THE INFORMATION AUTHORITY FOR THE WORKBOAT • OFFSHORE • INLAND • COASTAL MARINE MARKETS

Marine News

FEBRUARY 2011

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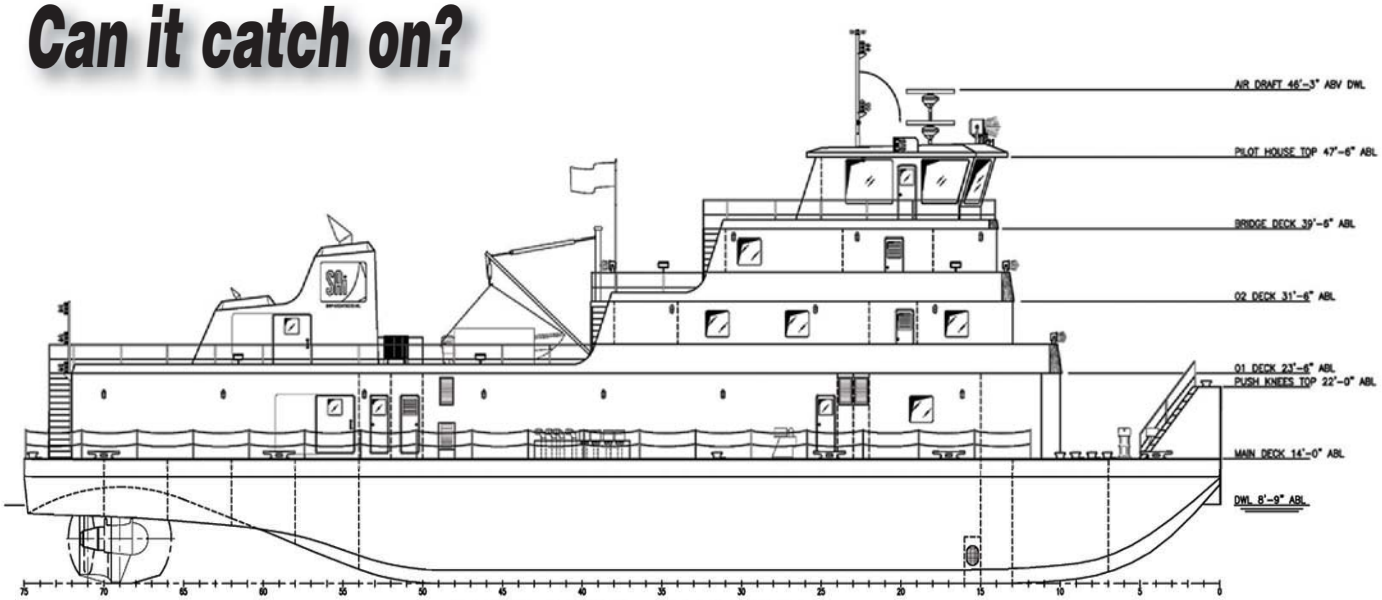
LNG-Powered Towboat

Can it catch on?



OUTBOARD PROFILE

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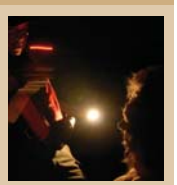
Tech File
Diverter Valve
Propulsion & Pumping

Legal
Post-Accident Regulations
When, Who & How to Test



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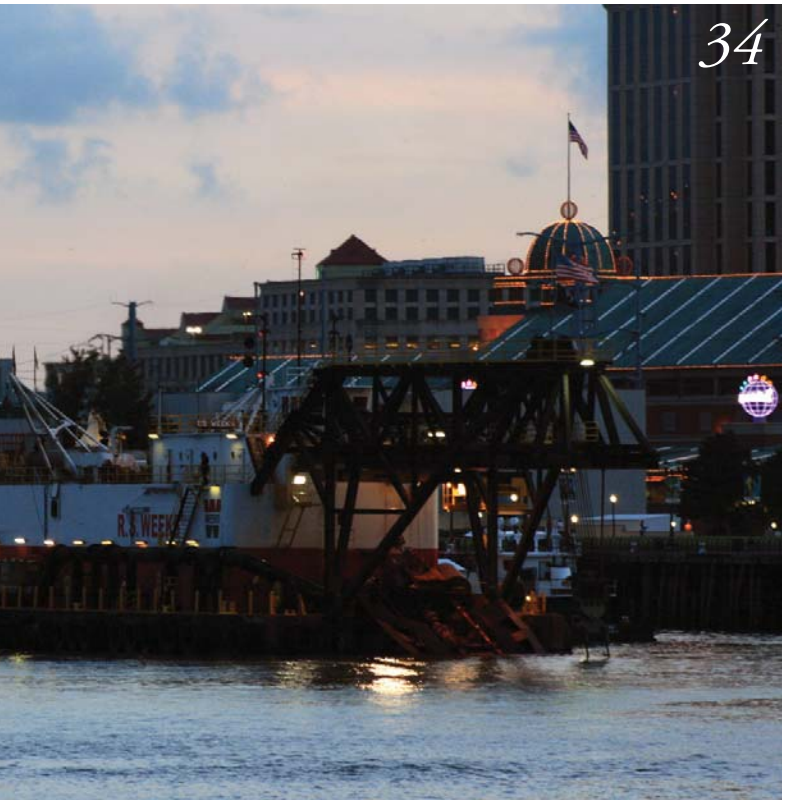

Photograph courtesy U.S. Army Corps of Engineers, New Orleans District

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Florida: 215 NW 3rd St., Boynton Beach, FL 33435
tel: (561) 732-4368; fax: (561) 732-6984
New York: 118 E. 25th St., New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271
www.marinelink.com

PUBLISHER
John C. O'Malley • *jomalley@marinelink.com*

Associate Publisher & Editor
Greg Trauthwein• *trauthwein@marinelink.com*

Managing Editor
Raina Clark • *rainaclark@marinelink.com*

Contributing Writers
Lawrence R. DeMarcay, III • Frederick B. Goldsmith • Matt Gresham • Randy O'Neill • Jim Shirley

PRODUCTION
Production Manager Irina Tabakina • *tabakina@marinelink.com*

SALES
Vice President, Sales & Marketing
Rob Howard • *howard@marinelink.com*

Sales Administration & Office Manager Rhoda Morgan • *morgan@marinelink.com*
Sales & Event Coordinator Michelle Howard • *mhoward@marinelink.com*
Classified Sales Manager Dale Barnett • *barnett@marinelink.com*
tel: 212-477-6700

Advertising Sales Managers

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

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

Terry Breese • *breese@marinelink.com*
Tel: 561-732-1185 Fax: 561-732-8414

Tristan McDermott • *mcdermott@marinelink.com*
Tel: 561-732-0312 Fax: 561-732-9670

Dawn Trauthwein • *dtrauthwein@marinelink.com*
Tel: 631-472-2715 Fax: 631-868-3575

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

Managing Director, Intl. Sales
Paul Barrett • *ieaco@aol.com*
Tel: +44 1268 711560 Fax: +44 1268 711567

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

CORPORATE STAFF
Manager, Accounting Services Rhoda Morgan • *morgan@marinelink.com*
Manager, Public Relations Mark O'Malley • *momalley@marinelink.com*
Manager, Marketing Jocelyn Redfern • *jredfern@marinelink.com*
Manager, Info Tech Services Vladimir Bibik • *bibik@marinelink.com*

CIRCULATION
Circulation Manager Kathleen Hickey • *mncirc@marinelink.com*

TO SUBSCRIBE:
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Send your check payable to:
MarineNews, 118 E. 25th St., New York, NY 10010.
For more information call Rhoda Morgan at:
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On the Cover

LNG-Powered Towboat

Pictured on this month's cover is the Outboard profile of Ship Architects, Inc.'s LNG-powered towboat concept design.
See full story starting on page 26.

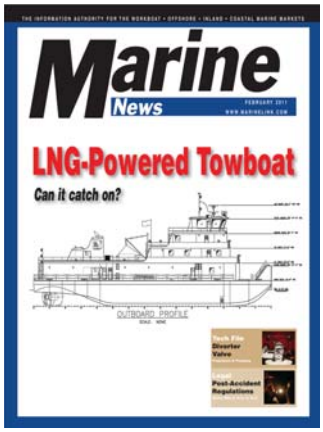

Image courtesy Ship Architects, Inc.

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EDITOR'S NOTE

rainaclark@marinelink.com

It's often hard times that bring about the most important changes. It's been said that hard times are when businesses are either made or broken. The strongest, best-managed and capitalized companies pull ahead while others fold or merge. And it's the immediate pain of high prices that make us, as a general public, conserve on things like electricity and fuel, not, unfortunately, the more long term imperative to reduce green house gas emissions.

February's *MarineNews* feature focuses on the initiative to bring LNG-fueled towboats to the U.S. inland waterways. LNG is a much cleaner burning fuel than even low-sulfur diesel. When Ship Architects, Inc. began drawing up the concept design for the first LNG-powered towboat, we were in the deepest throws of the recession. Business was bad all around and boatyards were building vessels on spec just to keep employees working, and perhaps salvage some income from materials already on hand. Joe Comer, President of the naval architecture firm, said the initiative to develop the concept design was purely a business decision. He recognized that if vessel operators began to adopt LNG designs, it would also be a purely business decision, brought on by the impact of higher diesel prices on slimmer profit margins.

Comer said business has picked up recently and there is more immediate and traditional design work on the table. Many other businesses involved in the inland waterways are also feeling a little less anxiety about their profit margin. This is a good thing. Except that it leaves us to rely more on long-term vision again to bring about change. Ship Architects' concept LNG design is now sitting patiently in the hands of the Coast Guard and classification societies, waiting on those with long-term vision to move the initiative forward.

There are those with this kind of vision. In our feature article this month, John Hatley of Wärtsilä North America, mentioned the idea of product labels showing consumers how much green house gas was created in order to deliver a product to their hands. These labels have been discussed within environmentalist circles for some time, but I hadn't considered before how they could benefit inland waterway users. Imagine the impact of emissions data comparing roadway to barge transportation in the hands of everyday consumers, perhaps on a loaf of bread or a box of cereal. Maybe then the average American would start to see the waterways as the resource that it is and a way to reduce the nation's carbon footprint.

Raina Clark, Managing Editor, rainaclark@marinelink.com

Want to hear more from behind the editor's desk? **Visit the MarineNews Notes blog at www.MaritimeProfessional.com.**

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SVI Boats Diverter Valve

Propulsion & Pumping

SVI Boats, a part of SVI Trucks, builder of specialized fire, police and emergency vehicles for U.S. and Canadian markets, offers a patented diverter valve system on their series of fire and rescue boats which uses a single engine for propulsion and pumping and is fully maneuverable while pumping. SVI outfits their series of fire and rescue boats to mimic the configuration of a fire truck making the boats equipment layout more familiar to fire fighters. The vessel features a water cannon as well as the capability to supply a land-based fire apparatus, such as a fire truck, with 3,000 gpm, five-inch discharge. Other features of the boat include air chamber floatation, all aluminum construction with a quarter-inch thick bottom and a 10-ft by six-ft working deck space with six enclosed bow compartments. The 26-ft vessel has an 8.5-ft beam, a six-ft power operated bow landing craft gate, a self-bailing hull design and seating for 10. It is powered by a 390 hp Kodiak Marine Engine and an American Turbine Jet Drive with a 95-gallon fuel capacity, although it can be custom built with many options and engine combinations.

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1

2

3

Photos courtesy SVI Boats

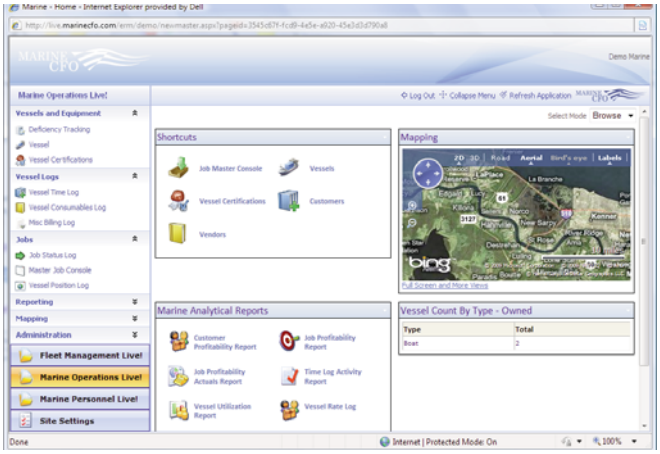
1 - Water discharge valves above deck include two five-inch Storz connections and one Akron monitor capable of flowing up to 3,000 gpm.

2 - Rear view showing American Turbine drive system with patented diverter valve assembly.

3 - A 26-ft SVI fire/rescue boat delivered to Hughsonville, N.Y.

President, MarineCFO

Joe Galatas



Images courtesy MarineCFO

MarineNews *spoke with Joe Galatas, President of MarineCFO, about the market his company serves, changes in the industry and how the software firm is investing in the future.*

Can you describe the market MarineCFO serves?

MarineCFO exclusively serves the workboat market. We felt from the beginning that this was an underserved niche of the market that deserved to have software built specifically for its needs. There are other marine software packages out there that serve ship owners but we all know that work boats are far different from ships. Different crews, different working environments, different operating criteria and different revenue models all equal different software needs. Additionally, MarineCFO is a highly customizable solution. When companies pay for enterprise software it is our feeling that the software should be tailored to their work processes rather than the work processes changing to fit the software. MarineCFO accomplishes this without creating upgrade problems for companies in the future. It is customization through standard core software.

What are some important changes in the industry?

Clearly regulatory changes have had the biggest impact on the industry. Now it is imperative that operators have great systems that help them to stay in regulatory compliance. These systems also should provide quick and easy compliance auditing as well as reporting that supports regulatory and vendor inquiries. Our software provides a structured framework for managing compliance related issues that allow the work boat customer to set up the system to function exactly as his or her current system functions. We make it easy to transfer your paper-based or Excel-based system into an easy-to-use, more robust system.

What is the outlook for your market right now?

We are excited about the state of the market. Clearly the last 18 months have been challenging for everyone in the industry. Fortunately, MarineCFO was well capitalized to successfully survive this recession while still investing in our products. Additionally, we managed to diversify our offering both geographically and demographically during this time. There are good signs that the market began to thaw within the last six months and we have a steady growing pipeline of interested companies. Based upon conversations with many work boat companies, we believe that they are sensing enough of an economic recovery to once again spend dollars on improving their operating infrastructure.

How is your company investing for the future?

MarineCFO is continually investing in three things: our customers, our employees and our product. We invest in our customers by spending time in the field discerning requirements and developing new functionality. The uniqueness of the work boat markets means that we have to commit to fully understand all the challenges our customers' businesses face, from all angles. This includes per-

sonnel issues, operational issues, revenue generation, maintenance or financials.

We are also investing continually in our people. We have a tremendous knowledge base of employees who have been serving the technology needs of work boat companies for years. These folks understand the market, understand the needs of the clients and know how to successfully deliver software. This is no easy task in the work boat market. Most companies have little or no IT professionals on staff and therefore have different implementation requirements than is typical of other industries. MarineCFO understands how to flex our staff to deliver exactly what the client requires to successfully complete an implementation.

MarineCFO always stays in lock step with the latest developments from Microsoft. Our product is based upon a 100% Microsoft technology stack and we have a constant ongoing research and development effort to keep our product up to speed. Additionally, we are always adding new features and functionality based upon customer requests. As we mentioned earlier, MarineCFO is meant to be changed and customized based upon the users' specific needs. As we see features that we think are valuable to the entire work boat community we work with clients to see if they will allow us to offer the feature to the market in return for a reduced development cost. MarineCFO also sees the cloud as the future of software and is investing heavily in web-based solutions. Currently, we offer MarineCFO Live! which is aimed at small work boat companies. We fully expect to extend the features of this web version into a full-scale version of MarineCFO to provide a solution for mid and large sized companies.

MN

Harbor & Coastal Escort

Seaspan Raven

For more than 15 years Vancouver-based Robert Allan Ltd. has had tugs built to their designs by Turkish shipyards. To date more than 150 Robert Allan tugs have been Turkish-built. Even in a slightly reduced market this year there are at least 15 Robert Allan designs under construction in Turkey today. These Turkish-built tugs have been delivered to owners around the world, but the majority now operate in the Mediterranean, Western Europe, the Middle East and in the Black Sea.

In January, however, the first Turkish-built Robert Allan tug arrived in Vancouver, B.C., the birthplace of its design. Seaspan International Ltd., of North Vancouver took delivery of the new RAstar 2800 Class tug Seaspan Raven, the first of four powerful new tugs for harbor towage and tanker escort operations in the largest port in Western North America.

The Seaspan Raven is classed for both harbor and coastal towing and escort duties. The tug was built to ABS Class notation X A1, E, AMS, ABCU, Towing Vessel, Escort Support, Fi-Fi 1. Propulsion comprises a pair of CAT 3516B marine diesel engines, each rated 1,840 kW at 1,600 rpm, and each driving a Rolls-Royce model US 205 CP azimuthing Z-drive unit with a 2,400 mm diameter propeller through a Cardan shafting system. This combination delivered a bollard pull of 71.2 tonnes on trials conducted in late October 2010. A free running speed of 13 knots was recorded.

The main hawser winch is a single drum hydraulic winch supplied by Rolls-Royce. The aft deck is equipped for harbor towage with a Rolls-Royce towing winch. Electrical power is provided by a pair of MAN gen-sets, each rated 120 eKW. The tug has a full Fi-Fi 1 rating of 2,400 m3/hour in accordance with the ABS Class notation requirements. The fire pumps are driven from the front end of the main engines through a Kumera gearbox which also drives the main hydraulic pumps, powering the winches. The second tug of this class is expected to arrive in BC within a few months. ***MN***

Images courtesy Robert Allan Ltd.

When, Who & How to Test

USCG Post-Accident Regs Explained

By Frederick B. Goldsmith

In my last column I explained the U.S. Coast Guard's marine casualty reporting regulations, which require immediate reporting to the Coast Guard of events the agency defines as "Marine Casualties," usually satisfied by a phone call followed within five days by a written report on Form CG-2692 (Report of Marine Accident, Injury or Death) (http://www.uscg.mil/forms/cg/CG_2692.pdf).

A "Serious Marine Incident," or "SMI" in Coast Guard parlance, is a step-up in severity from a "Marine Casualty." The occurrence of a SMI triggers the Coast Guard's chemical, drug and alcohol testing requirements and procedures. These requirements and procedures, as set forth in the agency's regulations, are lengthy and reticulated. I try to make better sense of them here.

Serious Marine Incident: Trigger for Drug & Alcohol Testing

A Serious Marine Incident is defined in 46 C.F.R. § 4.03–2 and includes the following events involving a commercial vessel:

"(a) Any marine casualty or accident as defined in § 4.03–1 [falls overboard, groundings, strandings, foundering, floodings, collisions, allisions, explosions, fires, losses of electrical power, propulsion, or steering; events which impair any aspect of a vessel's operation, components, cargo, seaworthiness, efficiency, or fitness for service or route; incidents involving significant harm to the environment; and diving accidents] which is required by § 4.05–1 [the Marine Casualty reporting regulation]... to be reported to the Coast Guard and [emphasis added]... which results in any of the following:

(1) One or more deaths;

A civilian undergoes a field sobriety test.

Coast Guard photograph by PA2 Bobby Nash.

(2) An injury to a crewmember, passenger, or other person which requires professional medical treatment beyond first aid, and, in the case of a person employed on board a vessel in commercial service, which renders the individual unfit to perform routine vessel duties;
(3) Damage to property, as defined in § 4.05–1(a) (7) of this part, in excess of $100,000 [versus $25,000 for a "Marine Casualty"];
(4) Actual or constructive total loss of any vessel subject to inspection under 46 U.S.C. 3301;
(5) Actual or constructive total loss of any self-propelled vessel, not subject to inspection under 46 U.S.C. 3301, of 100 gross tons or more;
(b) A discharge of oil of 10,000 gallons or more into the navigable waters of the United States, as defined in 33 U.S.C. 1321, whether or not resulting from a marine casualty;
(c) A discharge of a reportable quantity of a hazardous substance into the navigable waters of the United States, or a release of a reportable quantity of a hazardous substance into the environment of the United States, whether or not resulting from a marine casualty."
46 C.F.R. § 4.05–12 requires the marine employer to determine whenever there is a "Marine Casualty" if "there is any evidence of alcohol or drug use by individuals directly involved in the casualty" and, if so, to include on Form CG-2692 (1) the names of crewmen from whom evidence of drug or alcohol use, or evidence of intoxication, has been obtained and (2) the method used to obtain such evidence, such as personal observation of the individual, or by chemical testing of the individual.
Section 4.05–12 also requires if the vessel has an official log book an entry be made as to "those individuals for whom evidence of intoxication is obtained," while informing the individual of this and having the log entry witnessed by another person. Finally, this section states if the "individual directly involved in a casualty refuses to submit to, or cooperate in, the administration of a timely chemical test, when directed by a law enforcement officer or by the marine employer, this fact shall be noted in the official log book, if carried, and in the written report (Form CG-2692), and shall be admissible as evidence in any administrative proceeding."

How Marine Employers Conduct Drug & Alcohol Testing

According to section 4.06–1, whenever a Marine Casualty, discharge of oil into the navigable waters of, or

of hazardous substance into the environment of, the United States occurs and is, or is likely to become, a SMI, the marine employer shall take all practicable steps to have each individual engaged or employed on board the vessel who is directly involved in the incident (defined in section 4.03-4 to include "an individual whose order, action or failure to act is determined to be, or cannot be ruled out as, a causative factor in the events leading to or causing a serious marine incident") chemically tested for evidence of drug and alcohol use. If a law enforcement officer determines additional crewmen are directly involved in the SMI, the marine employer must have these additional individuals drug and alcohol tested too.

This section also requires the marine employer to train its crewmen on the SMI triggers and drug and alcohol testing requirements.

The regulations then go on, in section 4.06-3, to detail who must be drug and alcohol-tested in the event of a SMI and the time limits/deadlines for the testing and sample collection:

Alcohol testing must be conducted on those crewmen directly involved in the SMI within two hours of the SMI, "unless precluded by safety concerns directly related to the incident," in which case it must be performed "as soon as the safety concerns are addressed." The regs state, though, that alcohol testing does not have to be "conducted more than eight hours after the occurrence of the SMI," apparently in recognition that alcohol dissipates from the bloodstream and an inaccurate or useless test would result.

Drug testing must be conducted, through specimen collection, on each crewman directly involved in an SMI within 32 hours of when the SMI occurs, unless precluded by safety concerns directly related to the incident, in which case, as soon as the safety concerns are addressed.

How Mariners Comply & Submit to Testing

Not unreasonably, the regulations also speak directly to vessel crewmen, stating in section 4.06–5 that any crewman "directly involved in an SMI must provide a blood, breath, saliva, or urine specimen for chemical testing when directed to do so by the marine employer or a law enforcement officer." This section goes on to state, however, if a crewmember does not wish do comply with drug and alcohol testing, they don't have to, but they will face consequences: "refusal to provide specimens is a violation of this subpart and may subject the individual to suspension and revocation proceedings under part five of this chapter, a civil penalty, or both."

Devices, Sample Handling, Report Submission

The regulations, in section 4.06–15, describe how the marine employer must have a sufficient number of alcohol testing devices and urine specimen collection and shipping kits aboard its vessels, unless the testing can be performed within two hours and obtaining the kits and collecting the urine specimen can be completed within 32 hours elsewhere, presumably ashore. This section also explains the technical specifications for testing devices.

Section 4.06–20 details the drug and alcohol testing procedures required for mariners directly involved in a SMI, while sections 4.06–40 and 4.06–50 provide instructions to the marine employer on how to promptly ship the mariner's drug and alcohol test samples to approved laboratories, and adherence to chain of custody rules.

After the SMI has been recognized and the crewmembers directly involved in it identified, tested, and sampled, section 4.06–60 explains how the marine employer should report the drug and alcohol test results to the Coast Guard. The marine employer is required to use Form CG-2692B (Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident) (http://www.uscg.mil/forms/cg/CG_2692B.pdf). This section also explains where to submit the form and test results.

Civil Penalties for Failure to Comply

Failure to comply with the Coast Guard's post-accident drug and alcohol testing regulations exposes the marine employer and mariner to significant sanctions, including civil penalties and, if applicable, license suspension and revocation proceedings. 46 C.F.R. § 4.06–70 states that violation of the drug and alcohol testing regulations subjects one to the civil penalties provided by federal statute, 46 U.S. Code § 2115. Section 2115 informs that failure to implement, conduct, or comply with the drug and alcohol testing regulations exposes one to a civil penalty of not more than $5,000 for each violation, and that each day of a continuing violation equals a separate violation.

MN

Fred Goldsmith, formerly general counsel of one of the country's largest tug operators, is licensed in Pa., W. Va., Ohio, and Texas, and practices admiralty & maritime, railroad, oilfield, personal injury, motorcycle, and insurance coverage litigation with Pittsburgh-based Goldsmith & Ogrodowski, LLC (www.golawllc.com). Reach him at fbg@golawllc.com or (877) 404-6529.

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No Sanctuary from S&R Proceedings

By Randy O'Neill

At MOPS, we often encounter the persistent misconception that license insurance is really a product for deck and engineering officers working on larger non-passenger vessels, and not really necessary for USCG-licensed officers serving on ferries, excursion trips, dinner cruises, sightseeing or touring vessels. Nothing could be further from the truth. In fact, with the significant growth of the passenger vessel sector and the number of licensed mariners serving aboard those vessels over the past dozen years, a large percentage of the claims and other incidents we see are from officers in the passenger transportation business. The incidents range from the relatively routine dock allisions and groundings to the more unusual, such as close encounters with recreational vessels and passenger incidents, sadly, including suicides. The one common trait that all of these incidents have, whether they be routine or unusual, is that they invariably trigger a Coast Guard investigation and the need for the officers involved to defend their actions. And, without proper legal representation of their own, the latter can become costly in more ways than one.

To illustrate the point, I selected two incidents from 2010 involving officers serving aboard passenger vessels, and provide short case histories on how they were resolved and at what final cost.

Case I: Don't Go It Alone, Newport, R.I.

This incident produced a couple of points to remember, particularly when speaking with the Coast Guard or submitting a written CG-2692 Marine Incident Report to the Coast Guard.

It was late summer when the captain of a high-speed catamaran used for harbor and coastal tours was approaching a dock for the purposes of fueling his vessel. There were no passengers onboard at the time and, as the vessel approached the dock, the captain routinely placed the throttle into neutral and moved from the center control console position to the starboard control station.

At approximately 50 feet from the dock, however, he felt the cat losing speed and "bumped" the throttle minimally to maintain his heading. Unfortunately, his minor throttle adjustment caused the vessel to surge and, despite immediately pulling the throttle into full reverse, it jumped ahead and allided with the dock. Thankfully, the damage to both catamaran and dock was minor, but what followed could have ended badly. Thinking the incident so minor, the captain decided to prepare and submit a written CG-2692 Marine Incident Report without first reporting the claim to his license insurer and speaking with a maritime attorney who would have been assigned exclusively to him to provide counsel and/or defense. Consequently, in his submitted statement, he wrote: "I was unable to stop the vessel in time to avoid striking the pier with the starboard pulpit."

A Red Flag Is Hoisted

Upon reading the honest, but incomplete, statement the Coast Guard's Investigative Officer concluded that "the statement as written suggested negligence on the captain's part." Graciously, the USCG officer provided the catamaran's captain with an opportunity to explain more fully why he "was unable to avoid striking the pier."

At that point, the suddenly concerned officer did finally report the incident to his license insurer and worked with the experienced maritime attorney immediately assigned to him to prepare a Supplemental Statement. Once submitted, the revised Statement persuaded the Coast Guard investigator to close his file without taking any further action. Final paid defense costs: $1,200.

The lesson? Even when incidents appear minor, report them and, whether or not you have license insurance, review your written statement with a qualified maritime attorney who is experienced in preparing such documents. While this minor case had a happy ending, if the investigating officer decided to play hardball to pursue a negligence charge based on the original 2692 submitted, the catamaran's captain could have been looking at the unpredictably high cost (routinely in the $8,000 - $12,000 range) of defending his license in Suspension & Revocation proceedings. Remember — Assume the worst, report all incidents and consider exchanging unpredictable defense costs for a predictable annual premium.

(U.S. Coast Guard photo/PA3 Barbara L. Patton)

Coast Guard small boat and Staten Island Ferry.

Case II: What You Don't Know Can Hurt You, Seattle, Wash.

This sad case involved a popular West Coast ferry service and the apparent suicide of a passenger who jumped overboard and drowned while the vessel was making its routine scheduled run. In this instance, the captain of the passenger ferry reported the incident immediately to the Coast Guard, local law enforcement authorities and his license insurer. While not a routine marine incident, he correctly assumed that it would be best to have his own legal representation for the multi-level investigation that was sure to take place. The assigned maritime attorney met the vessel's captain at the ferry dock after he returned from mandatory drug testing. He was thoroughly debriefed, properly prepared and accompanied to his meetings with the Coast Guard, local police and representatives from the regional medical examiner's office. Certainly, interrogations he did not want to face unprepared and alone — even though he knew he did nothing wrong. The captain testified directly and honestly, but was a bit unnerved when made aware that the case was being treated as a criminal matter until proved otherwise by the sheriff's department.

Two Anxious Months

The victim's body was quickly recovered and after almost eight weeks of telephone calls, conferences and other correspondence exchanged between the ferry captain's attorney and the various regulatory and law enforcement authorities involved in the investigation, it was concluded that this was a tragic act by a troubled individual and in no way reflected negatively on the actions of the ferry's captain and crew. Final paid defense costs: $5,200.

While both cases were somewhat atypical of what would normally be considered a "marine incident," they reflect the different types of exposures and increased scrutiny that officers serving aboard passenger vessels often encounter. And, as in all situations that threaten a professional mariner's license, livelihood and professional reputation, having an experienced legal representative is always prudent.

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Waterways Council Inc.

Keeping Our Competitive Edge

By Cornel Martin

At press time, we await the release of the President's FY 2012 budget that will provide an initial funding level for the U.S. Army Corps of Engineers' Civil Works program for the year. Indications are that the Corps' budget will be slashed significantly from even last year's reduced levels. This is not only problematic for the Corps and its Civil Works mission, but for the nation overall as well.

America's inland waterways are a precious resource and the envy of the world because of the natural "water highway" the waterways system provides for commerce. Modern lock and dam infrastructure is critical to U.S. competitiveness in the world market, to environmental protection, to energy efficiency, to the sustainment of well-paying American jobs and to congestion relief. Inland waterways transportation is a key component of the intermodal transportation network, and is essential to our nation's economy, environment, and our quality of life.

In addition to the Waterways Council's work on Capitol Hill and within the Administration to educate decision-makers about the value of this system and why it is worth investment, we have been traveling the country to talk to reporters and visit with newspaper editorial boards to bring attention to the importance of inland waterways transportation and lock and dam infrastructure. *The Wall Street Journal* published an informative article about the maintenance challenges to our navigation system in December, and before that an article on dredging funding challenges near New Orleans. Positive editorials have most recently been published in the *Paducah* (KY) *Sun, Quad City Times,* and the *Des Moines Register*.

While the media is opening its eyes to the importance of our waterways system to the nation, we can only hope that the Administration and those in Congress will begin to understand and embrace this system that provides our nation with economic prosperity, jobs, and exports of our agricultural products in the most environmentally friendly, fuel and cost-effective way.

On November 3, 2010, President Obama, discussing the importance of exports to the nation's economy said, "The most important contest we face is not the contest between Democrats and Republicans. In this century, the most important competition we face is between America and our economic competitors around the world."

Monsanto TV and radio commercials have been highlighting that nine billion people are expected to inhabit the Earth by the year 2050. How will the world feed those people? Grain and other agriculture products moved on our nation's waterways for export comes to mind immediately, but reliable infrastructure must be there to support

such volume.

The Inland Waterways Capital Development Plan, the comprehensive, consensus-based package of recommendations that addresses the need to improve the continued vitality of the U.S. inland navigation system, is a way to assure more reliable infrastructure. It would allow the completion of navigation projects on time, on budget and in a more efficient way than ever before so that the export challenges now and in the future can be met. This plan was developed over a year-long period by the Inland Marine Transportation System Investment Strategy Team, composed of key U.S. Army Corps of Engineers personnel and members of the Users Board. It is supported by more than 200 stakeholders including members of the conservation community, the U.S. Chamber of Commerce, the National Association of Manufacturers, industry shippers and users, energy companies, and more. For a copy of the full report and recommendations, and to endorse the plan, visit the Waterways Council's web site (www.waterwayscouncil.org).

And while our nation takes its time evaluating the importance of waterways infrastructure, other countries are marching ahead by developing and upgrading their own systems in order to compete with the United States. In Brazil, for example, construction has just begun on two large hydroelectric dams at a cost of $15 billion in the Western Amazon region, the first of 24 dams planned for that area. We must as a nation look beyond today at the challenges that lie ahead and reinvest in waterways infrastructure that keeps America moving, keeps it strong, and gives it a competitive edge.

MN

Photo courtesy U.S. Army Corps of Engineers

Offshore Wind & Systems Engineering

By Jeffrey S. Pyle

Here Be Dragons

Medieval cartographers emblazed uncharted and unexplored seas with the warning "Here Be Dragons." The existence of these mythical creatures was debunked through exploration and knowledge. In business, the dragon is also the unknown, and it can be slain through the same methods used by explorers of old, namely through research into the business itself and by careful planning. As some of us in the maritime industry prepare to set sail into the uncharted seas of offshore wind energy in the United States there are things to be kept in mind by both the maritime industry and wind park owner/operators.

The first is the old saying "those who cannot remember the past are condemned to repeat it." The second is two competing philosophies for new markets, (a) get by with what you have, and (b) develop solutions to address the new market safely and efficiently which will serve for the lifecycle of the market. Ignore these things and the mythical dragon will indeed become a reality.

How can the emerging offshore wind energy companies and maritime industries avoid unnecessary risk and slay the dragon so we can all sail into the new energy market? One critical method is by immediately engaging and implementing a Systems Engineering (SE) process for the offshore wind parks. To be perfectly clear, the system extends beyond the wind turbines.

I have talked to many people within the offshore wind energy industry and there is a significant disconnect between those who have learned the hard lessons of offshore wind energy and those who are proposing to design, develop and operate the new systems within the U.S. This disconnect may imperil both the emerging U.S. offshore wind energy developers and the maritime operations supporting them. Fortunately, this can be avoided through an immediate and robust dialogue between the stakeholders.

Offshore Wind Energy Support Vessels — A Critical Path

The first U.S. offshore wind projects are slated to come online in 2012. Designing and certifying purpose built

Figure 1
Basic OSWEV System Engineering Flow

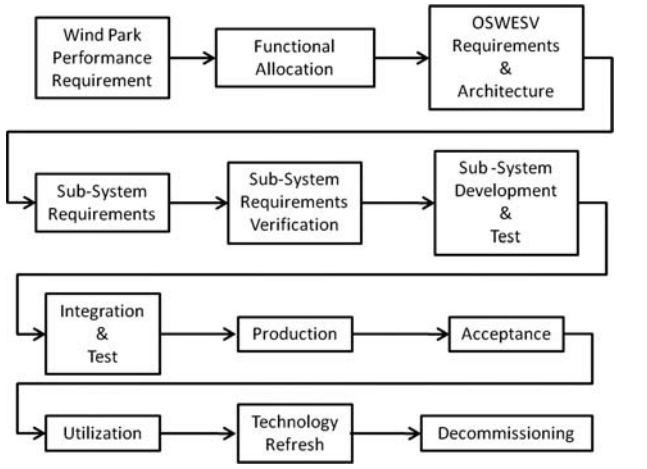
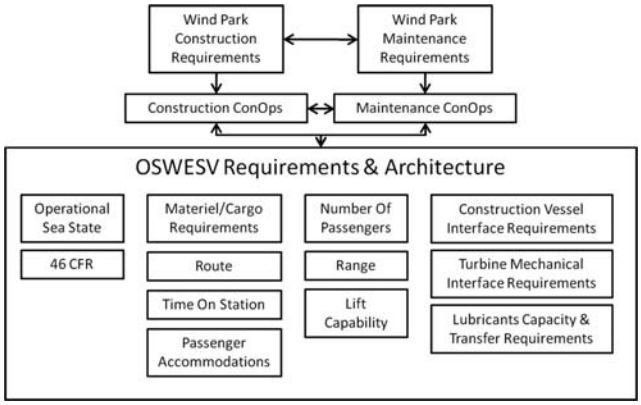


Figure 2
Offshore Wind Energy Design Interdependencies



operations and maintenance vessels for these projects will take, at a minimum, 18 months. Given this timeline, failure to initiate a cooperative design/build process now is quite simply inviting failure. The implementation of a SE approach to the design of support vessels will ensure that failures are avoided and vessels are designed and constructed to achieve the long-term objectives of any enterprise, namely profitability.

I've even heard executives in the U.S. offshore wind market say, "the vessels will just be there." They will not "just be there" because they haven't been designed, built, tested, let alone certified by the U.S. Coast Guard. Mariners and ship builders know this process is arduous and can take years. That's after the functionality and sub-chapter designation of the vessel has been defined and accepted. In the U.S., the basic specialized fleet simply does not exist. Even if you bring the third generation of European designs into a U.S. built fleet, this can take many months.

The quite understandable desire to "make do" is a dangerous route to take in the high-risk world of maritime operations. This fact is proven beyond any doubt in Europe where ad-hoc or "vessels of opportunity" are shunned due to risk and inefficiency. If the U.S. offshore wind industry is to succeed, the process of design, construction and certification of Offshore Wind Energy Support Vessels (OSWESV's) must begin immediately. If U.S. wind park owners and developers do not accept this premise and actively engage with vessel builders and operators then they are knowingly injecting significant risk into their own projects. If ship builders and operators fail to engage with wind park developers and operators then they are willingly raising the specter of under-utilized, or worse, unsafe vessels.

What is systems engineering and how does it apply to OSWESV design?

A good definition of SE comes from the U.S. Department of Transportation. "Systems Engineering is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, and then proceeding with design synthesis and system validation while considering the complete problem." SE is an iterative, top down, hierarchical decomposition of Concept of Operations (ConOps) and System Requirements.

The iterative process includes the parallel activities of functional analysis and requirements allocation. These flow into the system-level decomposition, and then through the major sub-system requirements, and finally to the Change Item. Success of this endeavor and verification of the validity of the requirements is the responsibly of the Systems Engineer. Thus you can see that the purview of the Systems Engineer spans across all disciplines and assets i.e. turbines, harbors, OSWESV, wind park construction vessels, vessel crew, maintenance crews, etc. This ensures that USCG regulations and wind park performance obligations are met and that the vessels can be manufactured, maintained, and operated within constraints imposed by the vessel owner. This is accomplished by a step-wise

process as depicted in Figure 1. It also serves to provide a method of controlling "scope creep" and avoid unnecessary complexity and cost.

Who should be involved in this process and when?

With permitting underway and some offshore wind park leases in place the maritime and offshore wind energy industries have reached the cross roads. The time to engage in the development of the wind park system is upon us. Wind park owners, developers, OSWEV ship designers, ship operators, turbine manufacturers, and maintenance crews must all begin to understand the inter dependencies within the wind park system. This is the beginning of Systems Engineering — the management and the integration of requirements and limitations is the task of the Systems Engineer. Why all these stakeholders and importantly why now? It's simple. Each of these seemingly independent tasks and physical assets do indeed affect one another, even at the earliest stages of the effort to build wind parks.

Build turbine or offshore substation foundations without confirming that the design and operational parameters of OSWESV safely permit the transfer of equipment and personnel at significant wave height or during ice conditions and the turbines and offshore sub stations will receive ineffective maintenance. This interplay of design and ConOps must also consider the new deep-water fixtures in development. If OSWESVs and larger construction vessels are unable to operate cooperatively then construction costs will escalate. Some of the basic interdependencies are depicted in Figure 2.

These issues can be avoided by developing ConOps spanning the lifecycle of the system — performing functional requirement allocations and system requirements at the outset and strictly applying the SE process through the entire design effort of the wind park. This requires that every stakeholder understand the basic goal of the larger system and define their own requirements. The Systems Engineers ensure that these requirements are cohesive, non-conflicting and provide the proper interfaces.

The Impacts of Systems Engineering

The value of SE is traditionally measured through impacts on cost, risk, schedule, and attainment of technical objectives. This method will hold true for the offshore wind energy industry as well. Numerous studies have developed widely accepted results proving that projects failing to embrace the SE process saw a 50% probability of cost over run and only 34% of non-SE controlled projects succeeded. Studies and project reviews also revealed that projects that employed a more robust SE approach have been able to shorten schedules by 40% or more, even in the face of greater complexity. Furthermore, a study by the Massachusetts Institute of Technology revealed that projects failing to utilize the SE approach met technical objectives only 45% of the time, 37% of the projects failed completely and 15% of technical objectives were only partially satisfied. It will be unacceptable for wind energy developers or maritime operators to have a 50/50 chance of meeting budget, to have a 34% business success rate and have ships failing to perform 65% of the time.

Conclusion

The only proven way to control cost, meet schedule and attain technical objectives is through a stringent application of the SE discipline and management of scope creep by project managers from the outset of projects. Ignore early adoption of the Systems Engineering process and face the dragons at your own risk.

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Jeffrey S. Pyle is the President of Seaway Navigation and Tours. He holds an electrical engineering degree and has worked on numerous U.S. Navy engineering projects including the Seawolf and LCS programs. He is an active Master of Near Coastal vessels with more the 15 years of experience across the Great Lakes and Atlantic seaboard. Contact Pyle at jeff@seawaynavigationandtours.com.

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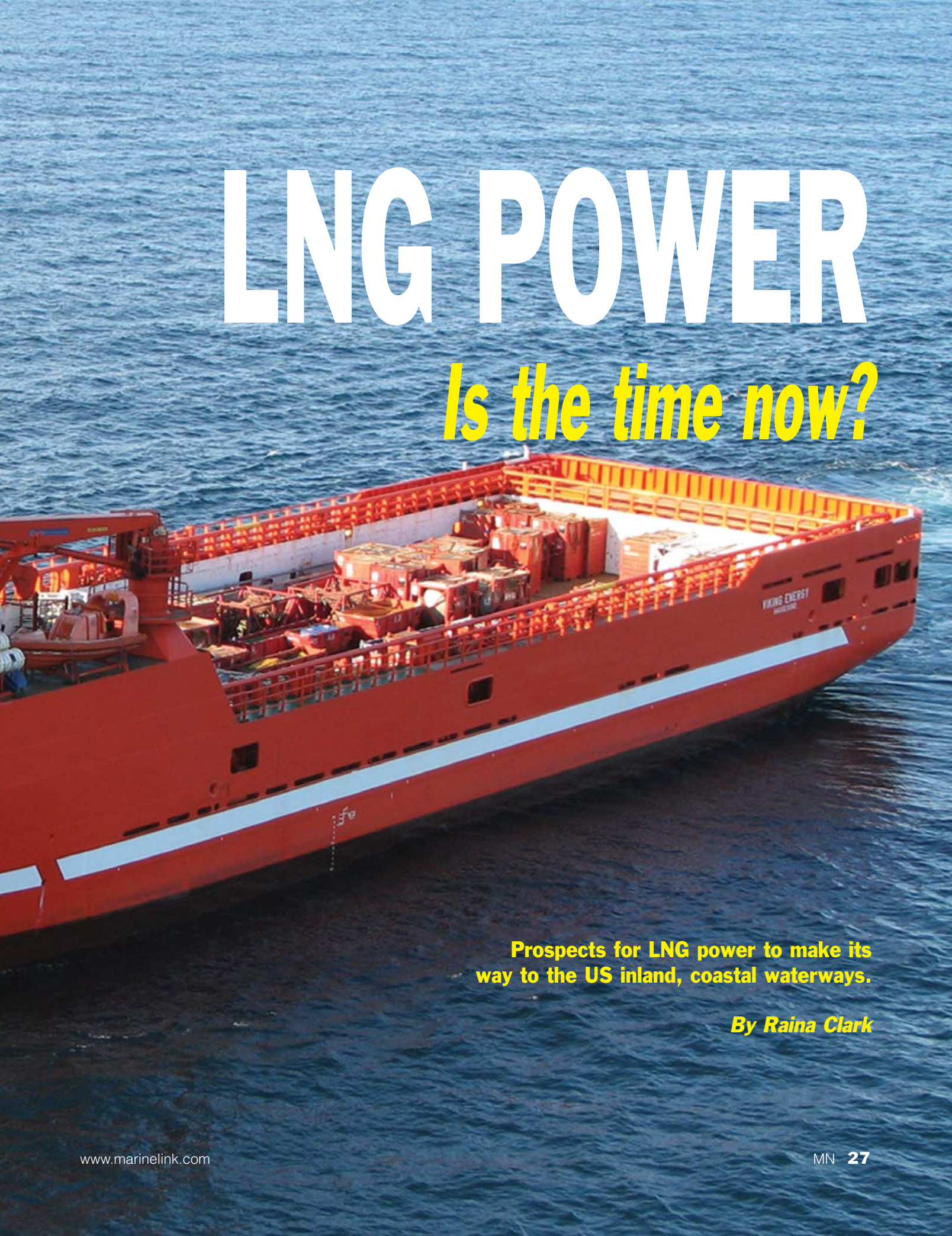
The Viking Energy, an offshore supply vessel propelled with Wärtsilä dual fuel LNG engines.

Photo courtesy DNV

LNG POWER

Is the time now?



Prospects for LNG power to make its way to the US inland, coastal waterways.

By Raina Clark

The concept of LNG-powered towboats on the inland waterway has attracted the attention of companies like Ship Architects, power specialist Wärtsilä North America and classification society Det Norske Veritas (DNV).

"A new millennium class of river towboats will certainly give very strong consideration to adopting natural gas because the emissions reductions and operating cost savings represent a true win-win," said John Hatley, Vice President of Wärtsilä North America's Ship Power division.

Wärtsilä was invited by Ship Architects, Inc. to cooperate on a new concept LNG towboat design. "Ship Architects was looking at this unique opportunity for the inland rivers and contacted us," Hatley said. The naval architect firm asked Wärtsilä if they would provide data on their natural gas engines for the design.

"Of course we were very willing to assist them because we really believe that natural gas propulsion for marine is going to become a very exciting way forward," said Hatley. "It's a much cleaner fuel at the point of combustion so it can achieve stringent future emission standards that the EPA is regulating in the years ahead." Hatley said traditional diesel fuel engines are finding it more and more difficult to comply with ever increasing emissions standards and Sox (sulfur) maximums. LNG on the other hand, contains no sulfur.

Tony Teo is Business Development Manager for DNV America North Maritime, an independent classification society with objectives to safeguard life, property and the environmnent. Teo, based out of Houston, is responsible for the North America region and spends much of his time driving these types of LNG initiatives.

Tony Teo and John Hatley have been connected through LNG power concepts in the industry for a while now. "I've known John for many years," Teo said. "I've worked with John on this kind of technology for, I'd say, at least five or six years already. Only now it's beginning to become more popular because there is a price advantage of LNG over low-sulfur fuel as well as various Emission Control Areas (ECAs) coming up in various parts of the world such as the Baltic and North America and other emission control regulations on the horizon."

The LNG Towboat Concept Design

Joe Comer is a naval architect and President at Ship Architects, Inc. "A year and a half ago when everyone's business turned down, we looked for an opportunity to do

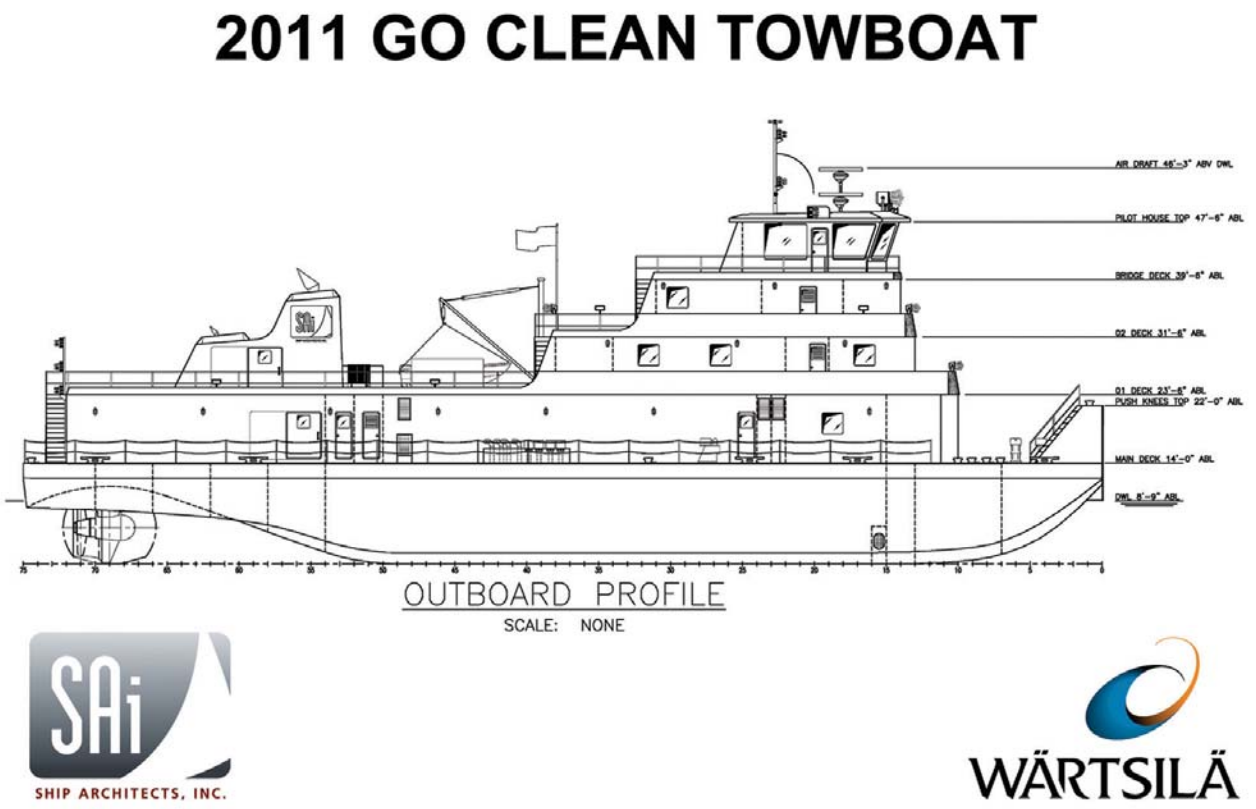


Image courtesy Ship Architects, Inc.

Outboard profile of Ship Architects, Inc.'s LNG-powered towboat concept design.

some design work off the cuff that might be interesting in the future," Comer said. So they put together an LNG towboat concept and submitted it to the Coast Guard and classification societies last December.

"Some of the issues are that there are no applicable [LNG] regulations for the rivers." But at this stage, he said, Ship Architects isn't seeking classification approval, but rather collecting input and comments from experts.

"All we have in their hands at this point is a general arrangement."

The concept design features a 150 ft long, 4,000 horsepower vessel. "There had been a lot of discussion on how, and even if, you could carry the fuel," Comer said. Because the fuel tank would need to be larger for the same range, Comer said, there was talk of putting it on a barge pushed by the vessel. But Ship Architects' concept design includes the fuel tank onboard the vessel. "The mid-body of the boat is dedicated to fuel storage to get the capacity that we need," Comer said. "The fuel storage area is isolated from the engine room and berthing areas."

While the LNG towboat concept design is the same length as a traditional river vessel, its 50-ft beam is a little wider than average. The 14-ft hull is also deeper than traditional towboat hulls (usually at 12.5 ft). These dimensions accommodate the larger fuel tank which allows the vessel to maintain the traditional 1,200 mile range, or a trip from New Orleans to St. Louis.

As far as LNG power, Hatley said "Wärtsilä can provide a wide range of engine sizes and power that are particularly well suited to the requirements of [inland towboat] vessels. With the new Wärtsilä 20DF engine complimenting the larger power of the 34DF duel fuel engines we can encompass virtually all the power needs of the vessels that would ply the inland rivers and our coasts." These dual fuel engines burn natural gas and control the combustion process with a less than one percent mixture of diesel as a pilot fuel.

Norway & DNV: The First LNG-Fueled Vessels

"This propulsion system has been in existence for about 10 years now in Norway," said Teo. "Our rules were written in parallel with the prototype vessel, called the Glutra (a ro/ro passenger ferry). Today there are about 21 [LNG-fueled] vessels in Norway,

mostly ro/ro passenger ferries, some offshore supply vessels and several patrol crafts. There are also two container vessels under construction, intending to use LNG as fuel. The concept has also expanded to, and is feasible for, container ships and oil tankers on fixed routes. The Quantum and Triality are two concept designs for container ships and oil tankers that were initiated by DNV."

DNV's rules for LNG vessels are titled "Gas Fueled Engine Installations" and the latest updates were made last year. The rules cover fire safety; electrical systems; control, monitoring and safety systems; compressors and gas engines; and also manufacture, workmanship and testing.

"Since we are dealing with liquefied natural gas, of course safety is a concern here. In the rules it addresses how to handle the safety features like having gas detectors, having proper ventilation, location of the LNG fuel tank, piping systems and so forth. For example, in the engine room you would have a double door, what we call an air lock, versus a normal engine room. The air changes for the engine room would be in the order of 30 air changes per hour," Teo said.

"These are all consistent with the International Gas Code which governs the design of LNG carries. Gas fuel engines are not new. For many years now there have been LNG carriers using LNG as a fuel for their boilers which produce steam to drive their propellers. Nothing new, except that this is the first time we are trying to introduce it to smaller inland and coastal vessels in the U.S."

A fleet of purpose-built towboats will be required to bring LNG to the inland waterways, because, as Teo explained, "it is difficult to retrofit." An LNG fuel tank needs to be 1.7 times larger than a diesel fuel tank to maintain the same vessel range. "It's difficult to find the extra 70%, especially for the brown water fleet where they are smaller vessels. But if you're talking about a tanker, it is not difficult because you can put the tank on the deck, or on a container ship you only need to sacrifice a few container spaces. So it depends on the vessel type. But for small vessels it is difficult, simply because of space constraints, unless you consider putting it on the barge, for instance, in the case of an articulated tug/barge arrangement."

LNG Meets Emissions: Widely Available, Costs Less

As Hatley puts it, there are five driving factors pointing to LNG for inland waterways vessels. They include three EPA mandates, an abundant domestic supply of shale gas and the comparatively low price of LNG.

"There are three major regulatory standards coming into effect," Hatley said. "The Emissions Control Area (ECA) tightens emissions standards within 200 miles off our coasts and forms a bubble encapsulating our heartlands, our rivers, the great lakes, all major areas of the United States. That comes into effect August 2012."

Second, the EPA has a continuing strategy of ever tightening engine emissions standards and finally, EPA's fuel standards in regards to SOx (sulfur) content are more stringent and coming on faster than global requirements.

Teo, DNV

"Only now it's beginning to become more popular because there is a price advantage of LNG over low-sulfur fuel as well as various Emission Control Areas (ECAs) coming up in various parts of the world such as the Baltic and North America and other emission control regulations on the horizon."

Hatley, Wärtsilä

"A new millennium class of river towboats will certainly give very strong consideration to adopting natural gas because the emissions reductions and operating cost savings represent a true win-win."

Teo said that with LNG, "green house gases are reduced by around 20%, NOx is reduced by about 80%, and SOx (sulfur) is completely eliminated, and so is particulate matter. So you get very clean air coming out."

As a result of regulations calling for more low-sulfur fuel, the low-sulfur diesel supply is being squeezed. As a further consequence, Hatley said, "natural gas is a bargain compared to diesel. Because of its abundance of supply and a lack of market demand the prices are soft and will remain so for quite a long time."

"The shale gas paradigm shift brings an abundance of natural gas to the U.S markets. Some experts say we have more than a couple centuries of supply." What's more, Hatley said, the areas where this natural resource is found, "are along the internal corridors right where a lot of our river traffic exists today."

Teo agreed, saying "we found that LNG as a fuel is actually more suited for short sea shipping, which is inland waterways and coastal vessels, because of the availability of the fuel in the U.S."

"There are nine terminals all over the U.S. coast from Alaska to the Gulf Coast to the East Coast. …On top of that, there are more than 100 peak shaving plants all over the U.S. continent." Peak shaving plants convert natural gas to LNG and typically sell the fuel during winter to cater to the high point of the demand cycle.

While presenting their LNG towboat concept design to the industry, Comer said he received feedback from oil companies who reported that setting up LNG refueling stations along the inland waterways would not present a problem. The fuel is truckable and small storage could be established on land or on barges up and down the rivers.

Wärtsilä 20DF

Image courtesy Wärtsilä North America Inc.

Photo courtesy DNV

As a result of the sucess of the Glutra, six more ro/ro passenger ferries were built, such as the BergenFjord seen here.

LNG & Public Perception

Teo said he knows the public has concerns about LNG. "I've seen the days where there were a lot of plans to build terminals and the public said 'not in my backyard.' But this is a totally different issue all together. We're dealing with a smaller scale. The public was concerned about gas clouds if there was a release of LNG." But in the case of LNG-fueled vessels, Teo said, if there was a release, the cloud would dissipate easily. "It is not easy to ignite LNG. In North America, LNG is often mistaken for Liquid Petroleum Gas (LPG), which has a lower flash point."

"In Norway they had the same problem. They were concerned about public perception. They started with the Glutra, and after a while they found that it was actually very safe and also much cleaner." Today, Teo said, Norwegian's prefer to ride on the ferries which are propelled by LNG because it helps them reduce their own carbon footprint. "So now there is wide public acceptance in Europe. I hope the same goes for the U.S. market." Teo also said that over the past 50 or more years, LNG transportation and storage has had a safe record without any human casualties.

Hatley sees LNG as increasing the environmental advantage that U.S. marine transportation already offers as far as emissions levels. "If our society truly has enduring values for lower emissions, sustainability and minimal carbon footprint, these society preferences will assure the long term future of marine cargo." Hatley sees marine transportation growing slightly more than our GDP in the future "because, where appropriate within the logistics supply chain, marine will take a little bit more from rail and truck because it will still be the most efficient. And particularly in the future, if we see goods in our stores with labels saying 'this many grams of CO2 were expended to carry this product to you,' that transparency will illustrate the importance of marine transportation."

MN

Exporters Fret over Fewer Funds for

Lower Mississippi Dredging

By Susan Buchanan

Reining in federal spending is more than a pocketbook issue for marine companies and exporters who fear their operations will be slowed and stuck in the mud because of less money for dredging on the lower Mississippi River this year. With fewer dollars in hand, the U.S. Army Corps of Engineers — the agency responsible for dredging — could struggle to maintain normal operations from Baton Rouge and New Orleans south.

This year, the Corps says it can't count on supplemental, emergency funds that it received from Congress in the past to fill out its dredging budget. And the Corps may no longer be able shift money from other projects to meet dredging needs.

River pilots, exporters, U.S. grain growers and others have weighed in on the matter. A group of national grain associations, along with exporters Cargill, Inc. and Bunge North America, sent a Dec. 14 letter to the Army Corps stating their worries that the agency won't be able to transfer funds within its budget. They asked that the Corps' money be shifted to dredging as needed. The group also warned that fewer funds for lower Mississippi dredging could hamper President Obama's goal of doubling U.S. exports by 2015.

Chris Bonura, spokesman for the Port of New Orleans, said "we've been closely following federal dredging-budget issues." He explained that President Obama's budget allocated $63 million to the Army Corps to operate and maintain the lower Mississippi in all five deepwater ports in fiscal 2011. Bonura said that in recent years, however, the average price tag for dredging in the lower river was

Funding made available through the American Recovery and Reinvestment Act was used to dredge the New Orleans Harbor. The operation will continue 24/7 until complete.

Photograph courtesy U.S. Army Corps of Engineers, New Orleans District

Cutterhead Dredge EW Ellefsen works along the Mississippir River's Southwest Pass.

Photograph courtesy U.S. Army Corps of Engineers, New Orleans District

$104 million. “We and members of the dredging community met with Major General Michael Walsh of the U.S. Army Corps' Mississippi Valley Division, in early December,” Bonura said. In that meeting, Walsh explained that given the tighter, federal budget, the Corps can't assume that supplemental appropriations will be available this year. Walsh also said that it may not be possible for the agency to transfer funds from other projects to dredging and that the agency's projects may have to live within their limited, fiscal 2011 budgets.

The $63 million that the Corps is allocated for lower Mississippi dredging in fiscal 2011 is, in fact, 10% more than in 2010. The region's actual dredging costs topped $110 million in fiscal 2010, however, according to the Corps. The agency was able to use Congressional emergency supplements and money from other areas in its own budget to make up the difference.

According to the Corps, $85 million in funds are required in an “average river year” to dredge the

Southwest Pass, New Orleans Harbor, crossings between Baton Rouge and New Orleans, and the Head of Passes Disposal Area. That total doesn't include any infrastructure expenses. So in an average year, routine dredging costs $22 million more than the $63 million allotted in the fiscal 2011 budget.

"Without additional funds, channel dimensions in terms of widths and depths could be reduced, requiring new restrictions on navigation and possibly slowing traffic," Bonura said. "That could affect our exports of grains, petrochemicals and other products to foreign customers."

Bonura said Louisiana's Congressional representatives are actively engaged in the dredging-budget issue and have requested more funding. Exporters and marine companies view dredging on the lower Mississippi as a necessity not an option. For now, however, the matter remains in limbo in Washington. Barry Holliday, executive director of trade group Dredging Contractors of America, said "we are not sure when Congress will resolve the fiscal year 2011 Energy and Water Appropriations for the Corps' Civil Works budget." He said indications are that a full-year continuing resolution could be used for the 2011 federal budget and "that may not offer much hope of getting additional funding for the Corps program." Continuing resolutions, enacted by Congress, provide temporary authority to keep federal agencies running.

Holliday said that prior to fiscal 2011, "the Corps' budget held basically flat for several years." Congress was able to modestly increase funding for some portions of the Corps' Civil Works budget, but funds for operations and maintenance — which fall within Civil Works and cover dredging — barely rose. In past years, mid-year Emergency Supplemental Appropriations from Congress to meet weather-related demands and national defense needs resulted in additional Corps funding, he said. But supplemental funding cannot be banked on this year, given political pressures to reduce the deficit.

Meanwhile, politicians and those engaged in river traffic wonder if the dredging-budget shortfall could be met with revenues from the federal Harbor Maintenance Tax levied on shippers based on the value of goods moved through ports. The tax is placed in a trust fund intended for maintenance dredging of federal navigation areas, but only half of its revenues have been used for harbor maintenance recently while the rest has gone to other federal expenses. The fund has a multi-billion dollar surplus now.

Rep. Charles Boustany (R., La.), in January introduced a bill in the House of Representatives requiring that all, harbor-maintenance tax receipts be used solely for that purpose.

The U.S. Army Corps of Engineers' dredge McFarland was called to perform emergency dredging operations in the Southwest Pass of the Mississippi River.

Photo courtesy U.S. Army Corps of Engineers

Great Lakes Dredge and Dock's dredge Texas.

Photo courtesy Dredging Contractors of America

Funding Shortfalls Could Affect Channel Depths and Widths

Steve Jones, navigation manager for the Mississippi Valley Division of the Army Corps in Vicksburg, Miss., said in fiscal year 2011 "we may not be able to take funds from other areas, like lock and dam repairs, for dredging as we did in the past."

He continued, saying "when the river is high, especially in the spring, we have increased shoaling or silting and need to dredge. Budgeted funds may be insufficient to fully maintain the deep draft in the river." The Corps controls the permitting process for river dredging, along with project planning, design and contract administration.

A 45-foot deep channel is normally maintained by the Corps from Gulf of Mexico north to Baton Rouge for deepwater vessels, Jones said. Above Baton Rouge, the channel is nine feet and requires the use of barges. Midwestern grains and other commodities are transferred from barges to ocean ships anywhere from Baton Rouge south.

"We have thirteen, river crossings between New Orleans and Baton Rouge, where the channel needs to be 45 feet deep and 500 feet wide to accommodate larger ships," Jones said. "With less funding, we may not be able to maintain the 500-foot width."

"And because of less dredging, traffic or navigation may have to move to one-lane restrictions at times, adding hours to trips of large ships that have high, operating costs." Any restrictions, he said, would be decided by river pilot associations and the U.S. Coast Guard.

When Sediment Builds, the Corps Must Be Able to Respond

The Mississippi carries over a hundred million tons of sand, silt and other sediment from the interior U.S. to south Louisiana annually, said Ancil Taylor, vice president at Bean Dredging LLC in Belle Chasse, La. The river is the largest in North America, and drains about half of the Continental U.S. landmass, carrying water and sediment south. "Rainfall, northern snowfall and major weather events, like the current La Niña, influence river levels, which are generally highest from January to April — peaking in April," he said. Sediment can build when the river is high. "Shoaling conditions can change quickly, and the Army Corps needs to be able to respond to them rapidly," Taylor said. "Dredging demand is highest in south Louisiana in the late winter to early summer, and then tails off through the fall." Most of the Army Corps' dredging work is contracted to private companies.

Taylor said three main types of vessels — dustpans, cutterheads and hoppers — are used to dredge the lower Mississippi. Dustpan dredges remove loosely compacted material at rapid, shoaling sites. Operating at high production rates, dustpans pump material to river locations outside of the navigation channel. Cutterhead pipeline dredges can excavate most materials, and then pump them to sites along the river or to distances from the water. Self-propelled, hopper dredges typically remove thin banks of material and can carry sediment long distances.

All three types of dredges are used to maintain a deep-draft channel through the Southwest Pass in Plaquemines Parish, La., connecting New Orleans and Baton Rouge with commerce in the Gulf. Maintenance of the Southwest Pass is one of the Corps' biggest dredging expenses.

Before 1900, the Mississippi transported about 400 million tons of sediment yearly from the U.S. interior to coastal Louisiana and the Gulf. But because of re-engineering of the river, riverbank fortification and controls on soil erosion, sediment reaching Louisiana is now less than half of what it was a century ago.

In the next few years, demand for government dredging funds is slated to grow as channels in U.S. East Coast and Southeast ports are made 50 feet deep to allow mega-ships to unload their cargo following modernization of the Panama Canal. Containerized cargo traffic at those U.S. ports will increase after the Canal's expansion is complete in 2014.

MN

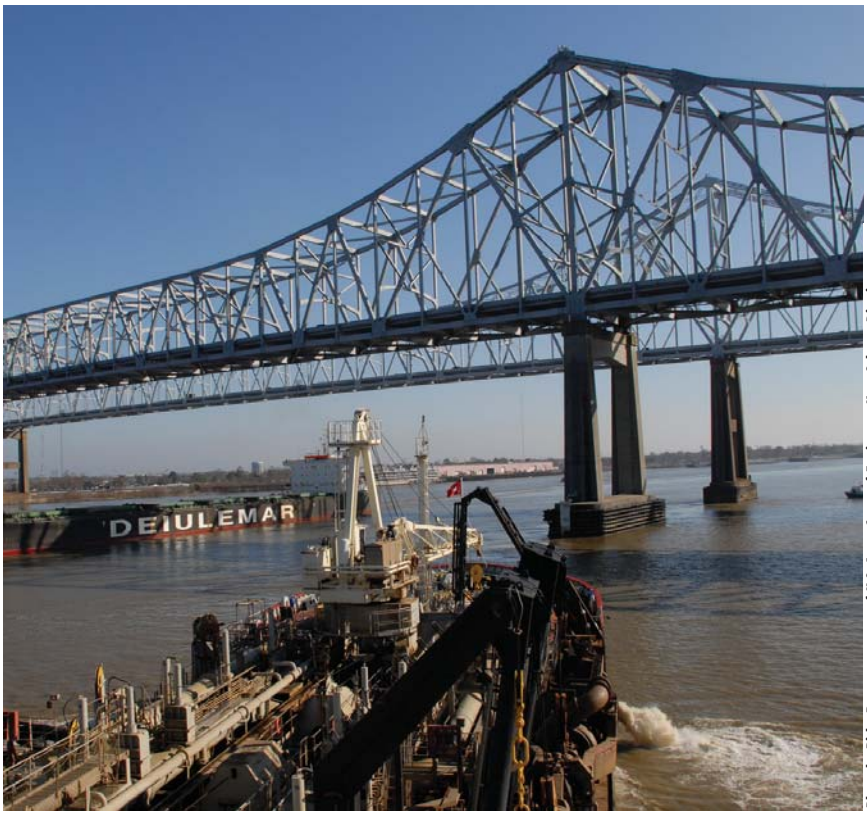


Photo by Ricky Boyett, courtesy of U.S. Army Corps of Engineers, New Orleans District

One advantage of hopper dredges such as the Wheeler is that it does not have to remain stationary while working. This mobility allows the vessel to work in high-traffic areas.

Volvo Penta: 110-435 hp SOLAS Engine Range

Volvo Penta offers comprehensive range of SOLAS approved engines (M.E.D. and US Coast Guard) for fast life and rescue boats. The range comprises three base engines, with no less than 14 output options from 110 to 435 hp, all of which are in-line diesels with common rail and the latest in electronic management for sterndrive, inboard and water jet propulsion. The SOLAS range consists of the D3, D4 and D6 engines, all featuring the very latest in technology with common rail, 4-valves per cylinder and supercharging with aftercooler. The SOLAS engines are based on standard engine design with a SOLAS kit mounted and tested in factory before delivery to boat builders. The kit includes a shut off valve for crank case ventilation and a tilt switch, to be mounted on the engine room bulkhead.

The new D3 is the smallest in the range with an in-line 5-cylinder arrangement, 2.4 liter displacement and very low weight – only 260 kg bobtail. It is also equipped with a variable diameter turbo that gives the engine massive torque throughout the speed range. D4 is the in-line 4-cylinder model with a full 3.7 liter displacement. This large swept volume provides the basis for solid performance, further enhanced by turbo and – on the high power model – also mechanical compressor. D6 is the in-line 6-cylinder version of the D4, with all the same features in a larger size and 5.5 liter displacement.

Port Supply Offers Propspeed Coating

Port Supply, the wholesale division of West Marine, in Watsonville, Calif., offers a coating system called PropSpeed that inhibits marine growth while improving performance. With Propspeed, marine growth of any kind, including barnacles, mussels, tubeworms, thin slime to hairy and leafy algae are sloughed off the bottom of a vessel with movement. Propspeed can be applied to propellers, thruster wheels and gridcoolers.

www.portsupply.com

Mercury Marine's New Quicksilver Thunderbolt Propellers

Mercury Marine introduced the Quicksilver Thunderbolt line of propellers for Volvo Penta Duoprop drives (DPS). The Quicksilver Thunderbolt is made in the U.S. at Mercury Propellers investment casting foundry in Fond du Lac, Wis. Performance gains are driven by the Thunderbolt's cutting edge four-blade front propellers coupled with a three-blade rear propeller.

"For this system, we made the front propeller a four-blade for superior holding and acceleration," said Dirk Bjornstad, brand manager for Mercury Propellers. "As it turns out, the system is also faster on the top end as well."

The Quicksilver Thunderbolt is available in seven options from a 19 to 28 pitch. It also features Mercury Marine's proprietary propeller alloys providing superior strength while offering the corrosion resistance required to stand up to freshwater and saltwater applications.

www.mercurymarine.com

Market Report

Software Solutions

This month, MarineNews *reviews the latest developments from a number of vessel and fleet management and compliance and safety software solution providers including ABS Nautical, Edoc, SeaKits, MarineCFO and CEACT.*

Tidewater Selects ABS Nautical Systems

ABS Nautical Systems has been selected by Tidewater Inc. to trial its fleet management software. Tidewater would be replacing an internal system with ABS Nautical Systems' fully integrated software suite to help manage its principal operational functions including maintenance, vessel-initiated requisitions and relevant regulatory requirements. Tidewater will implement several modules from ABS Nautical Systems' software suite NS5, including maintenance & repair, drydocking, on demand reporting and web based vessel drawings, to name a few, as well as interfaces to its current and future ERP solutions. Following a successful pilot phase, the modules will be installed in a phased approach on approximately 185 of Tidewater's vessels over the next year.

MV Pat Voss

Edoc: Workboat Compliance and Safety Committee

In response to a growing need for an enhanced compliance and safety management solution (SMS) specific to the work boat industry, Edoc Systems Group Ltd., developers of Helm Marine Operations software, is chairing a safety advisory board. The goal of the board will be to gain input and consensus from operators, educators and regulators to build a widespread software solution unique to the work boat industry. Edoc will develop the SMS software, called Helm Safety Manager, concurrent with the findings of the board. Edoc has already signed on Blessey Marine Services of Harahan, La., to implement Helm Safety Manager to manage their SMS activity.

Fire Island Belle

"Blessey and Edoc have worked together for five years on all our Helm modules," said Bill Reid, President at Edoc Systems Group. Along with Blessey several other Edoc clients have expressed interest in adopting the new Helm Safety Manager. "While Helm Safety Manager can be operated as a stand-alone product, it is especially valuable for our existing clients as it can easily integrate with our other Helm modules," said Reid.

The Safety Advisory Board will be comprised of experts in safety and compliance from the workboat industry.

SeaKits Delivers to Fire Island Ferries

SeaKits has released version 3.0 of its Marine Maintenance System (MMS) Fleet Solutions providing expanded functionality for work boat fleets, including passenger, tow and service vessels. MMS Fleet Solutions V3.0 provides port engineers, maintenance managers and company executives with fleet-level visibility of all planned and corrective maintenance activities including maintenance schedules/forecasts, work orders and inventory levels. MMS Fleet Solutions leverages cloud computing and is available as software-as-a-service, requiring no local IT infrastructure or support. SeaKits recently signed a contract to provide turnkey implementation of MMS Fleet Solutions to Fire Island Ferries (FIFI) in Bay Shore, N.Y. FIFI is one of an expanding number of passenger vessel fleets implementing the Coast Guard's Streamlined Inspection Program (SIP), a cooperative program between the Coast Guard and the passenger vessel industry that provides an alternative to traditional inspection regimes.

Image: Marine CFO

Enterprise Version 3.0

Today's global work boat market changes with rapid-fire frequency, especially in the area of regulation. It requires management to respond with critical decisions to keep the organization competitive, on pace and in compliance. MarineCFO announced its latest product release, Enterprise 3.0. Enhanced features include improvements in inland tow management and tow diagram synching, addition of multiple billing/invoicing management for different markets, improved management of employee miscellaneous pay, new security manager, new integration manager, integrated online product help and improvements to the console framework to support client customizations.

Another area of focus for MarineCFO has been cloud computing. MarineCFO Live! offers users the ability to have a robust technology solution that requires only Microsoft Internet Explorer to operate. There are no internal IT requirements, other than access to the internet.

CEACT's: Towtracker Web Portal

CEACT Ltd and the German company Herberg Engineering have launched a new web portal (www.towtracker.com). "We see a growing demand on combined shore and ship-based solutions," said Greg Dunkle, CEO of CEACT Ltd. "More and more boats have an Internet connection via satellite or 4G communication now. We make use of this new situation and provide innovative tools to make daily work easier, aboard and ashore."

The new CEACT/Towtracker solution allows the automatic exchange of information from ship to shore. With an Internet connection CEACT is able to report position, speed, course as well as detailed tow information to Towtracker automatically, even the position of different barges and their dimensions within the tow are transmitted.

Via a password-protected portal, all authorized Towtracker users can view information relevant to them by means of a near real-time position display.

The solution includes a schedule manager for calculating routes and schedules on U.S. waterways. Users aboard can calculate routes through the different locks and rivers. With a mouse click, the software calculates ETAs and ETDs taking into account lock delays and different average speeds.

Kvichak Launches M/V Defender V

Photo courtesy Kvichak Marine

Kvichak Marine Industries, Inc. recently launched and completed sea trials for M/V Defender V, a new design all-aluminum foil assisted catamaran. Designed by Kvichak Marine, this 57.8-ft vessel can be used as a fast response patrol boat, survey boat, crew boat or general work boat. The Defender V is powered by twin Scania DI12 69M marine diesel engines rated for 691 bhp at 2,300 rpm. The engines are coupled to ZF 360A transmissions that drive Michigan propellers. In trials, the Defender V achieved a flank speed of 30+ knots. The vessel features a very large aft work-deck with tie-pockets, a 2,200 lb SWL A-frame with hydraulic drum winch and a side mounted davit with 500 lb SWL winch. The A-frame can facilitate launch and recovery of skiffs/ROVs and can accommodate an over-height 20-ft long by eight-ft wide container loaded on the aft deck.

Specifications:

Length, o.a.	57.8 ft
Beam, molded	20.7 ft
Draft (approx.)	2.8 ft
Weight, fullload	70,000 lbs
Fresh water	150 gal
Fuel capacity	1,200 gal
Speed (full load)	30+ knots
Northern Lights	12kW generator
Furuno radar	with chart plotter
Food	Complete galley

Two Tugboats for Bisso

Two Jensen Maritime-designed tugboats, the Elizabeth B and Beverly B, were commissioned into the E.N. Bisso & Son Inc. fleet in December. The tugboats, which measure 96 ft in length and 34 ft in beam, are the fifth and sixth hulls of this class of tug to enter service with Bisso. These Rolls-Royce US205MK2 Z-drive tugs are powered by twin Caterpillar 3516-C Series II main engines that produce a total of 4,000 bhp, driving Schottel ASD propulsion units, and are fitted with a Markey hawser winch forward and a Markey capstan aft. These work boats are the latest in a line of tugs that Jensen has designed for Eastern Shipyard, which built the tugs in Panama City, Fla. Since 2001, 17 tugs of this class have entered service with a variety of operators and can be seen on the water from Galveston, Texas, to Portland, Maine. Installed power for this class of tugs has ranged from 4,000 to 6,000 bhp, with bollard pulls in excess of 75 short tons.

Photo courtesy Crowley

Specifications:

Length	96 ft
Breadth	34 ft
Depth	14.8 ft
Tonnage	194 GT
Light draft	12.3 ft amidships
Loaded draft	15 ft amidships
Construction	Steel

Capacities:

Fuel	31,280 gal
Potable water	67,000 gal
Lube oil	560 gal

TradeWinds Adds Tug to Fleet

TradeWinds Towing announced the addition of the Challenger to its fleet, a former Seabulk tug. The 3,800 bhp tug was built in 1976 by Allied Shipyards. The Challenger was recently deployed on an endurance tow to southern Chile until early February. The Challenger and the 300-ft by 100-ft heavy deck barge, Marmac 300, will be available to pick up cargo from the west coast of South, Central or North America after that and will be available again in the U.S. Gulf the first half of March.

Photo courtesy TradeWinds Towing

Dimensions:

Length, o.a.	110 ft
Breadth	31 ft
Draft	13.5 ft
GRT domestic	196 tons
GRT Int'l	344 tons
Range	32 days towing, 60 days utility work
Berthing	6 cabins, 10 berths

Propulsion:

Main engine	2x Caterpiller 3516
Horsepower	3,800
Bollard pull	90,000 lbs
Marine gears	2x Reintjes 6.8:1
Propellers	Four-blade stainless steel
	Kort nozzles
	Shaft brakes towing

Skimmer Delivered to Portugal

Kvichak Marine Industries has recently delivered a 30-ft rapid response oil skimmer fitted with a Kvichak/Marco Pollution Control CL-1 Filterbelt oil recovery module to Administração do Porto de Sines (APS), Portugal. This is the second skimming vessel fitted with the Kvichak/Marco Filterbelt in the APS response fleet. The first was delivered in 1976 and is still in service. Construction of the skimmer was supervised at Kvichak Marine in Seattle by representatives of APS. The vessel was delivered early — less than 10 weeks from contract execution. The Kvichak 30-ft rapid-response skimmer is a shallow-water capable, near shore skimming vessel and is ideally suited for use on oil spills in waterways, bays and harbors. The all-aluminum skimmer is easily trailered.

Photo courtesy Kvichak Marine

Powered by twin 60-70 hp outboards, the skimmer is capable of a response speed of over 17 knots and has a recovered oil capacity of 1,000 gallons.

Specifications:

Length	**30.3 ft**
Beam	**8 ft**
Freeboard	**2.5 ft**
Displacement	**7,000 lbs**
Outboard engines	**2x 60 hp, 4-stroke**
Fuel capacity	**35 gal**

Baffin Bay Delivered to Higman

In December 2010 another towboat was added to the fleet of Higman Marine Services' subsidiary, Higman Barge Lines.

As with many earlier boats the M/V Baffin Bay was built by Hope Services of Dulac, La. But this boat is one of the newly designed and larger 78 by 34-ft vessels. Hull number 174 from Hope's yard is also the 36th vessel from Hope Services for Higman.

The boat continued the long established practice at Hope Services of installing a pair of 38-liter Cummins tier II compliant KTA38 engines each rated for 1,000 hp at 1,800 rpm. The

Jeff L. Yates photo courtesy Cummins Marine

engines turn into Twin Disc540 gears with 6.14:1 reduction. The two 85 kW generator sets are powered by Cummins 6BTA engines.

Geo Shipyard Delivers M/V Hoover & Truman

Photo courtesy Geo Shipyard, Inc.

The crew boats Hoover and Truman, a pair of 36-ft catamaran crew boats, were built for Axxis Drilling Company to service their inland and near shore drilling rigs. The vessels were designed by Morrelli and Melvin Design & Engineering group in Long Beach, Calif. The boats have seating for 13 passengers. The seats were built and furnished by Sterlings Upholstery in New Iberia, La. The aft two seat backs on the port side fold down to form a day bed for the captain to rest between trips. The vessels have two roof top HVAC units for comfort and are powered by a Kohler 5 kW generator. The vessels electronics packages are a Furuno 1834, 10-inch color radar and GPS unit, a Garmin GPS unit, a Furuno depth sounder, a FLIRS night vision camera, a Ritchie compass, two Perko 10-inch spot lights and two Icom VHF radios. The vessels are USCG certified for lakes, bays and sounds for 13 passengers. The vessels are surrounded with aircraft tire bumpers.

Specifications:

Length, o.a.	36 ft
Beam	12 ft
Depth	3 ft
Draft	2.7 ft
Main propulsion	2x Mercury 300 hp each
Propeller	Mercury
Generator	Kohler 5 kW
Speed	36 knots
Fuel capacity	400 gal
Potable water capacity	30 gal
Passenger capacity	13
Crew	1
Cargo capacity	3,000 lbs

Maritime Legislative Report Card

Early returns suggest that the loss of key maritime advocacy lawmakers and the paucity of commercial savvy on the federal level are serving to marginalize the domestic waterfront and energy sectors. It wasn't too long ago that a former key official in the previous administration advised me that the problem with today's version of the federal government and legislative arms isn't the lack of passion to get the job done right. Instead, I was told, the issue is directly related to the lack of business expertise at key federal appointee levels and in congress itself. In the haste to scour the "lobbyist culture" from Washington politics (an effort that has failed miserably), we've also quite possibly thrown the baby out with the bathwater.

In the New Year, missteps on key transportation, infrastructure and energy policy are truly a bipartisan effort. For the maritime community, at least, the old rock-and-roll refrain remains the same: Meet the new boss; same as the old boss.

Slightly Off Course: Getting the traffic off the roads

Rep. John Mica (R – Fla.) started 2011 off moving in the right direction and then veered well off-course when he announced goals to lessen highway wear-and-tear and by default, highway trust fund (HTF) spending on pavement repair that is the most obvious byproduct of that abuse. The newly installed chairman of the House Transportation and Infrastructure Committee wants to move auto and commercial truck traffic off the nation's highways — a position that mirrors that of Transportation Secretary Ray LaHood, who also advocates shifting traffic to other transit modes.

Predictably, the smart strategy of reducing road maintenance as a way to get more out of the already challenged HTF budget isn't popular with the trucking lobby. That's understandable. This time, however — and unlike the lip service that LaHood at least gives to shortsea funding — Mica's proposals make little or no mention of the waterfront. Instead, he hopes to solve the problem by diverting a greater share of traffic onto the railways. In this case, I have to agree with the folks at the American Trucking Association. This is a bad idea if it exclusively involves beefing up rail infrastructure to the detriment of everything else. Instead of looking to the possibility of improving ferry connections to alleviate worsening commute times for motorists, the Florida Republican's attention has been diverted to a proven loser; the auto train service running from — you guessed it — Florida to Washington, DC. So much for addressing those pesky pork projects…

No New Drilling: * sigh *

On the bulletin board in my office, I keep a tattered gas station receipt close at hand (and in plain view) for those times that I think I might do something stupid without thinking first of the downstream consequences. The receipt details 20.019 gallons of self-serve regular unleaded gasoline that I pumped, at $4.199 per gallon, on September 28th 2008. I waited all night in line at my local gas station, my car running on fumes, for the privilege of paying more than $84 for a tank of fuel. You may remember (or not) that mid-Atlantic gasoline shortages came in the wake of a couple of Gulf Coast hurricanes that interrupted offshore oil production, refinery capacity and yes, supplies from two major petroleum product pipelines.

Earlier this month and roughly at about the same time that the 800-mile, 600,000+ barrel-per-day Trans Alaskan Pipeline System was experiencing its latest leak and associated interruption in service, Representative Pallone (D-NJ) introduced the No New Drilling Act of 2011 (I couldn't possibly make this name up), which predictably hopes to "amend the Outer Continental Shelf Lands Act to prohibit the leasing of any area of the outer Continental Shelf for the exploration, development, or production of oil, gas, or any other mineral." I don't think that language requires any amplification on my part.

It is bills like HR 261 — and a similar effort (HR 264) introduced by Rep. Thompson (D-Calif.) to permanently prohibit oil and gas leasing in areas off the coast of California — that defy logic also at the same time that crude oil prices have eclipsed $90 per barrel and keep on moving north. Predictions of $4.00 regular unleaded gasoline prices this summer might spur some much needed domestic conservation by U.S. consumers. Maybe that's what it will take. On the other hand, preventing oil exploration interests from finding new sources of energy is hardly the way to help bridge the gap between a petroleum dependent economy and the future of cleaner and greener energy. At least, not from where I am sitting.

In the News: Pilots and Pirates

According to the piracy watchdog group International

Maritime Bureau, pirates seized a record 1,181 hostages on 53 vessels in 2010. The numbers represent the highest ever recorded since the center started monitoring these types of attacks in 1991. With most of the attacks occurring off the lawless coast of Somalia, the statistics only serve to underscore (a) the impotence of the expensive, ongoing International response, (b) the growing importance of private security solutions for the world's commercial fleets and (c) the need to find a lasting solution ashore in Somalia, where a functioning government has not existed since — you guessed it again — 1991. I have never been a fan of arming merchant mariners to fend off pirate attacks, but faced with these appalling numbers, I am (ever so slowly) warming up to the proposed practice. Actually, I would be far more comfortable with armed security details for vessels traveling in harm's way. But, at what ultimate cost to the global supply chain? Not to be confused with pirates — except perhaps where they earn movie star wages for transits of less than 2.5 miles on two reciprocal courses, using bowthrusters and three tugs — pilots everywhere earn their fees and then some. Nowhere is this truer than in Boston where, at long last and only after years of trying, local harbor pilots won a well-deserved rate increase. Signed by Massachusetts Governor Deval Patrick in the nick of time as the latest legislative session came to an end, the rate increase ends an arduous and sometimes rancorous 10-year process that threatened the safety and viability of the most important niche port in the U.S. Northeast.

Excerpt from a post on MaritimeProfessional.com by Joseph Keefe

Brazilian Offshore Subsea Lab

The Brazilian government and Navy are considering an ambitious plan for launching an offshore subsea lab to be located at the limit of the country´s territorial waters and beyond the farthest pre-salt play. The idea is to place an oceanographic lab at Brazil´s most remote maritime frontier, in order to have a continuous presence and dominate an area in which hidden natural riches go beyond the pre-salt layers. At the limit of the continental platform, around 350 nautical miles (648 km) from the coast, the potential for mineral reserves under the seabed is considered to be very high. This is not only a government project but also a military matter, which will involve government agencies, the Brazilian Navy, and Brazilian private companies. This strategy is already reservedly approved by the new Brazilian government. Other than research, it would also serve as a deterrent to foreign nations wishing to control the South Atlantic. The location and project for the fixed platform which would support the lab are still in the planning stages, with the next stage being to determine costs and deadlines for building the equipment. Other than environmental safety research, development of naval technology and biotechnology research, there is also to be an underwater observatory, which would have images available to the public through the internet. There is still fear that foreign nations will eventually try to take over the Brazilian pre-salt, which has potential for discoveries to surpass 150 billion barrels of reserves, and would catapult Brazil into one of the greatest oil producers in the world, on par with Venezuela and Middle East producers.

Posted by Claudio Paschoa to MaritimeProfessional.com


Laborde


Grove


Gilliam


Nickless


Anderson


Sperling

VT Halter Appoints Laborde as Board Director

VT Halter Marine, Inc., a subsidiary of VT Systems, Inc., appointed Cliffe F. Laborde to its Board of Directors. Laborde is owner and co-manager of Laborde Marine Services, LLC and Laborde Brothers Crewboats, LLC. Laborde previously held the position of Executive VP, General Counsel, and Secretary to Tidewater, Inc. until June 2007.

Grove Appointed Chief Technology Officer, ABS

ABS appointed Todd Grove as Chief Technology Officer (CTO). Grove will report to ABS President and COO Christopher J. Wiernicki and be based in the society's headquarters in Houston. Grove, a 28-year veteran of ABS, has served as President and COO of three ABS operating divisions — Europe, Pacific and Americas. He also has served as Director, Energy Project Development and Manager, Offshore Engineering.

Gilliam VP Sales & Chartering, Crowley Petroleum Services

Crowley Maritime Corporation has promoted Tucker Gilliam to vice president of sales and chartering for Crowley's petroleum services team. Gilliam joined Crowley in 1998. Most recently he worked in the company's labor relations department as director of marine crewing and development, and from 2009 to the present, served as general manager, Dominican Republic/Haiti, for Crowley's liner services team.

Nickless VP Finance & Planning, Crowley Shipping & Logistics

Crowley Maritime Corporation promoted David Nickless to vice president of finance and planning for Crowley's shipping and logistics business line. Nickless joined Crowley more than 20 years ago and since then has held various positions in trucking, finance and management reporting, including manager of business planning, and most recently, director of corporate planning.

Anderson Director of SSQE at Crowley

Crowley Maritime Corporation named Ketra Anderson director of safety, security, quality and environmental (SSQE). Anderson began working with Crowley when she served as a freight traffic manager/office manager for the Bethel, Alaska-based Kuskokwim Transportation Co., which had joint business ventures with Crowley. Most recently, she held the position of manager of SSQE for Crowley.

Jensen Maritime Changes

Jensen Maritime has appointed Johan Sperling vice president responsible for profit and loss, operations and personnel of the company and Jonathan Parrot as vice president of new design development.

Both will remain domiciled at Jensen's headquarters in Seattle. Sperling is a nine-year Jensen veteran and one of the company's former owners.

Mustang Survival Names CEO

Jim Hartt, former Mustang Survival Chief Operating Officer, is now the company's CEO. Bob Askew, former Mustang Survival President and Chief Executive Officer will become Mustang's Chairman to its newly formed advisory board.

Juettner Ops Manager Alaska, Global Diving & Salvage

Global Diving & Salvage, Inc. announced the advancement of John Juettner to Operations Manager, Alaska Region.

Juettner has been in the commercial diving industry, in Alaska for the past 17 years. He has worked in operational support and as a Dive Supervisor, for the past seven years.

Jennifer Kuhn joins CBMM

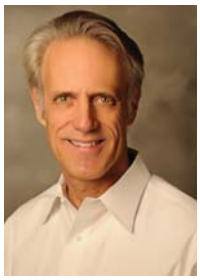
Jennifer Kuhn of Seattle, Wash. has joined the Chesapeake Bay Maritime Museum (CBMM) in St. Michaels, Md. as a shipwright apprentice. During her one-year apprenticeship, Kuhn will primarily work on the restoration of the Museum's bugeye, the Edna E. Lockwood.

Parrot

Juettner

Kuhn

The Glosten Associates Get New President, Employees



Hurley

Edgar

Lane

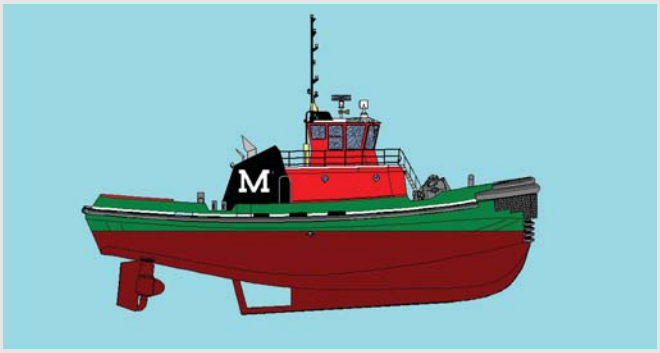
The Glosten Associates, a Seattle naval architecture and marine engineering consulting firm, announced that the Board of Directors elected John L.R. Edgar, III, as President. William L. Hurley, Jr., having served as President since 2001, will serve as Chairman of the Board. Edgar, a graduate of Webb Institute of Naval Architecture, joined Glosten in 1988. During Bill Hurley's tenure as President, Glosten doubled in size and expanded into international markets. In addition, Kenneth R. Lane, PE, has joined the firm as Director of Production Services.

Fernandez Joins HMS Global Maritime

Fernandez

HMS Global Maritime has hired Mark Fernandez as General Manager of the Oklahoma City River Transit operation. Fernandez will oversee and manage Oklahoma River Cruises' three-vessel operation along the seven-mile stretch of the Oklahoma River. HMS Global Maritime has been contracted to run the service since 2007 by the Central Oklahoma Transportation and Parking Authority.

Construction Begins on W&D Hull 101



Washburn & Doughty Associates, Inc. of East Boothbay, Maine began construction of a 93-ft by 38-ft, 6,000 hp Z-Drive tug for Moran Towing Corporation of New Canaan, Conn. Washburn & Doughty is building the vessel to its newest in-house design based on the yard's previous 92-ft by 32-ft design, of which there are 22 tugs in operation. The increased length and beam will allow for increased horsepower while maintaining the maneuvering characteristics and handling capabilities. The tug will be powered by two MTU M63L16 cylinder series 4,000 main engines each rated at 3,000 bhp at 1,800 rpm. The propulsion units will be Schottel model SRP 1515 FP drives, equipped with stainless steel propellers measuring 2,600 mm and nozzles lined with stainless steel. Bollard pull is anticipated to be 70 mT ahead and 66 mT astern. The tug will feature a machinery alarm system assembled by First Electric Motor Services and built from Siemens components. The vessel will be outfitted with two John Deere model 6068TFM76, Tier II emissions certified 1,800 rpm marine engines providing 99KW, 120/208 VAC, three-phase power. Under normal conditions one generator will be on-line for ship's service and the other will be on stand-by. The vessel will be equipped with a Markey DEPC-48 electric hawser winch forward and a Markey CEWC-60 electric hawser capstan aft. Bow fendering will be two courses of cylindrical fender up high along with soft loop and wing type sub fender below.

Approximate tank capacities:

Fuel oil	40,000 gal
Fuel oil overflow	3,300 gal
Main engine lube oil	1,000 gal
Gear oil	175 gal
Hydraulic oil	175 gal
Coolant holding	105 gal
Gray water/treated sewage	2,200 gal
Potable water	4,000 gal
Ballast	15,000 gal
Dirty oil	1,000 gal

SNAME 2011

ANNUAL MEETING & EXPO

WHERE INDUSTRY & TECHNOLOGY MEET

2011 ANNUAL MEETING CALL FOR PAPERS

NOVEMBER 16 – 18, 2011, HOUSTON , TEXAS

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

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

OTHER GENERAL AREAS OF INTEREST INCLUDE:

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

SNAME ANNUAL MEETING & EXPO
EXTENDED ABSTRACTS DUE: FEB 15, 2011
ABSTRACTS ACCEPTED: MARCH 1, 2011
SUBMIT TO: AM2011@SNAME.ORG

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

WWW.SNAME.ORG

Certified Marine Insurance Professional Seminars

LIG Marine Managers' sister company, LIG Educational & Consulting Services, in conjunction with the International Institute for Marine Insurance Studies, announced the 2011 CMIP Seminar Schedule for those working towards earning the Certified Marine Insurance Professional (CMIP) Designation. The designation is designed for agents, brokers, CSRs, insurance company personnel, underwriters or other insurance industry professionals who wish to expand their knowledge of commercial marine insurance. The CMIP Designation requires attendance at four 2.5-day seminars and passing an exam at the end of each seminar. The first of the 2011 CMIP Seminars, "Fundamentals of Marine Insurance," will be held in Tampa, Fla. April 13-15, 2011. Topics include marine general liability, hull/P&I, cargo and USL&H/Jones Act. The second of the 2011 CMIP Seminars, "Commercial Marine Insurance," will be held in San Francisco, Calif. September 12-14, 2011. Topics include marine general liability & CCC exposures, advanced hull insurance, advanced cargo insurance and pollution. Visit www.IIMIS.org to register.

Todd Shipyards Contract for USCGC Polar Star

The U.S. Coast Guard has awarded Todd Pacific Shipyards Corp. a $16,008,228 modification to previously awarded contract HSCG85-09-C-6BX667 in support of USCGC Polar Star's (WAGB-10) reactivation since being in "caretaker status" nearly four years. According to a release, repairs and alterations performed during the planned dry-docking availability of the icebreaker are in the third phase of the cutter's overhaul. The contract modification provides for the alteration and repair of ship's systems, engines and shipboard equipment. The work will be accomplished at Todd Pacific's Seattle shipyard beginning immediately, and is expected to be complete in July 2011.

Great Lakes Shipyard Receives Safety Award

Great Lakes Shipyard, received the 2009 – 2010 Industry Leader Safety Award from the Signal Mutual Indemnity Association. This is the second time in recent years that the Great Lakes Shipyard was chosen to receive this award because of their outstanding safety performance with no "lost time" accidents.

Nautica Queen at Great Lakes Shipyard for Repairs

Great Lakes Shipyard, Cleveland, Ohio, will perform deck repairs to the Nautica Queen. The 124 ft long Nautica Queen was built in 1981 and is home-ported in Cleveland, Ohio on the west bank of the flats. The Nautica Queen can accommodate up to 400 passengers in the two enclosed decks and the observation deck on the top of the ship. Great Lakes Shipyard's order book now includes orders for construction of two new 70-ft aluminum research vessels for U.S. Geological Survey's Great Lakes Science Center, a new 3,200 hp HandySize tug, two floating restroom barges for the U.S. National Park Service, the drydocking of the USGS research vessels Grayling and Sturgeon and several specialized pontoon construction projects.

Derelict Ship Contaminants Contained on Columbia River

Contracted by the owner of the SS Davy Crockett, a former WWII U.S. Navy Liberty Ship, Ballard Diving & Salvage completed the required clean up of contaminants that posed imminent threat to the environment according to the U.S. Coast Guard. After significant structural failure, an Administrative Order by the Coast Guard to the owner was issued for immediate action. Ballard Diving & Salvage's response included confined space teams and commercial dive

teams as well as remote underwater vehicles with sonar to locate and evaluate all sources of oil on and within the vessel. The SS Davy Crockett is 442-ft in length and was constructed in 1942 and is currently located near Camas, Wash. on the Columbia River.

Omnipure Series 55 Receives USCG Certification

Omnipure Series 55 marine sanitation treatment systems from Severn Trent De Nora have received final certification from the United States Coast Guard (USCG) to the International Maritime Organization's MEPC.159(55) effluent standards. Certification by the USCG involves testing environmen-

tal standards such as shock and vibration above and beyond IMO requirements. The Omnipure Series 55 technology utilizes an electrolytic treatment process, combined with electrocoagulation to both treat wastewater and provide sanitary solids for handling. The Omnipure electrolytic process generates an oxidant from seawater to effectively disinfect biological wastes. The OMNIPURE Series 55 systems can accommodate treatment capacities up to 598 persons for black water and up to 197 persons for black and gray water.

Harbor Guard Boats Delivers Defender 2628

Medina International Holdings, Inc. through its wholly owned subsidiary Harbor Guard Boats, Inc., has completed the sale of a Defender 2628 dive rescue boat to Prince George's County Fire Department, Md.

HB Rentals Gets Eagle Ford Contract & New Facility

Onsite accommodation specialist, HB Rentals, a Superior Energy Services company, has opened an additional facility in Texas and has been awarded a one-year contract to provide onsite living quarters with offices for four rigs operating in the Eagle Ford shale play in South Texas. The additional facility is located in Laredo, Texas and was added to support customers working in the Eagle Ford shale region. The facility will have accommodations, communications equipment and auxiliary equipment on site as well as the certified technicians and staff to deliver, install and maintain the equipment. HB Rentals' recent contract in the Eagle Ford shale region includes wheel-mounted trailers, the installation of water systems with pressure sets, sewer systems with pumps, portable toilets, generators, mud rooms and VSAT communication systems.

Rustibus Rebrands Itself

For more than 30 years Rustibus went under the name Dalseide Shipping Services and provided the shipping industry with its patented chain drum de-scalers. As part of their rebranding, their offices in Antwerp, Singapore and Houston have changed their name to Rustibus. Rustibus is now looking to enter the industrial tool market with a new 110V model of their hand held series. The R35 is ideal for removing heavy rust and old coatings in marine and commercial applications. Rustibus also plans to reintroduce their pipe series.

SEAaT Welcomes International Paint

SEAaT (Shipping Emissions Abatement and Trading) announced that International Paint Ltd. has joined the group as an associate member. SEAaT and its members call for a reduction in emissions from shipping using technological as well as operational methods facilitated by an emissions trading scheme.

New York State Canal Corp. on Hudson River PCB Project

The Canal Corporation commends General Electric's decision to continue their participation in the important environmental clean-up of the Upper Hudson River and Champlain Canal. Unfortunately the project still does not address the navigational needs of the canal, which could not be dredged for the past 30 years due to the contamination in the waterway. If the work plan does not change, at the end of the project in five to seven years the navigation channel will still be clogged with about 80% of the PCBs that are in place today. The Canal Corporation and nearly all of the municipalities bordering the waterway believe now is the most cost-effective time to address navigational needs.

110-Year-Old Ship to Become Floating Health Clinic

Christina DeSimone, President and CEO of Future Care, Inc. and the founder of the People Reaching Out Foundation announced support of The Chauncy Maples Project, Lake Malawi's first mobile health clinic. Through this support and that of other organizations, the M/V Chauncy Maples, a 110 year old ship and the oldest floating ship in Africa, will be used to treat Malawians living around this 350 mile lake.

2011 Annual SNAME Meeting & Call for Papers

SNAME announced its call for papers for its 2011 annual meeting November 16 – 18, 2011 in Houston, Texas. Papers are welcome which aim to advance the art, science and practice of:

- Naval architecture and marine engineering
- Ship construction and operation
- Ocean engineering
- Offshore technology
- Other marine-related fields

Other general areas of interest include:

- Environmental considerations
- Human factors
- Lifecycle engineering
- Marine economics
- Material technology
- Pipelines and risers
- Regulatory issues
- Renewable ocean energy
- Safety and stability
- Structures and hydrodynamics
- Subsea technology
- Transportation systems

SNAME Annual Meeting & Expo

Extended abstracts due: Jan 31, 2011
Abstracts accepted: March 1, 2011
Submit to: am2011@sname.org

Ship Production Symposium
Extended abstracts due: March 1, 2011
Abstracts accepted: June 1, 2011
Submit to: spspapers@sname.org

DIRECTORY: MARINE ELECTRONICS

Beier Radio
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Belle Chasse, LA 70037
www.beierradio.com
Betty Bates
tel: 504-341-0123
fax: 504-340-4690
email: sales@beierradio.com
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Bernie Wagenblast
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email: bernie@bwcommunications.net
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www.comarkcorp.com
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fax: 508-359-2267
email: tchobot@comarkcorp.com
Descr: Designer and manufacturer of high-performance, ruggedized computer solutions for the military and mobile marine markets

Consilium Marine US Inc.
4370 Oakes Rd., #721
Fort Lauderdale, FL 33314
www.consilium.se
tel: 954-791-7550
email: info@consiliummarineus.com
Descr: Supplier of fire and gas detection, navigation and emission monitoring systems for ships, property, transportation and the oil & gas industry
Products: Fire detection, gas detection, emission monitoring, opacity, oil mist detection, radar, ECDIS, speed log, IBS, VDR and more

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www.davidclark.com
Dennis Buzzell
tel: 508-751-5800;
email:dbuzzell@davidclark.com

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27 Upham St.
Melrose, MA 02176
www.dornequipment.com
Matthew Flynn
tel: 781-662-9300
fax: 781-665-0180
email: mjf@dornequipment.com
Descr: Manufacture and wholesale of electrical fittings used on naval vessels and in other marine applications
Products: Nylon stuffing tubes and packing assemblies, misc marine electrical items per MIL -DTL-2726, MIL-S-24235, MIT-T-24381, MIL-S-19622, ASTM F1836M-09

Edoc Systems Group Ltd.
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Victoria, BC V8W 3B9
Canada
www.edocgroup.com
tel: 250-960-1991 ext. 113
email: john.simpson@edocgroup.com
Products: HELM marine operations software

Engine Monitor, Inc.
191 James Dr. West
Saint Rose, LA 70087
www.emi-marine.com
Shane Faucheux
tel: 504-620-9800
fax: 504-620-9801
email: shane@emi-marine.com
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Lewiston, NY 14092
www.ensil.com
Louis Koikas
tel: 800-265-0009
fax: 800-565-5329
email: info@ensil.com
Descr: Electronics engineering services
Products: Design, repair, modifications, test of electronic circuit boards and assemblies

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Houston, TX 77042
www.ets-houston.com
Russell Morton
tel: 713-722-9697
fax: 713-722-9699
email: morton@ets-houston.com
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Products: EZNav DP support software, bridge system interfaces, GPS FOG and RLG gyros, bridge watchstander alarm, high accuracy velocity measurement system, custom positioning systems

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27700 SW Parkway Ave.
Wilsonville, OR 97070
www.flir.com
Lou Rota
tel: 978-901-8128
fax: 978-901-8885
email: lou.rota@flir.com
Descr: Navigate safely in total darkness with FLIR's all-weather thermal imagers
Products: Voyager II, M-Series, Navigator II, First Mate

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San Diego, CA 92107
www.globenav.com
Pete Palmer
tel: 619-225-0792
email: globenav@aol.com
Descr: Produce navigation software for PC & Pocket PC computers
Products: NavPak and MapSetup

International Marine Systems, LLC
P.O. Box 1389
Gray, LA 70359
www.chouest.com/InternationalMarine
Chuck Freeman
tel: 985-872-9002
fax: 985-972-9004
email: chuck.freeman@chouest.com
Products: Radar, automation, steering systems, dynamic positioning

Jeppesen Marine
55 Iverness Drive East
Englewood, CO 80112
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Valerie Krumholz
tel: +1 303 328 6105
Email:valerie.krumholz@jeppesen.com
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Kent, WA 98032
www.kodenamerica.com
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fax: 888-607-2327
email: info@kodenamerica.com
Products: Type approved radars, GPS, sounders, AIS, monitors

L-3 Klein Associates, Inc.
11 Klein Dr.
Salem, NH 03079
www.L-3Klein.com
Deborah Durgin
tel: 603-893-6131
fax: 603-893-8807

email: Deborah.Durgin@L-3com.com
Products: Side scan sonar, multi-beam sonar, waterside security solutions and integrated bridge systems for navigation

Mackay Marine, Division of Mackay Communications
921 Seaco Ave.
Deer Park, TX 77536
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email: marketing@mackaycomm.com
Descr: 120+ year provider of marine communications & equipment; Complete line of marine electronics & service; 40+ brands from 14 U.S. locations, plus Mackay Panama & Rotterdam & 90+ Intl Agencies
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Charles J. Masters
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fax: 787-731-6889
email: masmar@coqui.net
Descr: Sales, service and installation of marine electronics

Nautical Control Solutions, LP
15534 West Hardy Rd., Ste 100
Houston, TX 77429
www.fueltrax.com
Robert Blakeney
email: info@fueltrax.com
Descr: Marine engineering and services
Products: FuelTrax marine fuel management and bunkering system

OceanView Technologies
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Boca Raton, FL 33487
www.nightboating.com
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email: mike@oceanviewtech.com
Descr: Night-vision camera manufacturer
Products: Night-vision cameras for navigation, surveillance and safety

OPDAQ Systems
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Canada
www.opdaq.com
Aurem Langevin
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email: info@opdaq.com
Descr: Marine systems manufacturer
Products: Ship performance monitoring systems

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Michael Combs
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fax: 604-433-5570
email: info@pmc-controls.com
Products: Marine propulsion controls, integrated machinery alarm and control systems, tank level monitoring, engine order telegraphs, navigation light controls, hardwired mimics

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Todd Hassel
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fax: 251-341-1166
email: sales@prismsystems.com
Descr: Systems integration, marine engineering, machinery controls and automation, software
Products: Prism Systems Vessel Management System

Puget Sound Instrument Company, Inc.
2612 Pacific Highway East - Unit A1
Tacoma, WA 98424
www.psicompany.com/marine-electronics/
Richard Hart
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fax: 253-922-2650
email: sales@psicompany.com
Descr: Marine electronics sales and service
Products: Radar, GPS, AIS, Chartlotters, ECDIS, SatCom, GMDSS

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www.pyiinc.com
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fax: 425-355-3661
email: info@pyiinc.com
Descr: Seaview electronics mounting solutions
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www.raymarine.com
Jim McGowan
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MARINE NEWS 2011 EDITORIAL CALENDAR

Total Workboat Market Content!

January — Ad Closing : December 17

Feature: Vessel Construction & Repair

Market: Passenger Vessel Market
Technical: Marine Salvage & Recovery
Product: Fire & Safety Products

BONUS DISTRIBUTION: Maritrends - Feb. 5-8
ASNE Day Feb. 10-11

February — Ad Closing : January 21

Feature: Inland Waterways

Market: Software Solutions
Product: The Wheelhouse: Marine Electronics Buyer's Guide

BONUS DISTRIBUTION:
Mississippi Valley Trade & Transport Conference March 2-4

March — Ad Closing : February 18

Feature: Marine Training & Education Edition
Market: U.S. Navy & Government Boats
Technical: Clean Water Technology/Wastewater Treatment
Product: Coatings & Corrosion Control

BONUS DISTRIBUTION:
CMA Shipping 2011 - March 21-23

April — Ad Closing : March 18

Feature: Offshore Energy Edition

Market: Oil Spill Response & Recovery

Product: Marine Propulsion Buyer's Guide

BONUS DISTRIBUTION:
Offshore Technology Conference - May 2-5

May — Ad Closing : April 22

Feature: Combat Craft Annual

Market: U.S. Coast Guard Report
Technical: Pumps, Pipes & Valves
Product: Outboard engines & Waterjets

BONUS DISTRIBUTION: MACC - June 14-16
Seawork - June 15-17

June — Ad Closing : May 20

Feature: CEO Six-Pack: The Leadership Edition

Market: Maritime Communications

Product: Shipyards: Boatbuilding & Repair

July — Ad Closing : June 17

Feature: Workboat Power

Market: Training & Education
Technical: Vessel & Fleet Management Tools
Product: Winches & Ropes

August — Ad Closing : July 22

Feature: Marine Salvage & Recovery Edition

Market: Offshore Service Vessel Report

Product: Marine Fuels, Lubricants & Additives

September — Ad Closing : August 19

Feature: The Environmental Edition
Market: MaritimeJobs Employment Guide
Technical: Towboats & Pushboats
Product: Maritime Tools: Welding, Cutting & Machine Tools

BONUS DISTRIBUTION: Clean Pacific Sept. 27-29
Middle East Workboat Oct. 3-5 / OTC Brazil Oct 4-6

October — Ad Closing : September 16

Feature: The Yearbook

Market: Workboat Designers
Technical: Deck Machinery & Cargo Handling Equipment
Product: Naval Architects

BONUS DISTRIBUTION:
SNAME - Nov. 16-18

November — Ad Closing : October 21

Feature: Workboat Annual

Technical: Offshore Service Vessel (OSV) Technology

Product: Diesel Engine Technical Guide

BONUS DISTRIBUTION:
International Workboat Show - Nov. 30-Dec. 2

December — Ad Closing : November 18

Feature: Great Boats of 2011

Technical: Marine Coatings

Product: Training & Education Facilities

The Patterson YoYo Winch

Performance Marketer Patterson Manufacturing introduced the Yo-Yo winch series designed to make ratchets obsolete. According to Patterson, the contained spring coil virtually eliminates injuries due to rope memory as well as fouling of wire rope on the winch drum. The Yo-Yo winch requires little or no re-tightening while the barge is underway and the patented double-dog design makes for easy maximum line tensioning.

www.pattersonmfg.com/yoyo

Foul Weather Gear

Port Supply, the wholesale division of West Marine, has expanded its line of technical and uniform apparel for industrial settings. Third Reef foul weather jackets and bibs are designed for freedom of movement using breathable yet waterproof fabrics, allowing crew to work in comfort, longer. Offered in sizes small through 3X and 4X sizes, they provide a single convenient source to cover everyone in the team. All apparel can be customized with embroidery and silk-screening to professionally brand your organization.

www.portsupply.com

ARMOR Rugged Mobile Computer

DRS Technologies' Tactical Systems Group unveiled the ARMOR rugged mobile computer, the ARMOR X7 compact tablet. The small mobile computer is designed for those tasks that require connectivity, hand-held mobility, ease of use and the durability to support all-weather operations. The ARMOR X7 is certified to MIL-STD-810G for extremes in temperature, vibration, shock and drops. It is highly resistant to dust and moisture, earning an IP65 rating for ingress protection, while providing a 7-in. sunlight readable touch screen display. It includes a range of connectivity options such as Gobi 2000 WWAN, Bluetooth wireless, integrated GPS and 802.11 a/g/n WiFi, at a weight of only 2.8 lbs.

www.drsARMOR.com.

3340 Color MultiFunction Display

Offshore Systems introduced the compact Offshore Systems 3340 Color MultiFunction Display, a 95mm sq screen unit with a high resolution sunlight readable bright full color display for showing data from all ships tanks, DC sources and AC sources. Connects to the NMEA2000 network with a single cable, while function selection is fully flexible with user selectable screen layouts. The 3340 MultiFunction Display can accommodate up to 16 each of fuel tanks, fresh water tanks, grey water tanks, black water tanks and oil tanks.

Maritime Simulators

A Dynamic Positioning (DP) Operator Training Facility, featuring an extensive simulator suite developed by Kongsberg Maritime was opened in Northbridge, Western Australia. Owned and run by the Australian Maritime College (AMC), the new facility is positioned to serve the growing Western Australia oil & gas business from its centre in Perth. The Kongsberg Maritime simulator installation at the new AMC facility in Perth includes the K-POS Basic DP Trainer for classroom arrangement, complete with 4 DP Models and the K-POS Advanced DP Trainer with Instructor Station and dual redundant DP control system complete with 4 DP models.

www.maritime-simulation.kongsberg.com

Port Supply Foul Weather Gear

ARMOR Rugged Mobile Computer

3340 Color MultiFunction Display

PRODUCTS

Digital Yacht AISnet Puts AIS data on Web

Digital Yacht introduces AISnet, its shore-side AIS network receiver. When connected via its Ethernet connection to the Internet it makes AIS targets available on a variety of AIS viewing sites. AISnet uses the same digital, dual channel receiver used across the entire Digital Yacht AIS range. The unit installs by connecting to a normal broadband router/Internet connection via a patch cable and it comes with configuration software.

www.digitalyachtusa.com

Aquatic AV Digital Media Player

Aquatic AV's waterproof multi-function marine digital audio/video media player can be installed onboard where other systems can't. The new IP-4 rated thin digital media player can be flush mounted on almost any flat surface. The unit incorporates full iPod/iPhone, USB and Sirius/XM tuner user interface ability and can transmit via RF all user interfaces with up to four compatible, flush-mounted controllers. Optional waterproof (IP-66) two-way floatable handheld wireless remote has a 50 ft. range.

www.aquaticav.com

Nauticomp New Genesis Series Displays

Nauticomp introduced its new Genesis series waterproof, sunlight readable, multi-functional displays. The displays offer a cost effective, rugged solution suitable for all environmental conditions. A slim case design allows for installation in tight spaces. Efficient LED backlight technology reduces power draw at all levels. The displays come in 15 and 19-inch models with two inputs (DVI & VGA). They are built to IP67 waterproof standards, feature bonded glass optically enhanced for clarity, scalable resolution up to SXGA, extended temperature range on the 15-inch model and optional touch screen.

www.nauticomp.com

B&G Launches Zeus Multi-Function Displays

B&G introduced its new multifunction navigation display, Zeus. The display offers full integration with GPS, broadband radar, AIS, weather, entertainment and digital switching. The new Zeus system has an ultra-bright, sunlight-viewable display, fast chart redraw speed and a menu-driven user interface. The B&G Zeus system provides GRIB weather-file display and animation, along with true wind speed and direction and barometric pressure. Users can also scroll through forecasts to plan navigation consistent with conditions.

www.bandg.com

Beijer Electronics iX HMI Panel & Industrial PCs

Beijer Electronics introduced its new iX HMI panels and industrial PCs. The iX Panels feature IP66 lightweight aluminum construction and include iX runtime software. The series offers both keypad and touchscreen models. The iX Panel Pro and iX Panel Pro Nautic series feature industrial class C2D CPU performance and relevant nautical certifications. Multiple communication ports and expansion slots provide numerous options for networking and updating. The Panel Pro series deliver full, open and expandable HMI platform functionality for industrial and marine applications. Both series feature models with high-contrast TFT touch displays and a Box PC version.

www.beijerelectronics.com

Digital Yacht's AISnet

Nauticomp's Genesis

Zeus Multi-Function Displays

EnduraShock Military Computer Workstation

Comark Corporation's 15-inch EnduraShock military computer workstation meets MIL - 901D shock specifications, optional sunlight readable display, 1024 x 768 XGA resolution, machined aluminum bezel, EMI shielding, optional resistive touchscreen, Celeron P4 processing platforms, CPU speeds up to 2.4GHz, dual fiber or copper Ethernet options, up to 16 GB of compact flash, multifunction input selection (VGA or composite video), optional 90dB speaker and two external USB ports.

www.comarkcorp.com

Space-Saving ePower Connectors from Amphenol

Amphenol Industrial now offers a connector series designed to eliminate bulky and space-consuming cable glands on motors, AC/DC inverters and converters and other high amperage equipment. The new IP67-rated ePower 400A connectors are rated to 1,000-volts DC and feature integrated EMI shielding.

The new ePower family of connectors is specifically designed to meet the demanding needs of modern electrification programs in high voltage and high amperage applications, such as power converters, hybrid electric vehicles, heavy equipment electrification, two and three-phase motors and starter generators in the military, aerospace and industrial markets.

www.amphenol-industrial.com

Arecont Vision Introduces MegaView All-In-One

Arecont Vision introduced the MegaView line of all-in-one day/night H.264 megapixel cameras enclosed in IP66 (environmentally rated) and vandal-resistant cylindrical housings. Models are available in 1.3 megapixel and 1,080p resolution, each with an integrated megapixel IR-corrected lens. Each MegaView camera is also available in a model with an integrated IR LED ring.

The all-in-one models are more compact than using separate enclosure options, and installation is simple using an easily adjustable three-axis bracket and external lens adjustment of zoom, focus and iris. The camera models are plug-and-play, eliminating any need to open the camera during installation.

www.arecontvision.com

Samsung New IP Network PTZ Dome Cameras

Samsung Techwin America introduced a variety of new network PTZ dome cameras with a range of zoom options.

The Samsung SNP-3120 is a mini network PTZ dome offering 30 frames-per-second video at 4CIF resolution with a day/night 12x (3.69 – 44.32mm) optical zoom lens with additional 16x digital zoom. The camera incorporates XDR (eXtended Dynamic Range) and a motion adaptive 2D+3D noise filter.

The camera is HPoE (High Power over Ethernet) compatible or accepts 24vAC. The SNP-3120V has the same features but includes a vandal-resistant housing. The SNP-3120VH adds a heater and sunshield for outdoor use. For longer distances, the SNP-3301H provides 30x (3.5 – 105mm) optical zoom and the SNP-3370TH provides 37x (3.5 - 29.5mm) optical zoom.

www.samsungsecurityusa.com

Beijer Electronics iX HMI Panel

Computer Workstation

Arecont Vision

Space-Saving ePower Connectors

BY THE NUMBERS

Offshore Rig Fleet by Region

Region	%	No.
Africa – West	81.8%	(45/55)
Asia – SouthEast	71.6%	(68/95)
Europe - North Sea	81.9%	(59/72)
Mediterranean	73.9%	(17/23)
MidEast - Persian Gulf	77.7%	(73/94)
N. America – Mexico	72.0%	(18/25)
N. America - US GOM	54.0%	(47/87)
S. America – Brazil	95.1%	(58/61)

Source: **Rigzone**

Offshore Rig Utilization by Type

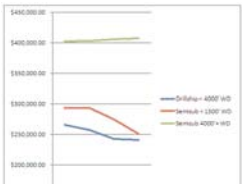
Type	%	No.
Drill Barge	80.0%	(8/10)
Drillship	80.7%	(46/57)
Jackup	71.6%	(260/363)
Semisub	82.6%	(142/172)
Tender	75.9%	(22/29)

Source: **Rigzone**

Offshore Rig Day Rates

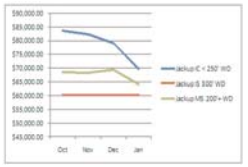
Floating Rigs

Rig Type	Rigs Working	Total Rig Fleet	Average Day Rate
Drillship < 4000' WD	6 rigs	8 rigs	$241,200.00
Drillship 4000'+ WD	41 rigs	51 rigs	$457,820.43
Semisub < 1500' WD	10 rigs	18 rigs	$250,992.86
Semisub 1500'+ WD	65 rigs	86 rigs	$311,078.68
Semisub 4000'+ WD	75 rigs	96 rigs	$407,439.10



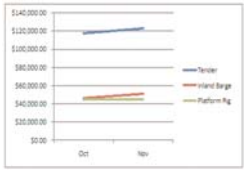
Jackup Rigs

Rig Type	Rigs Working	Total Rig Fleet	Average Day Rate
Jackup IC < 250' WD	27 rigs	52 rigs	$69,642.86
Jackup IC 250' WD	42 rigs	65 rigs	$95,155.71
Jackup IC 300' WD	82 rigs	127 rigs	$101,484.31
Jackup IC 300'+ WD	109 rigs	149 rigs	$139,147.68
Jackup IS < 250' WD	5 rigs	7 rigs	—
Jackup IS 250' WD	8 rigs	10 rigs	$137,000.00
Jackup IS 300' WD	2 rigs	5 rigs	$60,300.00
Jackup IS 300'+ WD	0 rigs	3 rigs	—
Jackup MC < 200' WD	2 rigs	16 rigs	$36,000.00
Jackup MC 200'+ WD	10 rigs	28 rigs	$45,750.00
Jackup MS < 200' WD	2 rigs	2 rigs	—
Jackup MS 200'+ WD	6 rigs	19 rigs	$64,060.00



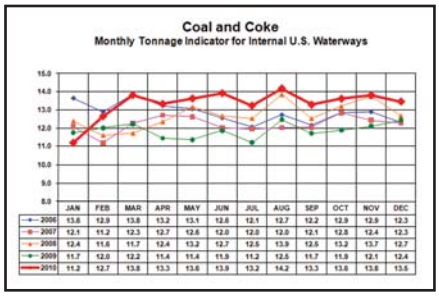
Other Offshore Rigs

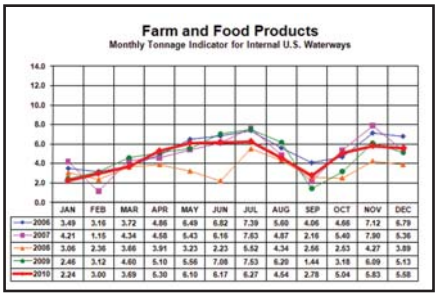
Rig Type	Rigs Working	Total Rig Fleet	Average Day Rate
Drill Barge < 150' WD	18 rigs	39 rigs	—
Drill Barge 150'+ WD	6 rigs	9 rigs	—
Inland Barge	38 rigs	74 rigs	$46,733.33
Platform Rig	142 rigs	250 rigs	$44,803.85
Submersible	0 rigs	6 rigs	—
Tender	22 rigs	32 rigs	$123,897.00

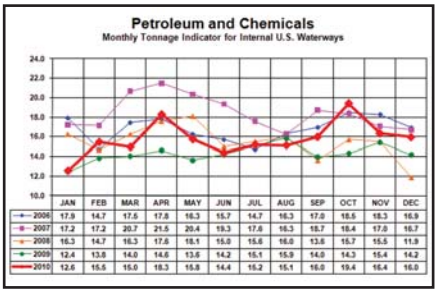


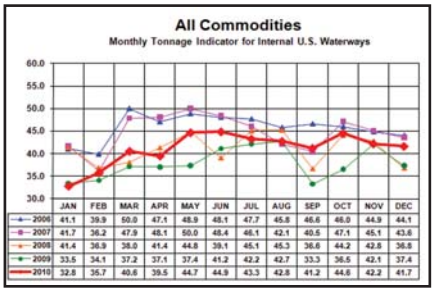
Source: **Rigzone**

Source: Charts courtesy of Waterborne Commerce Statistics Center, New Orleans, La. (http://www.iwr.usace.army.mil/ndc/wcsc/wcsc.htm)









TSA Surcharge

West Coast

Date	$/MT	ch/$	ch/%
Jan 17	550.50	+19.00	+3.6
Jan 10	531.50	-10.00	-1.8
Jan 3	541.50	+5.50	+1.0
Dec 27	536.00	+6.50	+1.2
Dec 20	529.50	+8.50	+1.6
Dec 13	521.00	-2.00	-0.4
Dec 6	523.00	+21.00	+4.2
Nov 29	502.00	+8.50	+1.7
Nov 22	493.50	+4.50	+0.9
Nov 15	489.00	-11.50	-2.3
Nov 8	500.50	+23.00	+4.8
Nov 1	477.50	+1.00	+0.2

East Coast

Date	$/MT	ch/$	ch/%
Jan 17	535.00	+11.00	+2.1
Jan 10	524.00	+4.00	+0.8
Jan 3	520.00	+6.50	+1.3
Dec 27	513.50	+1.00	+0.2
Dec 20	512.50	+5.00	+1.0
Dec 13	507.50	-6.50	-1.3
Dec 6	514.00	+19.00	+3.8
Nov 29	495.00	+14.00	+2.9
Nov 22	481.00	-16.00	-3.2
Nov 15	497.00	-2.00	-0.4
Nov 8	499.00	+21.00	+4.4
Nov 1	478.00	+1.00	+0.2

Source: Bunkerworld.com
http://www.bunkerworld.com/markets/surcharges/tsa#

Indicative World Steel Prices

Indicative prices		Change
SBB HRC world price $/t	768.233	+80
SBB Rebar world price $/t	729.565	+62
SBB World Price Tracker	260.58	+20

Source: Steel Business Briefing
http://www.steelbb.com/steelprices/

Bunker Fuel

Port	IFO 380	IFO 180	MGO	MDO	Del. Date
Corpus Christi	525.00	540.00	—	850.00	W 2011-01-24
Houston	507.00	548.00	825.00	—	W 2010-11-17

Source: BunkerIndex.com - http://www.bunkerworld.com/markets/prices

Port	IFO380	IFO180	MGO	MDO	Barge	Updated
New York	512.50	541.00	—	862.50	$7.50	Jan 24
Houston	512.00	550.00	800.00	847.50	$7.00	Jan 24
Los Angeles	545.00	566.50	Pending	806.00	$5.80	Jan 24

Source: Bunkerworld.com - http://www.bunkerworld.com/markets/surcharges/tsa#

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3	PATTERSON	www.pattersonmfg.com	(800) 747-5783
9	PENNECON ENERGY	www.pennecon.com	(709) 726-3490
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We would also like to welcome our media partner, Hydro International ; they will be chairing the hydrographic panel at this year's event. We look forward to working with them on another successful OTE.

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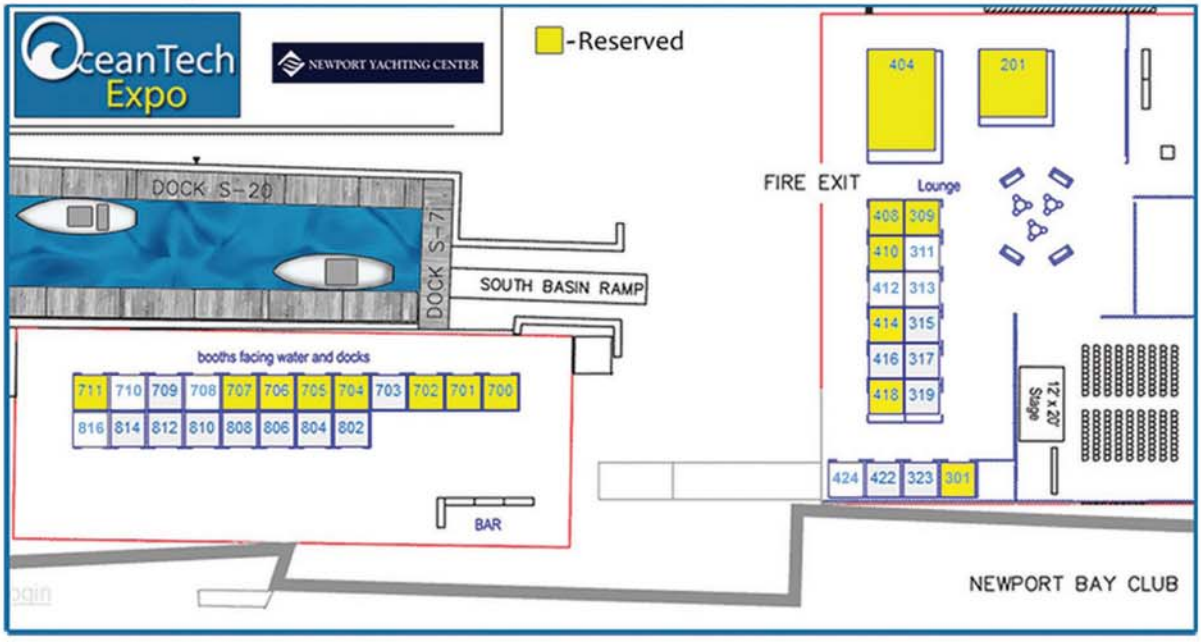
2011 Floorplan



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