wheelhouse was critical to the skippers' immersion. However, there are some vessel controls that are not normally encountered on deep sea ships. Some of these systems required a significant amount of development to ensure correct operation and behavior of models. This required close cooperation between software specialists and BMT ARGOSS's in house team of experienced naval architects.

Recently, an existing harbor near Lobith-Tuindorp and the river flood plain Beijenwaard near Lobith-Spijk have been selected for the development of 70 berths to provide overnight layover facilities to satisfy the rest requirements for inland vessel crews. An important design aspect for these facilities is the safety for the vessels arriving at and departing from the harbors. Simulation is not only essential for establishing safety, but has also been shown to be a very good way of involving the public in the developments. As many as 80 different simulations were conducted, covering the whole range of expected conditions, using licensed inland waterway pilots to carry out the simulations. The result of the simulations was an assessment of the planned development along with a proposal for alternatives to provide safe berths.

The regional authority responsible for the planned development took the decision to involve the nearby local community as part of the design process. Using the simulators portability a demonstration was set up in the local town hall enabling visitors to gain a good understanding of the studies involved in the development process to ensure the port designs are safe for navigation.

As well as providing traditional port and canal development simulations, REMBRANDT-INLAND can be used to accurately reconstruct specific incidents involving collisions in order to identify the root cause and any lessons that can be learned. The simulation uses available shipboard data combined with high fidelity models, to produce meaningful three-dimensional simulations. Voice, radar and position data sets are automatically synchronized together with environmental data and navigational circumstances, to present a complete and seamless reconstruction of events for in-depth analysis.

The resulting incident reconstruction can be used to identify what happened not only for litigation purposes, but to help improve safety. Once the root cause is determined the first steps towards future prevention can be implemented. This knowledge and also the liaison with the client can produce a range of "what if" scenarios that can be thoroughly investigated and evaluated to produce specific training needs, valuable lessons learned and possible review of operational policies and procedures.

REMBRANDT-INLAND is a highly accurate, capable and flexible alternative to Full Mission Bridge (FMB) marine simulators, delivering equivalent functionality at a lower price point. REMBRANDT allows the user to load any port, river or canal and utilizes high fidelity vessel models that include over 750 parameters, ensuring that the user experiences identical vessel to vessel interaction, vessel to bank interaction, squat and shallow water effects as the real vessel would in the same conditions. REMBRANDT-INLAND is currently being used as part of BMT ARGOSS's consultancy offering and will be available to purchase later in 2015. **www.bmtargoss.com**

Bollinger Promotes Four


Martinez


Phelps


Remont


Theriot

Bollinger Shipyards announces the promotions of three key leaders. **Tim Martinez** has accepted the position of Executive Vice President of the Repair Division. Tim began his Bollinger career in 1996 and in 2006 was promoted to Division General Manager for Bollinger Morgan City (BMC), and assumed responsibility for Bollinger Amelia Repair (BAR) in 2008. **Scott Theriot** has been promoted to Executive Vice President of Sales and Marketing. Scott has been a contributing member of Bollinger's senior management team for a total of 25 years. **Corey Phelps** has accepted the position of General Manager of Bollinger Morgan City (BMC) and Bollinger Amelia Repair (BAR). Corey joined Bollinger in 2003 as an Assistant Estimating/Project Coordinator and has since risen steadily through the ranks. **Chris Remont** has been named Vice President and General Manager of the Lockport New Construction division (BLN).

Remont joined Bollinger in May 2014 as Director of Program Management overseeing all aspects of Program Management at BLN.


Lougheed


Carter


Tenhagen


Pope

Lougheed Joins Willard Marine

Mark Lougheed has joined the engineering team at Willard Marine, Inc. He brings more than 25 years of experience in naval engineering and project management to Willard Marine. Lougheed was most recently at Coast Dynamics Group as an Engineering Project Leader developing technology for SHOXS Seats. Lougheed has a Masters Certificate in Applied Project Management from Villanova University in Pennsylvania and an Associate of Technical Arts in Electronics Technology from Centralia College.

Cummins' Carter to Retire

Cummins Inc. announced that Distribution Business President **Pamela Carter**, the first woman to lead one of the company's four main business units, will retire April 1. Carter, who became Indiana's first African American woman Attorney General in 1993, has been with Cummins since 1997. She initially served as the Company's Vice President - General Counsel and Corporate Secretary. Carter then held several key positions within Cummins Fleetguard before leading Cummins Filtration from 2005 to 2007. She has been President of the Distribution Business Unit since 2007.

Asahi/America Adds Tenhagen to Sales Team

George Tenhagen has joined the sales team at Asahi/America. George graduated from the University of South Florida with a bachelor's of science in environmental engineering. For the past 15 years, George was area manager of facilities engineering at a Tampa, FL facility and is a licensed professional engineer in the state of Florida.

Bay Diesel Promotes Pope

Nick Pope has been promoted to Inside Sales/Project Manager for Bay Diesel's Chesapeake, VA location. Nick joined Bay Diesel in 2013 as the Parts & Warehouse Coordinator where he was responsible for shipping/receiving, inventory control and delivering parts in the area. Nick's primary responsibility will be to support the Generac sales team.

The Great Lakes Towing Company Announces Two Hires

Lindsay R. Dew has been named Director of Operations & Compliance, and **Mark W. Delventhal** has been named Director of Technical Services & Business Development at The Great Lakes Towing Company's marine operations group. Lindsay retired from the U.S. Coast after twenty (20) years as Maritime Operations & Safety Specialist, and also was with ABS Consulting for eight (8) years. Delventhal spent nineteen (19) years at Military Sealift Command as Construction Representative and Project Officer and is a 1985 Graduate of U.S. Merchant Marine Academy with a degree in Marine Engineering.

Haynes Named Director of OEM Sales for Dometic

Dometic Marine announced that **Ben Haynes** has been promoted to Dometic Director of OEM Sales for Commercial Marine, focusing on commercial, military and custom boat builders


Dew


Delventhal


Haynes


Stewart-Cicero


Metcalf


Cox

in North and South America. A 27-year veteran of Dometic, Haynes previously served as Technical Sales Manager for the U.S. Northeast and Northwest, where he was responsible for working directly with OEM manufacturers.

Fidelis Group Holdings, LLC Hires Joanne Stewart-Cicero

Joanne Stewart-Cicero has joined Group Holdings, LLC (FGH) as Claims Director for its Inland Marine Division. In this position, Stewart-Cicero will oversee the claims handling of the group's expanding Inland Marine Division. Joanne comes to FGH with over 30 years of experience in the industry, most recently as Assistant Vice President-Inland Marine Claims for Navigators Management Company, Inc. and Claims Director for Crystal & Company.

Leadership Change at CSA

Joseph J. Cox, President/CEO of the Chamber of Shipping of America (CSA), will retire on May 31, 2015 and will be succeeded by **Kathy J. Metcalf**, currently Director of Marine Affairs for CSA. Mr. Cox will continue assisting the organization on various issues in an advisory capacity. Metcalf has been with CSA for 17+ years and brings a solid background of seagoing service and shore responsibilities with shipping companies.

Huntington Ingalls Announces Executive Changes

William Ebbs has taken on the new role of vice president, federal policy, and **Andrew Hicks** has been promoted


Hicks


Ebbs


McLean

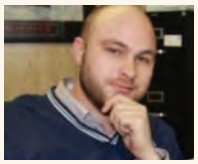

Hunt


Johansen


Mahoney

to vice president, legislative affairs at Huntington Ingalls Industries (HII). Ebbs joined HII in 2011 and is a former submarine officer and 31-year veteran of the U.S. Navy. He earned a bachelor's degree in electrical engineering from Auburn University and a master's degree in national resource strategy from the National Defense University. Prior to joining HII, Hicks was a director of legislative affairs with Northrop Grumman. He earned a bachelor's degree in political science from Vanderbilt and a master's degree from George Washington University's Graduate School of Political Management.

Moran Iron Works Announces Promotions and Appointments


Gibson


Halstead


McNamara


Woodworth

William Halstead will serve as Moran Iron Works' Project Operations Manager. He graduated from Alfred State College with a degree in Design and Drafting and has extensive experience in OEM machine design in the semi-conductor industry with international business experience in China and South Korea. **Thomas McNamara** will serve as Director of Human Resources. McNamara earned a Master's of Science in Human Resources Administration from Central Michigan University and a Bachelor's of Science from Lake Superior State University. **James Woodworth** has been named Manufacturing Process Manager. **Kirk R. Gibson** has been named Account Manager-Industrial Fabrication Kirk joined Moran Iron Works in November 2014 as the Account Manager for the Industrial Fabrication division. He is a graduate of Michigan State University.

McLean to Lead NOAA Research

Craig McLean, deputy assistant administrator for NOAA's Office of Oceanic and Atmospheric Research (OAR), has been selected to head the office, which is responsible for NOAA's research enterprise, including laboratories and programs across the country. McLean served in uniform for nearly 25 years, retiring from NOAA's Commissioned Corps in the grade of captain. He served aboard hydrographic, oceanographic, and fisheries research ships.

Pettit Adds Hunt to Marketing Team

Pettit Marine Paint announced today the addition of **Margo Hunt** to its management team. In her new role as Marketing and Sales Support Manager, Hunt will be responsible for creating and coordinating all aspects of marketing in the United States for the Pettit line of products. In her most recent post – Hunt provided sales and marketing expertise to several factories such as; Power Products, SeaStar, Lehr Outboards, Moeller, Taylor Made Products and Lumitec.

Johansen to Lead Division Parsons Brinckerhoff

Robert Johansen has been named Director of the ports & marine western division at Parsons Brinckerhoff. Mr. Johansen is a professional engineer with more than 50 years of experience in port and marine terminal planning, design, construction management, and program management. Johansen received a bachelor's degree in architecture from the University of California, Berkeley. He is a member of the American Society of Civil Engineers.

WR Systems Announces NAVCOM Strategic Hire

Mark Mahoney has joined WR Systems Ltd as the Director of Domestic Maritime Business. Mark comes to WR from Northrop Grumman Sperry Marine, where he spent almost 25 years in a variety of roles, including Marketing, Contracts and Compliance. His most recent position was Service Manager for the Americas region.

Rand Logistics Names Kurz and Levy to BoD

Rand Logistics, Inc. announced that its Board of Directors has appointed **Robert Kurz** and **Edward Levy** as Class III and Class I directors, respectively. Mr. Kurz is Vice President of Kinder Morgan Terminals and the President of their tanker division, American Petroleum Tankers. Mr. Levy is currently the President and Chief Executive Officer of Rand. Rand also announced that Captain Scott Bravener, a Class I director, has tendered his resignation from the Board of Directors. Kurz has a Bachelor


Kurz


Kritzman


Alexander


Vitter


Canaveral Commission


Costa


Palaiologou


Vaughn


Hankins

of Arts degree from Lafayette College and a Masters of Science degree and United States Coast Guard Third Mate License from SUNY Maritime College.

Cozen O'Connor Welcomes Kritzman to Miami Office

Cozen O'Connor last month welcomed **Robert M. Kritzman** as a member in the Transportation and Logistics Practice. He was previously a shareholder in Fowler White Burnett's Maritime and Corporate Practice Groups. Prior to that, he served as Executive Vice President and General Counsel for Norwegian Cruise Line. Kritzman earned his J.D. and his B.S. in Economics from the University of Florida.

WCI Honors Senators Alexander and Vitter for Leadership

Waterways Council, Inc. (WCI) presented its 14th Annual Leadership Service Awards to Senator **Lamar Alexander** (R-TN) and Senator **David Vitter** (R-LA) for their steadfast championship of the inland waterways in February. Waterways Council, Inc. is the national public policy organization advocating for a modern and well-maintained national system of ports and inland waterways.

Allender Elected New Canaveral Commission Chair

Jerry Allender has been elected to serve as the new Chairman of the five-member Port Canaveral Commission. Allender previously served two second terms as Vice Chairman. The Titusville resident was elected to the Port Authority in August 2010 to represent District 1 and begin his term in January 2011.

Xantrex Appoints East Coast Sales Manager

Nathan Costa has been named the East Coast sales manager for Xantrex. Costa joins the Xantrex team from the Schneider Electric IT business where he served as the service manager, responsible for over $6 million in service contracts. Costa has worked in various sales capacities within Schneider Electric before his appointment as the service manager.

BV Marine Appoints Marketing Director

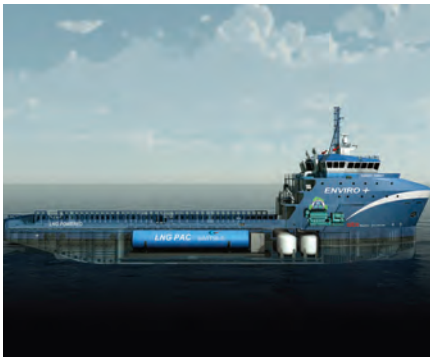
Bureau Veritas has appointed **Paillette Palaiologou** as Marine Marketing & Sales Director within the Marine & Offshore Operating Group. She is tasked with defining and leading Bureau Veritas' business development strategy and priorities in the maritime market. Palaiologou is a Naval Architect and holds a Master of Science in Marine Engineering from the University of Newcastle upon Tyne. She started her professional career in Oceanbulk Maritime S.A, as Technical Superintendent and then Head of Hull & Classification Department.

ASA Appoints Missy Vaughn to Controller

ASA Electronics announced that **Missy Vaughn** has been promoted to company Controller. In her new position, Vaughn will be overseeing the Accounting Department and will be responsible for all financial statement preparation, reviewing and analyzing management reports, as well as supervising the day to day management of accounting functions. Vaugn earned a Bachelor's of Science in Business from Indiana University.

ASA Revises Mission Statement and Logo

The American Salvage Association has officially unveiled its revised Mission Statement that increases its area of influence beyond North America, complemented by a new logo that reflects the expanded direction. The changes will allow the ASA to increase its membership ranks and expand its horizons beyond the continental United States, to include North, South and Central America. ASA President **Paul Hankins** said, "The very nature of salvage, and the regional assets required to perform our jobs, require the ASA to be inclusive of our fellow salvors throughout the Americas. We look forward to a growing dialogue throughout the region."



Harvey Energy

Crowley Scholarship

Crowley Barge

Historic First LNG Bunkering of OSV in North America

Harvey Gulf lnternational Marine has successfully completed the first North American truck to vessel transfer of LNG to the M/V Harvey Energy. The historic bunkering took place at a shore-based terminal owned by a subsidiary of Martin Midstream Partners L.P. in Pascagoula, MS. Participating in the activities alongside the crew of the Harvey Energy was the U.S. Coast Guard, ABS, Wartsila, Martin Energy Services LLC, State and Local Agencies and GCSG. The cool-down process took approximately 12 hours to achieve the desired tank temperature and pressure utilizing 3,800 gallons of nitrogen. The LNG bunkering was successfully completed within a few hours of cool-down. The Harvey Energy will next proceed to LNG trials before delivery.

Crowley Scholarships for SUNY Maritime Cadets

Crowley Maritime Corporation's 2014 Thomas B. Crowley Sr. Memorial Scholarships have helped to further educational opportunities for three students of State University of New York (SUNY) Maritime College. The recipients, who each sailed with Crowley during their studies, were chosen based on grades, financial need and planned careers in the towing or petroleum industries. Scholarship recipients include Thomas George Edenfield, Jonathan Agliata, and Jessica Victoria. Since 1984, Crowley has provided more than $3 million dollars in scholarship funding for more than 1,000 students studying at maritime academies and other select institutions in the U.S., Puerto Rico and Central America.

Crowley Increasing Capacity, Equipment in Puerto Rico Trade

Crowley Maritime Corporation's liner services group announced in January that it will add a 400 FEU capacity, flat deck barge to its South Atlantic Puerto Rico service in the first quarter, increasing the rotation between Jacksonville, Fla., and San Juan to four sailings each week. The company will also replace the existing 580-foot, triple-deck barges with larger, recently modified 730-foot, triple-deck barges in the North Atlantic – Puerto Rico trade, between Pennsauken, N.J., and San Juan, increasing capacity by over 40 percent. To support the increased capacity, Crowley will add over 6,000 pieces of cargo carrying equipment including a combination of dry and reefer containers and chassis. Crowley has been serving the Puerto Rico market since 1954 and is building two new LNG-powered container ships to be deployed in the trade in 2017.

Less Ice Means More Ore on Lakes in December

A mild December on the Great Lakes allowed iron ore shipments to increase dramatically compared to a year ago when an early arriving winter blanketed the system with thick ice. Shipments totaled 6.3 million tons, an increase of 23.6 percent compared to a year ago. The biggest increase came from U.S. ports on Lake Superior. Loadings out of Duluth, Minnesota, Superior, Wisconsin, Two Harbors and Silver Bay, Minnesota, and Marquette, Michigan, totaled 5,124,525 tons, an increase of 41.8 percent compared to December 2013. January 2015 was not as cooperative, ice and weather-wise. A number of delays were incurred and cargo totals, when finalized, will reflect that.

Great Lakes Shipyard Awarded Major USACE Contract

Great Lakes Shipyard has been awarded a repair contract by the United States Army Corps of Engineers (USACE) Buffalo District for two (2) tugs and two (2) barges from the Corps' Cleveland Field Station.

The shipyard will perform drydocking, maintenance and repairs of the 109-foot Tug CHERAW and 53-foot Tug DONLON, and the 120-foot Deck Barges BD-6259 and BC-6472. Work includes underwater hull clean-

U.S. Coast Guard photo/Petty Officer 3rd Class George Degener

Great Lakes Cutter

USACE vessels tied up in Cleveland

Solum

(front row l to r) Al Tielke, Lee Barnhill, Joe Walters, Bob Lund

Signal

ing and maintenance, as well as inspection and testing of propulsion systems; overhaul of sea valves and shaft bearings and assemblies; and other routine cleaning, inspections, maintenance and repairs. In addition, the scope of work includes major overhauls of the propulsion engines, fendering replacements, and major steel renewals.

DNV GL Opens U.S. Technical Helpdesk

DNV GL has now opened the American hub of its technical helpdesk, providing customers with direct access to 400 technical experts globally. With the Houston based team in place, DNV GL now has global coverage through teams in all main time zones (Europe, Asia and Americas). **Jan Solum** leads the new Technical Helpdesk Team in Houston. He said, "This service demonstrates how our scale and knowledge base directly benefit our customers. Our ambition is to provide the world's best technical support."

International Ship Masters' Association Conclude Annual Convention

The International Ship Masters' Association 125th annual convention held at Duluth, MN, February 5 – 8. The convention included business meetings as well as speakers from industry and government organizations covering such topics as Great Lakes environmental issues and scientific research, infrastructure renewal, LNG and CNG as fuel options, the economic impact of "green" initiatives, and nautical history. Elected as Grand President for the ensuing year was Capt. Joseph Walters, 1st Vice President Capt. Robert Lund, 2nd Vice President Capt. Lee Barnhill, and Secretary-Treasurer Capt. Albert Tielke.

Signal Ship Repair Achieves Zero OSHA Recordable Incidents

Signal International announced that on December 31st, 2014, the Signal Ship Repair Operations located in Mobile, Alabama achieved one full year and worked 387,926 manhours, without the occurrence of an OSHA recordable incident. According to Signal, this success is attributed to the efforts and focus of the entire Signal Ship Repair Operations employees – management, administration, support, and production.

IADC at 50

The month of January began a year-long celebration of the 50th anniversary of the founding of the International Association of Dredging Companies. Incorporated in May 1965, the association brought together 60 participants of 38 international dredging contractors from 12 countries. In 1965 these companies decided that the time had come to explain dredging's benefits to society and the economic and social advantages to be reaped from well-planned maritime infrastructure construction.

PRODUCTS

HEADHUNTER Marine Sewage Treatment Systems

Headhunter's team of engineers, fabricators, and wastewater specialists work together to provide innovative and efficient sewage treatment solutions. Offering systems in three categories; STP, Physical Chemical MSD, Biological MSDs, all can be customized to fit customers' needs. This includes space-saving modular unit designed for the bilge of a megayacht or a skid-mounted turnkey package complete with lift stations for a jack up rigs, and more.

www.headhunterinc.com

GEA Westfalia Separator Group with Class Approval

GEA Westfalia Separator Group has received Class Approval from DNV GL for its ballast water management system, BallastMaster ultraV 250. The chemical-free system solution for ballast water treatment fulfills all D-2 standards of the IMO. Performing at up to 250 cum/h, its modular design is suitable for retrofitting existing ships. The DNV-GL certified system can be mounted as a complete "plug-and-play" unit as well.

www.gea.com

H2O's Owens CrapZapper Offers More

H2O's Owens CrapZapper marine sanitation device has dual certification to the latest IMO and USCG standards for operation anywhere in the world. Features include low maintenance, compact footprint, patented floating skimmer ensures optimum discharge water clarity, and corrosion proof operation in optional 316L Stainless Steel. H2O is a leading provider of potable water solutions, as well as comprehensive water safety products, services and rentals.

www.crapzapper.com

GE Marine's Tier 4 Marine Diesel Engine Receives EPA Certification

GE Marine's 12V250 marine diesel engine has received U.S. EPA Tier 4 Certification. GE met the emissions requirements through non-Selective Catalytic Reduction (SCR) technology that requires no urea-based after-treatment. The Company is also working towards U.S. EPA Tier 4 and IMO Tier III Certification for additional models and families of its marine engines utilizing the same non-SCR technology.

www.ge.com

New Player in the Rim Thruster Market

Rim-driven thruster technology has emerged and demonstrated potential for compact and super-silent maneuvering propulsion. Silentdynamics customized rim-thruster-based propulsion solutions applications include tunnel thrusters, and Silentdynamics ERT thrusters can be configured to be retractable and/or azimuthing. Major benefits include low noise emissions and compact dimensions. This is achieved by utilizing carbon-fiber blades, water-lubricated hydrodynamic bearings and a hubless propeller design.

www.silentdynamics.de

Hyster Variable Power Technology Engines

Hyster Company has launched a new line of industrial engines designed to increase productivity and fuel economy for its 3,000 - 7,000 lb. Class IV and V product lines. The new engines from Power Solutions International (PSI) feature Hyster Variable Power Technology and offer a more powerful and efficient solution for demanding applications. Optional dual fuel engines provides flexibility to run on LP or gas.

www.hyster.com

Compact Marine Crane Application

Techcrane International, LLC required a small gasoline engine for a crane it was installing on a 50' push boat. Laborde supplied the company with a complete, custom package built around a 32.5 hp Kohler Command PRO CH940-2002. The Kohler CH940-2002 is a v-twin, air-cooled, horizontal-shaft, 4-cycle gasoline engine. Producing 53.5 ft. lbs. of torque, the unit is slightly oversized to extend its usable life.

www.labordeproducts.com

Sterns Thermashield Immersion Suit

The Coast Guard-approved Stearns I950 ThermaShield 24+ can withstand over 24 hours of submersion in icy waters extending the chance of survival exponentially. The suit's innovative new design recycles the victim's exhaled breath by directing it at the extremities and core, keeping them toasty. The suit was tested for 24 hours in 32-degree water with 32-degree air ten inches above the water.

www.stearnsflotation.com

BlueTide Communications Launches iOS App

BlueTide Communications Corporation's BlueVision is a proprietary app developed to monitor vessels. Video streaming, deck snapshots and instant contact make the BlueVision app a central touch point for fleet communication. Users can access 24/7 live video or request recorded video history of the deck, take screenshots of any potential concerns and e-mail the images directly from their iPhone, iPad or iPod touch device.

www.bluetide-comm.com

Ocean Time Marine's Safety Management System

Ocean Time Marine's interactive software lets users take control of safety systems and documentation. The software solution ensures compliance and produces a SMS in an attractive format that's easily accessible. Intuitive and easy to use, the software makes short-work of developing a fully functional safety management system for maritime operations by following a template through a series of questions and customizable, prewritten procedures.

www.oceantimemarine.com

Marlink Selected for Van Oord Fleet

Marlink has been selected to provide VSAT (Very Small Aperture Terminal) services for the fleet of the dredging and offshore contractor Van Oord. VSAT services will also benefit Van Oord, turning all of its vessels into remote offices with high communication QoS (Quality of Service) to ensure voice and internet adapts to how much bandwidth is available at any given time.

www.marlink.com

Hobart Releases 2015 Full-Line Catalog

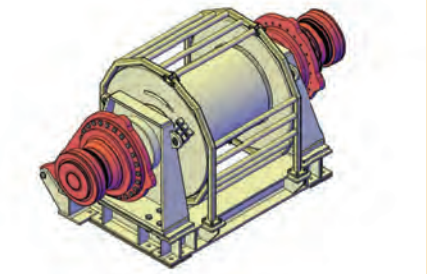
Hobart's 2015 Full-Line Catalog, a 152-page catalog featuring the theme of the company's "It's the tie that binds" brand campaign, is now available. The new catalog signifies the next step in the Hobart brand consolidation that began in May 2013. All Hobart filler metals are featured in the catalog. Tables help users calculate the necessary amount of filler metal for weld joints in an easy-to-read layout.

www.Hobart-Brothers.com

ZF Thrusters: Proven Performers

Offshore vessels operating in rough conditions need reliable and robust propulsion. ZF Marine Propulsion Systems develops and produces a multitude of 360° steerable azimuth thrusters and transverse tunnel thrusters for all kind of applications throughout the marine industry. Thruster units can be furnished with electric, diesel or hydraulic drive systems. The ZF 4011 RT is a retractable thruster providing high maneuverability and station-keeping capability.

www.zf.com



Custom Offshore Winches for Fugro

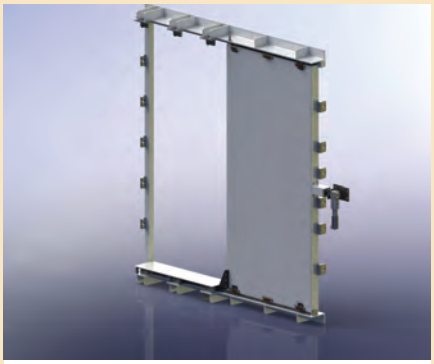
Damen Maaskant Shipyards has delivered two dedicated offshore winches to Fugro, the world's largest integrated supplier of survey and geotechnical related services. The Dutch shipyard was responsible for the design, engineering and manufacturing of the two winches. Bosch Rexroth delivered the hydraulic drive system. Classified by DNV GL, the two winches meet the very highest offshore standards.

www.damen.com

Virtual Marine Technology Provides Lifeboat Simulator for Rowan Companies

Virtual Marine Technology (VMT) recently provided its SurvivalQuest lifeboat simulator training system to Rowan Companies, a provider of contract offshore drilling services. The lifeboat simulator will be used to provide enhanced lifeboat launch and recovery training to lifeboat operators and crews and will complement weekly safety drills. The system also trains users in emergency situations specific to Rowan's offshore emergency response plans.

www.vmtechnology.ca



Newthex Watertight Doors

Newthex watertight sliding doors are installed on many superyachts. The Polder door is an aluminum electrically operated watertight sliding door used below the waterline in bulkheads, as it can withstand a water pressure of 7 mwc. The door has a low weight and is very compact. Monitoring of the status of the door is done by way of a panel in the wheelhouse.

www.newthex.com

Kidde Fire Systems: Multi-Language ARIES NETLink

Kidde Fire Systems now offers a multi-language version of the ARIES NETLink Multi-Loop Intelligent Fire Alarm-Suppression Control Unit, which supports French, Spanish and Portuguese, in addition to English. Designed for a broader, non-English speaking audience and for use where UL/FM-listed products are accepted, the new ARIES NetLink enables Kidde channel partners to interact with and configure the control unit in the language of their region.

www.kiddefiresystems.com

New RICOH NV-10A binoculars penetrate fog, smoke and darkness

Ricoh Americas' RICOH NV-10A digital binoculars penetrate fog, smoke, rain, providing crisp, clear images. The enhanced binoculars enable marine, military, rescue, and homeland security users to push a button and clarify, brighten and sharpen images. The RICOH NV-10A digital binoculars capture still and video images of scenes and advanced stabilization further improves image clarity. Infrared technology lights up the faintest scenes in the dark.

www.ricoh-usa.com

Assistant Manager, Crane & Vehicle Maintenance

Job Location: USA, Portsmouth

The Port of Virginia - Virginia International Terminals is seeking an Assistant Manager, Crane and Vehicle Maintenance to supervise the shift work of up to 20 crane and vehicle technicians and be responsible for ensuring that all work is completed in a safe manner.

Responsibilities:

- Coordinate the equipment assignments and prioritize readiness and repair of equipment with the operations team.
- Provide written shift reports to peers on job status
- Be adept at troubleshooting mechanical and electrical equipment
- Be able to work under high stress and fast paced conditions.
- Maintain and track inventory status, ensuring cost savings and efficiency practices are followed

Minimum Qualifications:

- AA/AS in related field, Technical Certification or equivalent work experience
- 5+ years direct industry experience working on ship to shore cranes and straddle carriers
- 2+ years demonstrated leadership and supervisory experience (informal and/or informal) in industrial plant or similar environment
- Experience in programming and troubleshooting using PLCs
- Excellent communication skills
- Must be available to work rotating 12-hour shifts
- Must be able to pass a pre-employment physical
- Possess a valid State Driver's License
- Ability to work a physically demanding job safely in all types of environments (heights, confined spaces, and various types of weather)

Shaune Thomas
The Port of Virginia
600 World Trade Center
Norfolk VA 23510 USA

Email: Jobs@portofvirginia.com
Web: http://www.portofvirginia.com/about/careers/

Naval Architect/Marine Engineer

Job Location: USA, Salisbury, MD

The design office provides engineering and technical support for the company's new build program and fleet operations. The naval architect or marine engineer will join our design team and undertake challenging design projects from conceptual design to detailed practical design and commissioning. Utilizing sound engineering practices, the architect will be required to develop technical analysis and design of hull structure scantlings, structural support systems and arrangements of all classes of commercial vessels. The position requires strong analytical skills, knowledge of regulatory bodies and the ability to work in a team environment.

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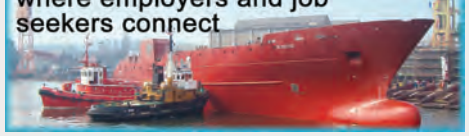

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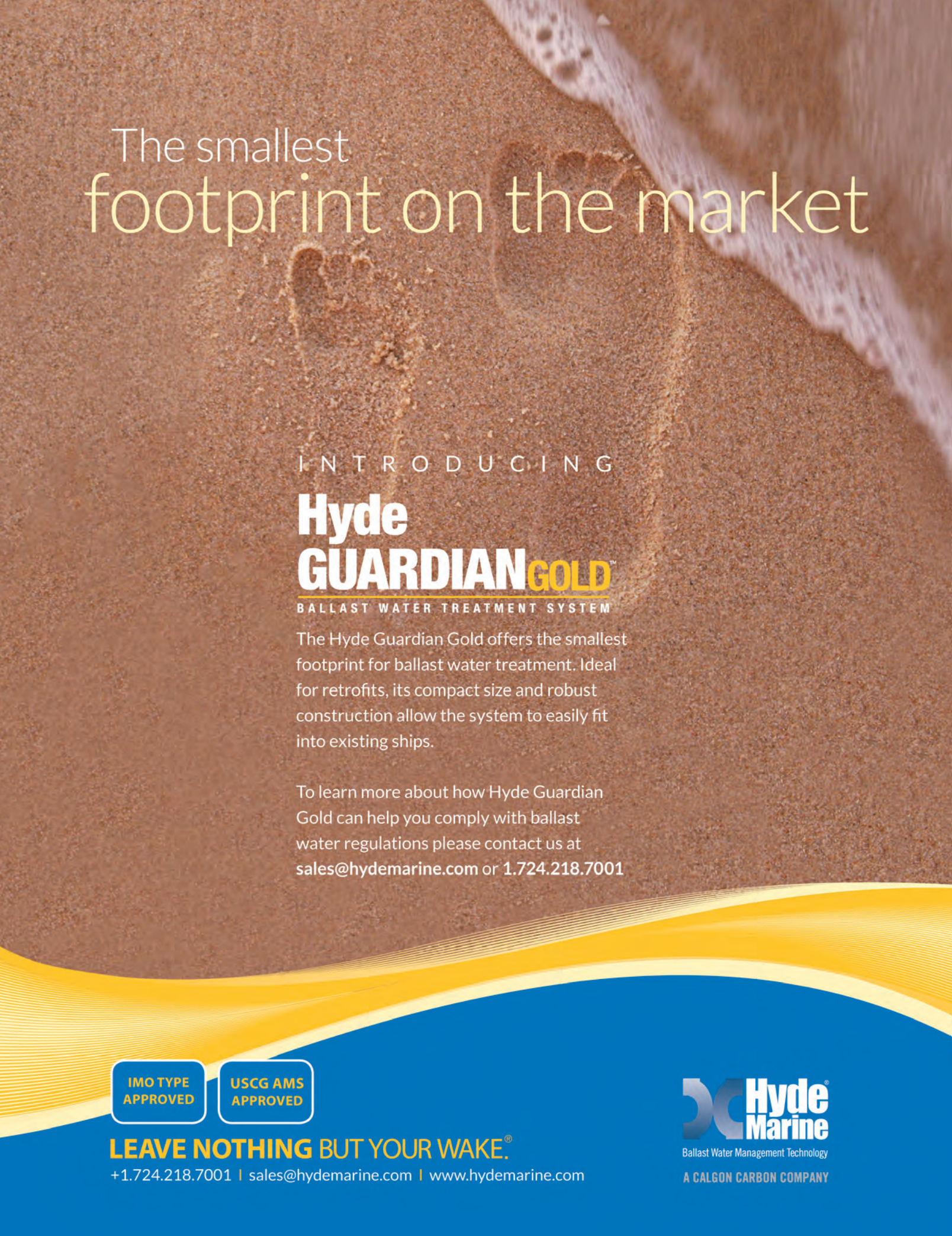
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