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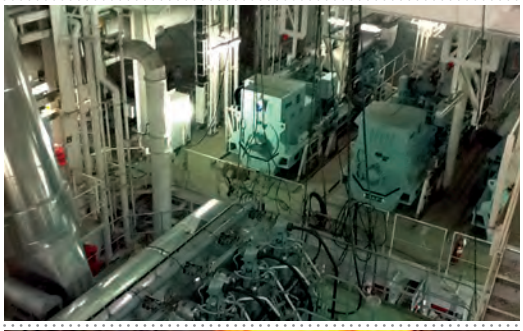


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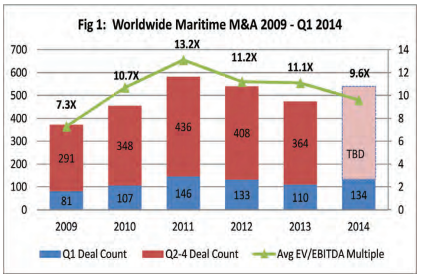

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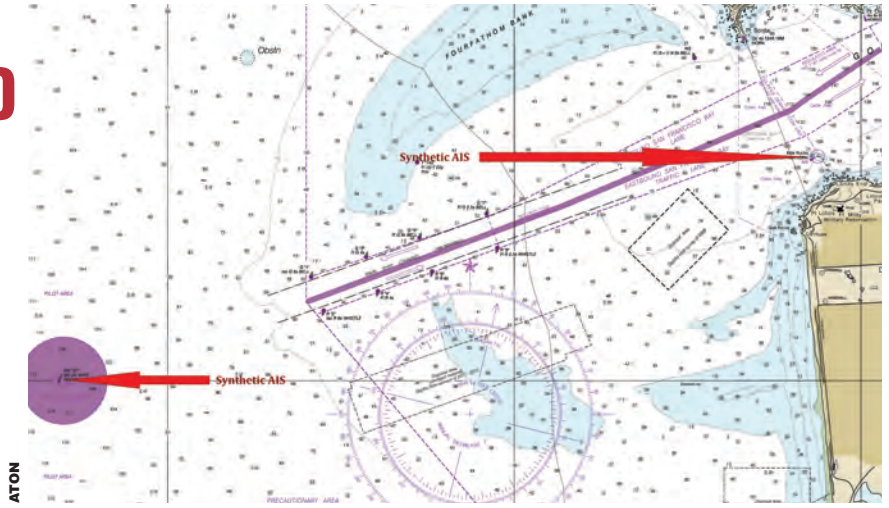

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Risk & Reward

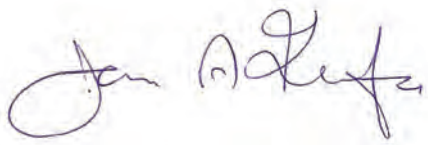
If there is one common bond that separates the maritime industry from its other intermodal cousins – air, rail and truck – then that metric would likely be pegged as the varied nature of global waterborne commerce. Spanning the full gamut of deepwater, blue water, inland and brown water, Great Lakes and salvage, offshore and oil & gas, the maritime sector also shares a variety of risks that's as wide as the vessels and ports that carry out its many missions. No other mode even comes close.

Drilling deeper, and even with everything else happening on or near the water today, there is today probably no other more highly anticipated event than the advent of a new and expanded Panama Canal. Likewise, no other landmark event promises to change the landscape of shipping in so many ways. Bigger, deeper ports are already being contemplated, wider and longer vessels are being readied and logistics stakeholders everywhere are planning myriad changes to how we do business. The risks involved with not getting it right, the first time, are many. That story starts on page 38.

If only maritime risk was as simple as getting ready for the Panama Canal. For some players, that's the least of their worries. As a common denominator, though, everyone needs to define their particular risks, mitigate them if possible and finally, prepare for the worst should they come to fruition. What comes first depends on where you sit. Defending against the scourge of global piracy might be at the top of one operator's list while another might define their most significant worry as what to do about LNG as they ponder their next move in a highly regulated and increasingly tightfisted market. In this edition of ***MarPro***, we've got all of that covered, and more.

Saving the best for last, I recently sat down with Acting U.S. Maritime Administrator **Paul (Chip) Jaenichen** for a frank conversation about the state of the U.S. waterfront. The first thing that became immediately obvious is that for a 30-year Navy man, he's come up to speed very quickly on the commercial side of the equation. Secondly, and no less important, *he gets it*. I say that because for many years, I've lamented the fact that we in the maritime sector don't tell our story well enough and certainly not loud enough. Last month, he explained why.

Marad's recent 'National Maritime Symposiums,' viewed in some circles as more of the usual 'all-talk-no-action,' are designed to be anything but. In truth, Jaenichen intends for these sessions to produce a master plan for the U.S. maritime industry. And, he knows that can't happen unless he first gets everyone in the same room and then gets agreement from each sector on the way forward. Think about it: the trucking lobby speaks with one voice. So does rail. It's easy to see what will happen if, sometime very soon, we don't do the same. Arguably, here and abroad, that's the quintessential definition of maritime risk.



Joseph Keefe, Editor | **keefe@marinelink.com**

THE LIST People & Companies in This Edition

Insights

Shipping & Risk

Outside investors and other variables change the way that shipping firms manage risk. Investable assets include ships, freight and even the hedging of bunkers.

By Barry Parker

"Shipping is now an investable asset," was an important observation by analyst Tyler Rosenlicht, a research analyst at investment fund packager Cohen & Steers, speaking at the recent Capital Link conference on master limited partnerships (MLP) – a vehicle increasingly seen in shipping deal structures. Traditionally, shipping was a closed self-regulating game where everyone knew each other and therefore reputation mattered. One side of a deal would get comfortable (or not) with the ability of its counterparties to satisfactorily fulfill their commitments.

Outside Investors

The arrival of outside investors, an outgrowth of the strong markets for shipping assets from 2004 to early 2008 (just before the world's financial crash), brought changes to the ways that risk was managed. Access to capital markets (to augment family money or to supplement bank debt) provided shipping companies with the wherewithal to ride the wave that was reminiscent of shipping's glory days in the early 1970s. Such financings came with a price. New corporate cultures were required – professionalism and corporatization were now required, with disclosures to a new set of stakeholders – investors and regulators.

MLPs convey financial advantages, in the form of cheaper capital, for shipowners and for investors. They offer yields that compete with non investment grade bonds. The need for MLPs and partnership structures to lock in their cash flows for long periods provides part of the motivation of Dynagas LNG Partners LP (an owner listed on Nasdaq-GS with symbol "DLNG"), tied to the well know Prokopiou family, to enter into a 13 year time charter contract for its 2008 built 149,700 cu. m. vessel Clean Force (to be re-named Amur River) with Gazprom, the Russian gas marketer, commencing in July 2015 (following the expiry of its current charter, with BG Group Plc). The partnership's three vessels will earn average hires of $78,200/day, once the new deal takes effect. Dynagas vessels are highly specialized assets. The company stresses that they are built for the specific purpose of moving LNG cargo (which may sometimes be exported from challenging environments such as, for example, the Yamal Peninsula in the north of Russia. Investors like the stability of cash flows that come from shipping partnerships and MLPs; at the end of April, GasLog (tied to the Livanos family) filed regulatory paperwork for GasLog Partners LP, which will own three LNG vessels on medium term charters to BG Group through 2018 and 2019, with charterers' options to extend well out into the next decade.

The drybulk and tanker sectors see more risk, as charter terms are usually far shorter and the equipment is 'commoditized,' and vessel owners are 'price-takers,' not 'price makers.' In recent years, these markets have seen burgeoning markets in financial "swaps" that enable commercial risks to be better managed, on both the revenue and the cost sides. Tools for managing freight and fuel risks support the "investable asset" thesis, while also enabling owners, cargo interests, and operators of vessels to operate profitably. At a recent New York seminar organized by Clarksons Securities, an arm of the leading shipbroker, guest speaker Peter Sandler, from Edesia Asset Management said flatly, "Dry bulk freight is a commodity, not a service." As such, Sandler characterized the present freight market as one of "low prices/high volatility," explaining that the marketplace is subject to the vagaries of supply and demand, with high fixed costs, no way to store un-used capacity, and with very low barriers to entry.

In contrast to LNG vessels, where specialization and high capital cost converts into pricing power, drybulk owners are "price takers, not price makers," in Sandler's words. The Edesia fund, an offshoot of the Louis Dreyfus Investment Group, is an active participant in the freight derivatives market, which offers the ability to hedge risk, both short and long term, without committing to physical execution or engaging in counterparty risk.

Freight Derivatives

Clarksons' team leader Alex Gray, described freight derivatives, usually handled over the telephone through brokers (just like shipping fixtures) as "The alternative to traditional period charters." Sandler echoed this, saying: "Freight derivatives have changed the traditional method of freight risk management." During a busy spurt, in late 2013, weekly trading in freight derivatives equated to 140 one year period timecharters – or, in other words, the traditional way of managing freight risk. If anything, drybulk freight is highly volatile. Data presented by Clarksons' options expert Sander Bot showed the

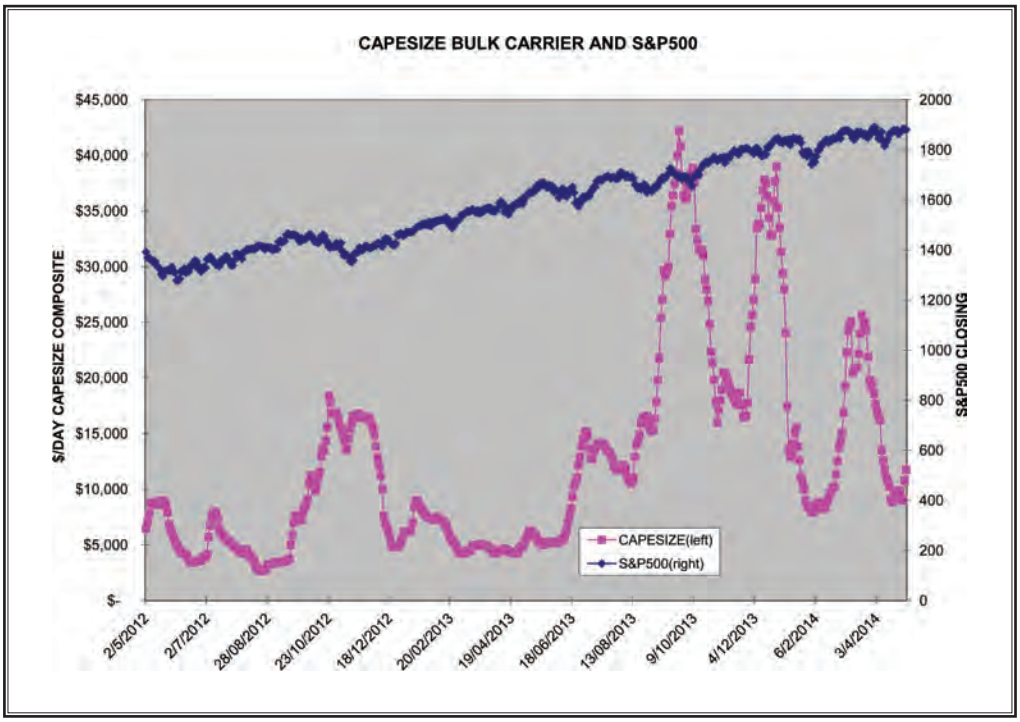
(Photo: Dynagas)

"annualized volatility" for the Baltic Capesize Index (a statistical measure of variations in a time series of shipping rates) was an off-the-charts 120% in the first two months of 2014.

In setting the stage for Sandler and the other speakers, Alex Gray enumerated some of the risk pitfalls in traditional charters, which include "the knock on effect of defaults through period relets, the failure to address and accurately assess counterparty risk, and too much reliance on tradition and trust." The freight derivatives markets are able to overcome these issues because the vast majority are traded through a financial clearing-house, analogous to a central guarantor.

Speaker Isabella Kurek-Smith, representing LCH.Clearnet Group (with a majority ownership by the London Stock Exchange, and the balance by other exchanges, and the big brokerages) noted that 75% of drybulk cleared Forward Freight Agreements (FFA) are handled through her organization. In

160,000 cu. m. capacity LNG carriers that have been ordered by an American Gas major from Samsung Heavy Industries (SHI)



Source: bdp1 Consulting Ltd

"Shipping rates are highly volatile. From the beginning of May 2012 through the beginning of May 2014, the "Annualized Volatility" (a measure used by traders, financial analysts, and traders of financial hedging products such as freight swaps) of the Baltic Exchange's Capesize Composite (made of four time charter routes) was an astounding 144%. By contrast, the S&P500 exhibited 17% Annualized Volatility, using daily closing values, during same period.

describing the evolution of the market, Kurek-Smith discussed consequences of the Dodd-Frank regulations aimed at the commodity swaps markets. Ship owners, charterers and freight traders may see changes in the way that their buy and sell orders are handled as financial swaps are re-categorized, for regulatory perspective, as futures contracts, but clearing- the central tenet of risk management and mitigation, will remain.

Fueling Anxiety: Hedging Risk in Bunkers

Ships' engines require fuel, and the energy complex brings its own set of risk management challenges for shipowners. The fuel markets have also developed tools to enable fuel buyers to manage their price risk. A March, 2014 Connecticut Maritime Association presentation by Ebony Smith, from World Fuels Corporation (WFC), a supplier to maritime and aviation modes, showed annualized volatility of a "basket" of bunker fuels reaching nearly 35% during spurts in 2011, and exceeding 30% briefly in 2012. Passing on fuel price moves to charterers, a simple and effective way to manage risk may not always be possible, particularly in weak markets when the cargo interest has the upper hand. As Smith notes: "Ship operators are 'short' fuel and have inherent price risk." WFC, based in Miami, and other large fuel suppliers, may serve as a dealer or risk management products to customers, or may, alternatively, manage the hedging, and embed the risk management features into a price.

As shipping companies court investors, risk management actually becomes a selling tool. One company listed in Norway, Western Bulk, uses the tagline, in its presentations, of: "Combining solid shipping experience with financial portfolio management principles." Its presentations to the investment community discuss its unique business model, built on a "… decentralized and trading oriented business sophisticated risk control system…" with six full time employees monitoring freight and fuel risk using proprietary computer models. According to the company, "Models are run daily to measure and monitor exposure - useful as tools to understand value drivers and risk/return relationships…"

Managing Risk: the Bottom Line

A different variation on the portfolio approach, with implicit management of risk, can be found in Vancouver, at Teekay Corporation and its related companies. The corporate parent is on a path towards becoming an asset light holding company; separate subsidiaries (two of which are MLPs, where vessels are on long contracts) operate in the gas tanker, offshore oil, and conventional tanker segments. A newly launched arm, listed in the Norwegian market, will specialize in the admittedly risky strategy of buying attractively priced tankers and flipping them when the market goes up. The highly respected Teekay has therefore contained different risks in different silos – a simple yet seemingly powerful strategy.

Further dimensions of risk, sometimes learned the hard way, were enumerated by Jake Storey, who is Risk Manager at Gearbulk, an international drybulk shipping company based outside London, U.K. Storey, with a long history in the management and the owning sides, told *Maritime Professional* in May, "Whatever the market, it is imperative the effective counterparty risk is performed. Not just for legal compliance, but for commercial reasons as well. There are several companies that can support vessel owners and operators with counterparty risk assessment. However, in addition, the shipping industry group called the Maritime Anti-Corruption Network (MACN) supports companies in the maritime industry to address the corruption and compliance challenges that can arise with shipping,"

Good lessons indeed.

The Author

Barry Parker, bdp1 Consulting Ltd provides strategic and tactical support, including analytics and communications, to businesses across the maritime spectrum. The company can be found online at: www.conconnect.com

Insights

Maritime Finance and Risk

Maritime businesses face a broader range of risks than most. A look at some recent business transactions is proof enough.

By Harry Ward

Risk is a critical element of every maritime-related business transaction from a financial risk management perspective, a market perspective, or often both. As with most business segments, maritime dealmakers and financiers employ elaborate risk management tools to evaluate the efficacy of acquisitions, loans and investments. But perhaps even more important are the markets for goods and services that have developed around the risky nature of most marine business sub-segments. These markets have attracted a great deal of investment in recent years as maritime companies strive to manage their risks in order to enhance financial performance as well as improve their public relations and safety records.

Maritime businesses face a broader range of risks than most, from navigation and safety in normal at-sea operations to the threat of piracy and catastrophic collisions or environmental mishaps. Just a few months into 2014, mariners have already faced nearly 100 pirate attacks with dozens of crewmembers taken hostage. Ship collisions and groundings remain a regular occurrence with incidents from the US Gulf Coast to Virginia to South Korea already this year, bringing human casualties as well as environmental hazards. And of course, the mystery of the vanished Malaysian Airline flight 370 has ignited a massive high-profile search at sea, bringing focus to the challenges of tracking and locating any object in the expansive maritime domain.

Risk Creates Markets

In recent years such risks have spurred deal activity in businesses that are dedicated to maritime safety and environmental matters. In December 2013, France-based Orolia (NYSE Alternext Paris: ALORO) announced its agreement to acquire Techno-Sciences, Inc. (TSi) of Beltsville, MD. Orolia has grown via a number of successful acquisitions and is firmly established as a leader in the emergency response market and in the Maritime Domain Awareness (MDA) sector. In January 2014, Orolia announced the creation of McMurdo Group to unite its Positioning, Tracking and Monitoring Division and its Boatracs, Kannad, McMurdo, SARBE and TSi brands. With the acquisition of TSi, Orolia has added capabilities including satellite ground stations and mission control software, as well as coastal surveillance and offshore asset protection solutions. Orolia has experienced solid growth and is actively pursuing additional acquisitions in their niche markets.

Safety and environmental compliance are focus areas for Drew Marine, which was acquired by an affiliate fund of private equity group The Jordan Company from another marine-savvy PEG, J.F. Lehman & Company last November. Concurrently with the Drew acquisition, The Jordan Company acquired Lehman's portfolio company ACR Electronics. ACR is a leader in maritime and aviation safety and survival solutions such as rescue beacons and lighting products. As noted in a past article, J.F. Lehman acquired OPA 1990-compliance leader National Response Corp (NRC) from Seacor in 2012. In March of 2014, NRC completed the add-on acquisition of UK-based Sureclean Limited, a provider of specialty environmental and industrial solutions.

Examining another area of risk, recent months have brought a handful of deals in marine security and defense. In early 2014, The McLean Group represented 3 Phoenix in their sale to Ultra Electronics of the UK for $87 million. 3 Phoenix provides real-time sensor and processing solutions, primarily for Navy radar and sonar systems. The company will augment Ultra's existing Tactical & Sonar Systems division. In April TE Connectivity (NYSE: TEL), formerly Tyco Electronics, signed an agreement to acquire SEACON Group, a provider of underwater connector technology for military and other subsea customers for $490 million in cash. Finally, Swedish military contractor SAAB has just announced that it is in talks to acquire ThyssenKrupp Marine Systems, a builder of submarines and warships in Europe.

An interesting deal took place in Canada during the first quarter, when a group of independent board members of Rutter Inc. consummated a tender offer for the shares of the publicly-traded company. A provider of defense, navigation and maritime surveillance technology centered mainly on radar applications, Rutter had been struggling for years and watched its share price fall by 95% since 2006. The investor group commenced their tender offer to buy all the outstanding shares of the company in January, and by March had received deposits of more than 38% of the shares, giving the group an 80% controlling interest overall. The new owners will now delist Rutter from the Toronto exchange and perform an acquisition of remaining shares at the same price as their tender offer.

> "Financial transactions, particularly large ones, involve a complex and in-depth evaluation of risks by players on both sides of the deal. In Mergers and Acquisitions, sellers generally seek to diversify their portfolios by reducing their exposure to the risk of holding ownership in the subject company."

Financial Risk and M&A Deals

Financial transactions, particularly large ones, involve a complex and in-depth evaluation of risks by players on both sides of the deal. In Mergers and Acquisitions, sellers generally seek to diversify their portfolios by reducing their exposure to the risk of holding ownership in the subject company. Meanwhile, the buyer and its advisors expend often enormous time and resources in the analysis of the risks they are taking on during the "due diligence" period.

Over time, we can assess risk tolerance levels in the market by examining compiled data from a collection of transactions where deal metrics have been reported. Figure 1 displays all worldwide marine and port-related deals drawn from a number of proprietary data sources. Explaining the chart in brief, the blue section of the columns displays the deal count for the first quarter of each year, whereas the red section of the columns shows the number of deals for the remainder of that year. The green line tracks the ratio of average Enterprise Value (EV) to Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA). EV is just the total value of the company, including all of the debt and equity (stock value) that make up the company's balance sheet. EBITDA is really the cash flows that a buyer will have to finance the transaction without regard to the current financial arrangements of the target company.

Figure 1 shows that in the recovery years from 2009 to 2011, deal counts as well as value ratios increased each year. The high EV/EBITDA number in 2011 was affected by some Asian port deals that had very high reported values, but the trend is an interesting subject for analysis. In effect, buyers showed a growing willingness to accept increasingly higher risk over this three-year period, paying a higher price for the same or slightly higher cash flows. Since that time, enthusiasm on the buy side has waned a bit in the aggregate, though it should be noted that a thorough analysis would involve study of the type of deals and even individual transactions to get a clear picture of the risk landscape.

Risk is a central issue in almost every facet of maritime and offshore industries. Markets are both affected by and actually created by the many risks inherent in maritime activities. This explains why marine finance involves a complex set of activities that are focused on identifying and quantifying risk, and then allocating resources based on the expected risks in a given transaction.

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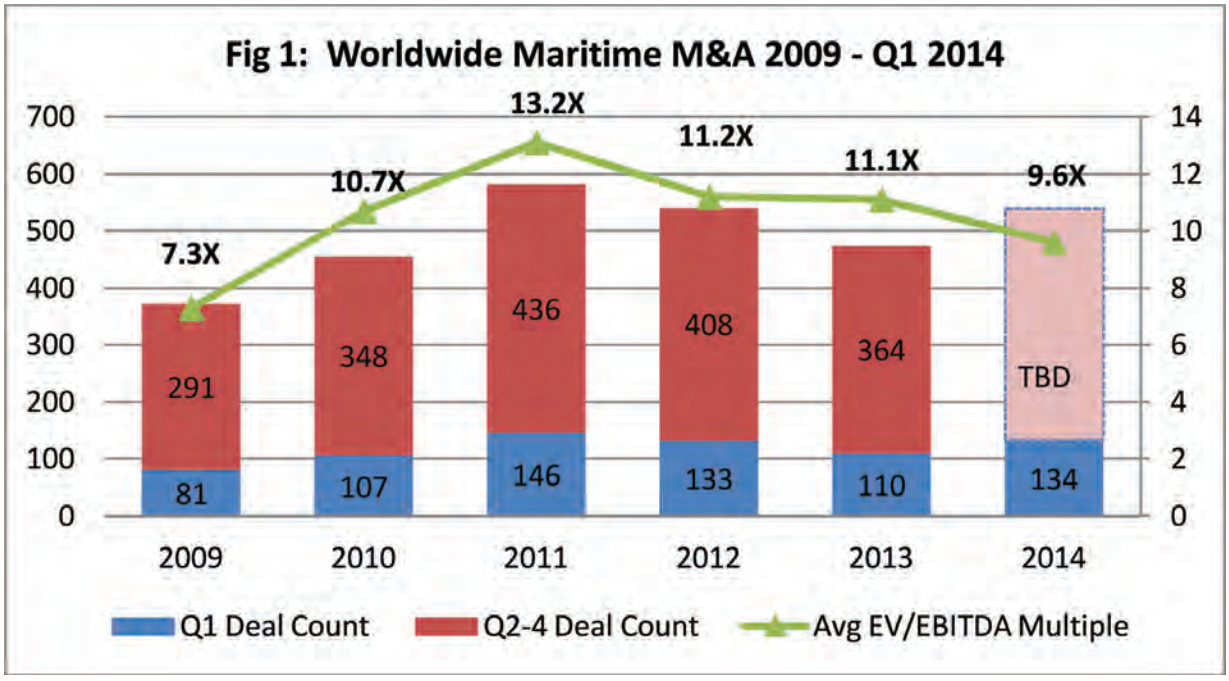


Insights

Decisions at the Pump

Regular, Super or Sustainability

By Robert Kunkel

Sitting in our Mercedes Benz at a major truck stop, I pressed up against the window of the passenger seat to watch my wife fill the tank at the gas pump. I am not allowed to drive her car, much less anything else having to do with its operation. She opened the cap, pulled out the bunker hose and wrestled with it to determine why it didn't fit in the spout. She turned, scratched her head and realized we were parked in front of a diesel pump. The result was not a swift move to the next pump serving "regular" or "super." Rather, it was a concerned discussion with her technical supervisor.

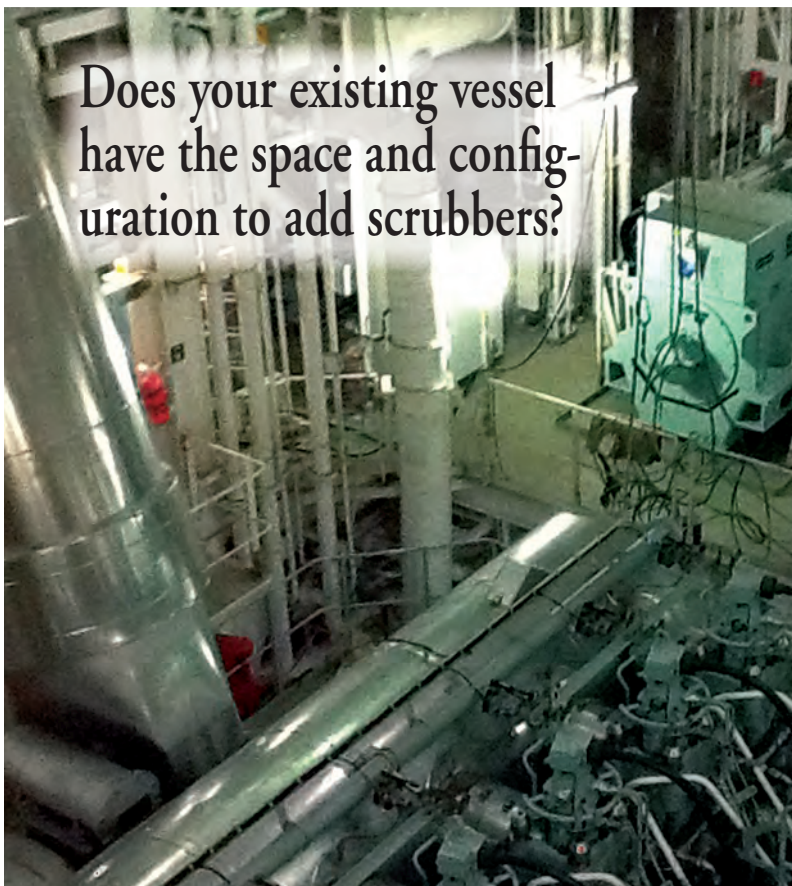
"Can we use diesel?" she asked.
"No – Your Mercedes only takes Super," her technical manager replied.
She asked again: "You're sure? No diesel?"
"Positive. And trust me: disastrous results if you do."
"What a pain in the neck. The diesel is cheaper today!," she moaned. And then, "I have to move to another pump?"
"Yes and consider yourself lucky the proper fuel is available within a short distance." I told her. "Consider yourself lucky I don't hitch a ride with one of the truckers that can use diesel and let you walk!" was her final comment as she returned the nozzle to the pump.

Decisions, Decisions

With the automotive industry moving quickly into Hybrid choices and slightly less into natural gas, the fact that we choose only between gasoline or diesel makes the decision somewhat easier than dealing with charging stations or compressed gas hoses hanging next to the pump. For consumers at the wheel, it's a cost and commercial decision. On the other hand, for shipping, it is now a matter of regulation and that has made the commercial decisions more difficult. Today, the conversation between husband and wife could easily take place between charterer and owner when facing the decision to burn low sulfur marine diesel oil or low sulfur heavy fuel with scrubber technologies, convert to natural gas alternatives or move into hybrid engines. Is the question conversion cost, propulsion cost or the use of more expensive distillates? And who pays for those costs during the decision process?

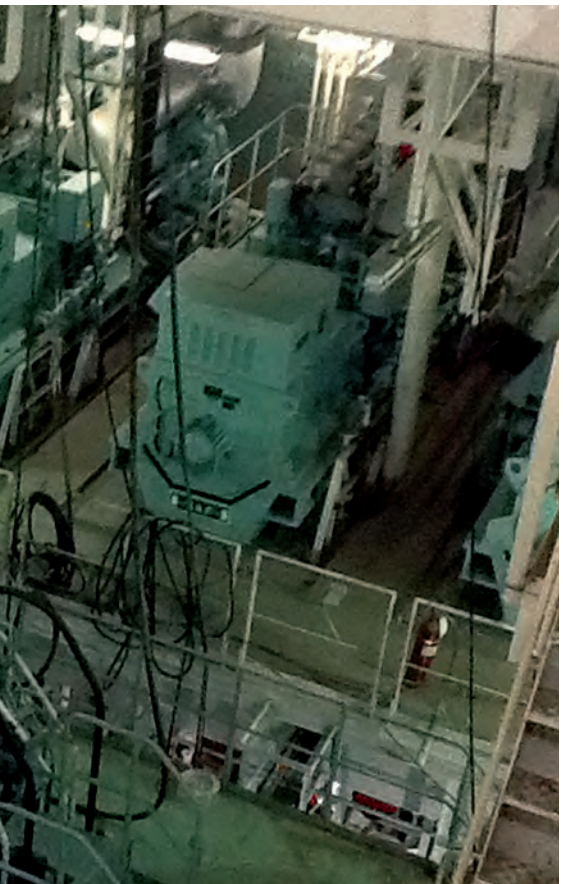
It is not an easy choice and the risk of making the wrong decision is an expensive one. The International Maritime Organization (IMO) adopted regulations in October of 2009 under Marpol's Annex VI requiring significant reductions in sulfur contained in the heavy fuel oils. The limit declines to 0.1 % on January 1, 2015 in the Emission Control Areas (ECAs). Nitrogen Oxide reductions take place in 2020 with the ECAs demanding a 74% reduction in NOx for any keels laid after January 1st, 2016. If an owner is planning a new construction project in 2014 with deliveries that range from 2016 to 2018, keel laying dates aside, the decision to satisfy both regulatory levels is at hand. Yet from our recent experience handling new construction at shipyards located in Korea, China and the United States, we see few owners making that full and complete decision of what fuel they will burn in the near future. Most have continued on with propulsion systems capable of burning heavy fuels while attempting to make room for a future scrubber installation and others have become "half pregnant" by installing duel fuel engines – without the fuel.

The simplest method of addressing current SOx emissions is to reduce the sulfur content in the fuel you purchase. The regulations at this point go beyond the ECA zone limitations



and IMO Marpol Annex VI also obliges a reduction of the fuel sulfur limit from the current 3.5% to 0.5% by 2020 at sea; a reduction that can allow continued use of a low sulfur heavy fuel oil. That ship using low sulfur heavy fuel in turn would switch to low sulfur diesel oil or gas oil when entering the ECA. Despite those regulations being in place, we see the IMO influenced by the refineries around the world to extend ECA designations and force a move away from heavy fuels as the diesel fuel used for land-based transport contains only 0.0010% sulfur and the refinery path is already in place.

The cost of refinery investments and blending modifications are high, making it more profitable to produce more low sulfur diesel instead of blending low sulfur HFO. We make this statement as many industry reports predicted a shortage of low sulfur distillates when the IMO regulations were first put into place are now reporting the refineries are more than capable of meeting the demand.



For those of you reading beyond the age of 40, let's remember the painstaking engineering efforts we went through to make our ship engines capable of burning 380cst heavy fuel and lower our fuel costs. Then dream about your new construction costs if you removed all of that machinery, tank space and equipment and burned only distillates again in your engines. As confusing as all these regulations are, that may be the best first step. It is a definitive step for any coastal vessel being built that will operate fully in an ECA environment and will most certainly affect decisions in the Jones Act fleet.

LNG Unraveled?

The logical answer a matter of just a few months ago was to replace that Heavy Fuel oil equipment with machinery capable of burning natural gas. The installation of dual fuel engines looked to be the next step in solving the emissions problem and it worked nicely with a base platform of low sulfur diesel oil. The "build it and they will come" theory was applied to the naysayers that claimed the infrastructure to support the alternative fuel was not available. Several major gas suppliers claimed they would be there to meet the demand. On March 26, 2014, a day after Shell's cancellation of a 300,000 ton (485,000-gallon-per-day) Alberta, Canada gas to liquid project, Shell also announced it would cancel its two 250,000 gallon per day LNG projects in Louisiana and Ontario, shocking both the U.S Gulf and the Great Lakes gas proponents. The company had previously planned to spend over one billion U.S. dollars on a natural gas infrastructure including fuel stations and a bunkering fleet. Shell simply stated the project had become too expensive. The provision of the needed bunkering infrastructure in the United States has taken two steps back with this news. The industry is waiting to see who will fill those shoes.

The use of natural gas can cut sulfur emissions by approximately 90 percent and also reduces nitrogen oxide, according to industry reports. Exhaust Gas recirculation will still be required to meet 2020 NOx reductions despite the use of natural gas as your primary fuel and there are still issues with methane slip. Nevertheless, many new construction projects and conversion projects are still looking at this fuel source. Others predict a rising demand with a marine consumer could drive natural gas fuel costs higher. While U.S. natural gas futures plunged 74 percent to $3.960 per million British thermal units from prices in 2005, futures are estimated at an average $4 in 2015 and $4.25 or higher in the longer term. As a comparison cost and a wish that the infrastructure is developed, LNG ship fuel would cost about $800 a ton in the U.S., $1,000 a ton in Europe and $1,200 in Asia, according to estimates provided by several New York-based shipbrokers. That compares to prices of $1,300 for an equivalent amount of low sulfur diesel and $950 for low sulfur heavy fuel oil utilized with scrubbers.

Watch these Industry decisions carefully in the coming months as no single application solves all of the issues the regulations have raised. The term "Hybrid" in the marine sectors will have a new definition, once someone discovers the Holy Grail or for that matter figures out how my wife's Mercedes can burn diesel oil and save me the walk home.

Robert Kunkel, President of Alternative Marine Technologies, is currently serving as the technical advisor to Coastal Connect, a U.S. company actively developing LNG propulsion as a maritime component of short sea shipping He is a past Vice President of the Connecticut Maritime Association, Past Chairman of the Federal Short Sea Shipping Cooperative Program and a member of the ABS Special Committee on Ship Operations.

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Profile

Paul N. Jaenichen, Sr.

Acting Maritime Administrator, U.S. Maritime Administration

By Joseph Keefe

On June 4 2012, Deputy Maritime Administrator Paul "Chip" Jaenichen was named Acting Maritime Administrator. With the U.S. Maritime Administration since July 2012 when he was appointed Deputy Maritime Administrator by President Obama, Jaenichen would no doubt like to be confirmed as the Administrator; sooner, rather than later. Nevertheless, he's not letting any grass grow under his feet in the meantime. Beyond this, the affable Jaenichen has rejuvenated an arguably ineffective Marad organization that had in recent years drifted aimlessly without strong leadership. With enthusiasm and a genuine passion for the domestic maritime industry, he has once again put Marad squarely in the conversation even as the collective U.S. waterfront ponders how to sustain its best up cycle in more than three decades.

A career naval officer, Captain Jaenichen retired after serving 30 years as nuclear Submarine Officer. His final assignment as Deputy Chief of Legislative Affairs for the Department of the Navy no doubt comes in handy as he fights for dollars and looks to change statutes and rules that he says put the domestic waterfront at a competitive disadvantage, here at home against strong rail and truck lobbies, and abroad, where foreign flag operators sometimes enjoy easier taxation schemes and rules.

With a Bachelor of Science in Ocean Engineering from the United States Naval Academy and a Masters in Engineering Management from Old Dominion University, he also boasts numerous military awards, including the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal, Navy-Marine Corps Commendations and the Navy-Marine Corps Achievement Medal. His leadership skills, therefore, are not in question. On the other hand, commercial maritime stakeholders sometimes ask how a naval officer can make the transition to the other side of the maritime equation and, more importantly, how much he could know about merchant shipping. As it turns out: plenty.

Leadership 101

With his naval retirement in the works, Jaenichen got a call from the White House who said that the Department of Transportation was looking for a retired military person that had expertise and leadership in management. He agreed to look at the job and one thing led to another. He told ***MarPro*** in April, "One of the things that the military does pretty well is that we know how to put together strategies. Once you've put together that strategy, we also know how to implement them. I built

budgets around strategies to be able to make that happen and so, the expertise that I bring is to be able to develop a coherent strategy, and execute on it. And, it's fortuitous at this time that we need to put together a maritime strategy for this country." As he does, Jaenichen brings 30 years of leadership – from command of a ship with 150 personnel all the way to a billet responsible for 1,000 people and a $2 billion budget.

The Acting Administrator's experience in legislative affairs is already coming in handy, as well. That said; he admits that the game inside the Beltway has changed measurably in recent years. He explains, "I do know how to navigate the Hill, but it is my observation that the Hill that I saw and worked with – I knew what that process was – but I'm not so sure that I'm all that familiar with what the process is today."

SITREP from the Administrator's Chair

Laying rest to any uneasiness about his lack of previous commercial maritime experience, Jaenichen hit the ground running at Marad. His assessment of current conditions here at home is particularly telling. "Well, to quote Charles Dickens, 'this is a tale of several cities.' If I take a look at the various segments of the industry, there are segments that are very healthy, and there are those that are struggling. If we are talking about the inland rivers and waterways, they are doing okay. They've got lots of capital investment. Their challenge, really, has been locks and infrastructure, locks and dams and

"The national maritime strategy is the easy part. You can get a lot of general and mutual concurrence on what we should do. The hard part is writing the actions to implement the strategy. What I mean by that is that, one of the tax reforms involves tort reform; you need to modify various policies with regard to how U.S. flags are created. One of the comments I got during the National Maritime strategy symposium was – and it resonated with me – it was a shipper, and he said, **'Hey, don't make me have to put my cargo on a U.S. flag vessel. Make me want to.'** And so, I followed up later with him to make sure I got what he was trying to say. The point was, he said, we don't necessarily care about paying a little bit more, if I get better service as a result."

some weather issues." He points to Indiana-based Jeffboat as a good example. "I was at Jeffboat back in the August time frame to present them with an $800,000 small shipyard grant. That yard is sold out through 2015 on everything they can produce on their production lines."

Jaenichen quickly ticked off a succinct assessment of other sectors, as well. "The offshore Gulf of Mexico sector? It's just going very, very well. Great Lakes? I would say they are in a steady state, their numbers fairly consistent. We have a pretty good idea of where that industry is. It's not growing but they have some challenges as their commodities change, so we need to keep a close eye on that particular portion of industry. Looking at the Jones Act trades, right now if you look at the order books just from May of 2013, you've got 15 vessels, 11 tankers and 4 container vessels. Those are ordered, with options for more. That's the most ships we've seen being built for Jones Act deep water in more than three decades. Some of that's being driven by oil production, some of it recapitalization of old ships to meet new EPA clean air requirements. I have some concerns about what happens five years from now when all that new shipbuilding is done and levels out. So, I'm a little bit concerned about the health of the shipbuilding industry, but we have a little bit of time to figure that out.

Jaenichen's real worry should come as no surprise to anyone. His appraisal of U.S. flag vessels operating in International trade is particularly stark. He added, "We did our first national maritime strategy symposium back in January and at that time, we had 89 ships and they were operating in international trade and today I have 86. So that number is continuing to go down. If I go back to the 1950's, we had a high of about 1,250 vessels operating in international trade and now, we have, deep ocean wise, just 179 ships, including Jones Act trades but only 86 operating in international trade. That's a problem. Looking at the 60,000 vessel calls that occur around the nation's ports every year on an annual basis, we account for 2 percent or less of that traffic. That's an area we need to focus on as a strategic imperative, and make some hard decisions as a nation on." Then, he asks: "Is that good enough and are we okay with that as a maritime nation where we don't have control of the supply chain?"

More than Advocacy: Incentives

Any conversation with Chip Jaenichen always circles back around to strategy, planning and implementation. Not satisfied merely with speaking engagements and industry outreach, he insists that while the outreach is of course important, it also eventually has to translate into action items. And that's where his unique National Maritime Symposiums – focused meetings with all stakeholders in the same building – come in. He explains, "The national maritime strategy is the easy part. You can get a lot of general and mutual concurrence on what we should do. The hard part is writing the actions to implement the strategy. What I mean by that is that, one of the tax reforms involves tort reform; you need to modify various policies with regard to how US flags are created. One of the comments I got during the National Maritime strategy symposium was – and it resonated with me – it was a shipper, and he said, 'Hey, don't make me have to put my cargo on a U.S. flag vessel. Make me want to.' And so, I followed up later with him to make sure I got what he was trying to say. The point was, he

said, we don't necessarily care about paying a little bit more, if I get better service as a result."

Jaenichen is looking hard at marine highways, too. "Part of it is that shippers and freight forwarders are creatures of habit. They get satisfied with their existing logistics trades and providing on-time service – they are sometimes not interested in trying something new. So, you really need to incentivize them to try and move it by water. Sometimes, that happens by accident. Say, you have a major thoroughfare and the bridge is out. Now, you can't get trucks across. Now, maybe water does become the viable option." The key, says Jaenichen, is monetary or performance incentives. As an example, he points to the container on barge service – facilitated in part by a DOT Tiger grant – running from Stockton to Oakland. "We had to incentivize people. So, we said, we'll bring back your empties for free if you book revenue cargo heading from Stockton. And, we started doing that. And a couple of other companies said, hey, we'd like a little of that action. In that case, we said – you missed your chance, BUT we'll charge you $25 less than it would normally cost to bring it back on a truck. So, that service is starting to take off. So, we need to find opportunities to do that around the country."

Looking Ahead

In the early 1960's, Marad was split out from the FMC, which took on a more regulatory, active role. Marad meanwhile took on a more promotional role. Jaenichen therefore looks for ways to have a positive impact on the domestic waterfront today. He insists, "What we do understand is that from an infrastructure standpoint in this country, it's an area that we've got to be putting greater focus on. We're primarily doing maintenance dredging. We need to do more to able to handle the growth and the increasing population that's coming – by 2050. We're going to grow to almost 400 million people. So, we need to be able to move about 14 million more tons of freight by that time frame. If we don't invest in it now, we won't be ready then."

The Acting Administrator finished up by putting his unique spin on the job – and the agency he guides. "We need to put together a strategy that *ALL* of the stakeholders can agree to. We need to build it and then we need to be advocating it to make sure that we get it done. And, yes, we are an advocacy agency, but we do get into cargo preference, reserve sealift for the Department of Defense, the Maritime Security Program which is administered from our agency. So, $486 million of my budget is for sealift. That's where our focus is from a monetary standpoint. So, we're not doing the regulatory side, but we're involved in making sure we understand what industry needs and how we can be in position to help them." So far, so good.

Offshore Africa: *Securing a Continent*

Drum Cussac readies local countries to address the scourge of piracy, which up until now has been a largely international endeavor, with a focused 'capacity building effort.'

By Sarah Yuen

The late Nelson Mandela once said: "I dream of an Africa which is in peace with itself." At the EU-Africa summit in Brussels last month, European leaders urged their African counterparts to facilitate that dream by shouldering more of the security burden in their countries, both onshore and offshore. The summit coincided with reports of renewed piracy activity in the Gulf of Aden; ongoing attacks on shipping in the Gulf of Guinea, and explosions and mass arrests in Kenya, all serving to underline the scale of that challenge.

High Stakes: International Interests and Effort

With African exports to European countries at an all time high, and the UK, France and the United States jostling for the title of the biggest investor in Africa, the stakes have never been higher, nor the waterways so important. NATO ships, joined by other international vessels, are into their seventh year of protecting international shipping in the Gulf of Aden and off the Horn of Africa. While the mandate was extended for two more years in 2012, a second extension is not guaranteed.

Sailor on watch on Malagasy naval Patrol Ship.

Geo Arctic Seismic Vessel entering into Fort Dauphin harbour in Southern Madagascar at the end of the most recent seismic survey.

"The African nations do know how important it is that they protect national and international assets both at sea and on land. As the leaders were talking in Brussels about improving security measures, Drum Cussac's consultants were deployed every day working side-by-side with African soldiers and sailors, doing just that."

– Andrew Nicholson, Drum Cussac Director of Offshore, and Government and Industry Affairs.

Countries like Kenya, Tanzania, Nigeria and Madagascar, which are battling the worst of the piracy problem, are mobilizing their military forces to protect national and international interests. Drum Cussac, the UK-based global risk management group, has advisers and mentors working alongside all these forces, and is seeing the capacity building effort at first hand, as well as contributing to it.

"The African nations do know how important it is that they protect national and international assets both at sea and on land," says Drum Cussac's Director of Offshore, and Government and Industry Affairs, Andrew Nicholson. "As the leaders were talking in Brussels about improving security measures, Drum Cussac's consultants were deployed every day working side-by-side with African soldiers and sailors, doing just that."

Kenyan soldiers, with Drum Cussac consultants acting as security advisors, worked to protect the Deepsea Metro 1 oil rig off Mombasa, for British Gas Group (BGG). Now that it has been moved south, their Tanzanian counterparts have taken over the task. Nigerian soldiers, aided by security advisors from Drum Cussac Nigeria, are protecting the Polarcus Nadia off the coast of Lagos, as it completes a seismic survey of the block known as OPL 310.

And the Madagascan Navy provided armed security for four recently completed seismic, gravity and magnetic surveys off the north, south and west coasts of Madagascar (two by the Norwegian geophysical company, TGS-NOPEC (TGS) operating in a joint venture with BGP, a subsidiary of China National Petroleum Corporation (CNPC), and two by TGS alone).

Standing Up Locally

The commander of the Antsiranana Naval Base, Capitaine de Vaisseau, Vaohavy Andriambelonarivo Andasy, said his forces were perfectly able to keep international vessels, rigs and their crews safe despite the ever-present security threat off Madagascar.

"The Malagasy Navy is very professional. All our officers have had extensive training abroad and we can do the job well, as long as we are given the right resources. At the moment we only have six vessels to protect nearly 5,000 kilometers of coastline, so putting our officers and sailors on commercial vessels, with Drum Cussac international mentors by their sides, is an ideal solution."

Drum Cussac's Project Manager Ian Ferguson said his security advisors had trained with the Malagasy Navy every day for three months on the M/V Geo Arctic while it surveyed the waters off the southern tip of Madagascar. "We were there to help the Malagasy sailors build on their sea survival and first aid techniques, and to reinforce international standard operating procedures in the event of an attack by pirates. It didn't happen, thankfully, but the sailors also helped to keep the Malagasy fishing boats away from the seismic streamers when the sonars were in operation, so they were hugely helpful on board."

"Our government is right; it should be us protecting these international ships," said one of the Malagasy First Lieutenants who was stationed on the M/V Geo Arctic with Ian Ferguson. "We know the area; we know the risks; we speak the

> "The Malagasy Navy is very professional. All our officers have had extensive training abroad and we can do the job well, as long as we are given the right resources. **At the moment we only have six vessels to protect nearly 5,000 kilometers of coastline**, so putting our officers and sailors on commercial vessels, with Drum Cussac international mentors by their sides, is an ideal solution."
>
> **Commandant Vaohavy,**
> Commander of the Malagasy Naval Base in Antsiranana

language, and it is our country which is going to benefit from the results of these surveys."

In Lagos, Fred Ijewere, the Managing Director of Drum Cussac Nigeria, said: "The Nigerian Joint Military Task Force knows the risks in these waters better than any other organization, and the Nigerian government is very keen to maintain the lead in protecting shipping, rigs and the exploration surveys."

Operation Restore Hope

The Joint Military Task Force (JMTF) in Nigeria is part of Operation Restore Hope, set up specifically to protect oil installations and fuel-carrying vessels, although the presence of the soldiers has often served to inflame the militant groups, angry at the international exploitation of the Niger Delta region. Attacks have increased at a double-digit rate each year since 2000.

The Gulf of Aden and the Horn of Africa have been synonymous with the contemporary definition of the word pirate for many years now. However, even though 49 seafarers were taken hostage and 36 vessels seized last year off the west coast of Africa, the word 'pirate' is sparsely used in reports of attacks in the Gulf of Guinea. This is largely due to semantics, and the United Nations definition of piracy, as opposed to the dictionary description of the word being "an intent to commit theft or any crime by force on a vessel". The United Nations definition, and therefore its mandate for action, is "a criminal act committed on the high seas, outside the jurisdiction of a single state."

In Nigeria, and off other countries along the west coast of Africa, most of the attacks on shipping, which regularly include kidnapping of international crew members, and seizing of vessels, take place in territorial, not international, waters. The onus is therefore on the West African nations to tackle the scourge with national resources. But the number of attacks in the Gulf of Guinea continues to rise month on month.

With 13 percent of all oil imported to the EU, and six percent of all Europe's gas supplies, originating from the coun-

Pirate drill on ship.

tries along the Gulf of Guinea, the international community therefore cannot just watch from the sidelines. April saw navy ships from the United States, France, Germany, Brazil, the Netherlands, Belgium, Spain, Turkey and Portugal all converge on the Gulf of Guinea for the fourth annual counter-piracy exercise involving 31 vessels and 20 countries.

The African countries most affected by piracy, including Angola, Benin, Cameroon, Ivory Coast, Equatorial Guinea, Gabon, Ghana, Nigeria, Congo, Sao Tome and Principe, and Togo sent their ships to participate in scenarios aimed at enhancing counter-piracy tactical expertise. That's because all West African countries have felt the economic impact of the pirate activity. For instance in Benin, trade through the main port of Cotonou has dropped by 70 percent in just the past year alone.

Formidable Opponents Involve Considerable Risk

Modern pirates now wear night-vision goggles, carry AK-

Weapons practice for a Malagasy rating on board the Geo Arctic.

Drum Cussac's Project Manager Ian Ferguson

47s, heavy machine guns, and rocket launchers; navigate with GPS devices, and use sophisticated speedboats mounted with heavy mortars to target ships. Some Somali pirates have been seen in possession of Russian-made 82 mm mortars that can target vessels as much as five kilometers away.

Violence is the modus operandi especially in West Africa. One Scottish sea captain seized along with his ship in May last year said the pirates threatened to burn him alive. Separately, Angola saw its first reported hijacking in the first quarter of 2014, further demonstrating the increased range and capability of Nigerian piracy, if left unchecked. According to local reports, the incident involved armed pirates boarding and hijacking a loaded tanker from Luanda anchorage, Angola. The pirates took a large quantity of the tanker's gas oil cargo in three separate ship-to-ship transfer operations. The vessel was under the control of suspected Nigerian pirates for over a week before the owner regained contact, off Nigeria, approximately 1,200 NM from the initial boarding. One crewmember was injured during the incident.

Insurance premiums are still spiraling upwards, inflating the

Hyperspike training - DC consultants and Malagasy Naval Ratings and Officers on the Geo Arctic, preparing to repel pirates with sound deterrents.

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prices of African exports –oil, gas and commodities. Drum Cussac Nigeria says that it is now seeing the same level of demand for its risk advisory services in West African countries as the Drum Cussac Group saw off East Africa. Amidst reports from the International Maritime Bureau (IMB) of the lowest first quarter piracy figures since 2007, this is not the time to let up. IMB also warns that there is "no room for complacency" and "that the threat is still present."

The root causes, if not the organization, of piracy are the same in East and West Africa: that is economic deprivation, a lack of rule of law, environmental pollution and a widespread failure to tackle social issues. IMB continues to call for the continued, essential role of the international navies in containing the threat of Somali piracy, despite the drop in attacks. Nevertheless, local efforts – aided by firms such as Drum Cussac – remain just as important to the final goal. That said; the EU and United States may be pushing African leaders to tackle these root causes, but on a continent where three people out of four still live in abject poverty, quick fixes remain as distant a dream as that of Nelson Mandela.

Training Today to an Uncertain Future Standard

Despite its unquestionable allure, LNG as a fuel carries with it as many risks as it does answers to the problems it promises to solve. As industry and OEM's work to remove any doubt, the collaborative effort outpaces the slow-moving regulatory machine.

By Joseph Keefe

Even as Lloyds Register predicts that LNG will reach a maximum 11% share of marine propulsion solutions in 2030, it also says that segments with higher proportion of small ships will see the highest LNG uptake. And, at the same time, says the global classification society in its recent paper entitled, *Global Marine Fuel Trends 2030*, the marine fuel mix for bulk, containers and tankers by 2030 can be defined by two words: "decreasingly conventional." *Global Marine Fuel Trends 2030* examines the landscape of fuels likely to be used by commercial shipping over the next 16 years. One of those fuels will no doubt be LNG. But, there will be others, as well.

Separately, Royal Dutch Shell plc announced in December that the company would not move forward with a proposed 140,000 barrels per day Gulf Coast gas-to-liquids (GTL) project in Louisiana. Shell described the decision tersely by saying, "Despite the ample supplies of natural gas in the area, the company has taken the decision that GTL is not a viable option for Shell in North America, at this time, due to the likely development cost of such a project, uncertainties on long-term oil and gas prices and differentials, and Shell's strict capital discipline." Underscoring that position perhaps, was LR's declaration that, "A complete overturn of the marine fuel landscape is not realistic in just over 16 years. What we see is an evolution rather than a revolution."

The LNG movement, here and abroad, built in part on the premise of "if you build it, they will come" has been somewhat deflated of late, and not just because Shell decided that they would move more cautiously in this arena. LNG's primary drivers of the environment – namely the North American ECA Requirements and the potential economic benefit of low priced LNG in region – are now being weighed against price uncertainties brought on by the rush to export, the premium cost of installing dual fuel engines, the delivery system itself (as much as $12 million for LNG tanks, compressors, refrigeration, double wall piping and distribution valves), the cost of infrastructure to support bunkering and logistics and the possibilities of other fuels, methanol, for example, being added to the mix.

In the meantime, those who have taken the plunge into the LNG arena are not sitting on their collective hands. Original Equipment Manufacturers (OEM), classification societies, the IMO and the United States Coast Guard are all weighing in and taking measures to ensure that when LNG does hit the water in North America, safety and training standards will be robust enough to ensure that LNG as propulsion will be every bit as safe as the exemplary record that LNG ocean transport has enjoyed for decades. And, it is here where gray areas remain.

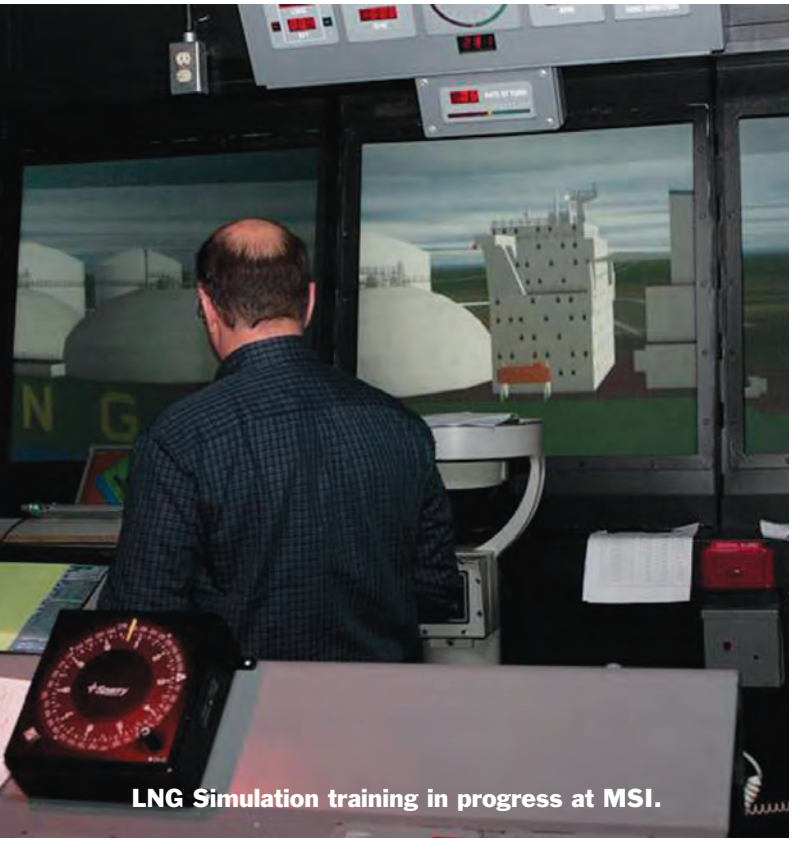
Recommendations & Guidelines, but no Rules

LNG as a fuel is not new. Employed for more than a decade as fuel, primarily in the North Sea in the OSV trades, these LNG powered vessels have enjoyed very good reliability in operation and like LNG transport vessels, an excellent safety record. As North America ramps up to try and repeat on that enviable record, and with no real experience in the dual fuel / LNG propulsion arena, there are also no rules with regard to training and competencies for the mariners who will very soon – MarPro sources say as early as September 2014 – have to operate those vessels. Absent those rules, industry, operators and the OEM's are forging ahead.

The existing guidance from the United States Coast Guard (Policy Letter 02-12 – Equivalency Determination Design Criteria for Gas Fuel Systems) and based upon IMO Resolution MSC 285.86, establishes design and safety criteria for gas fuel systems. These rules involve design only and do not apply to training, credentialing or operations.

According to a recent ABS report entitled, "*Bunkering of Liquid Natural Gas-fueled Marine Vessels in North America*," the USCG is developing two operating policies for LNG fuel transfer operations and training of personnel on vessels that use natural gas as fuel. The first draft operations policy letter provides voluntary guidance for LNG fuel transfer operations on vessels using natural gas as fuel in U.S. waters, and training of personnel on those vessels. The document further recommends transfer and personnel training measures that the USCG believes will achieve a level of safety that is at least equivalent to that provided for traditional fueled vessels. It would apply to vessels equipped to receive LNG for use as fuel, but not to vessels carrying LNG as cargo that use boil-off gas as fuel.

The second draft operations policy letter provides guidance for bunker vessels and waterfront facilities conducting LNG fuel transfer operations and is further discussed in Chapter 5 of the ABS paper. Also according to ABS, "The purpose of the draft operations policy for vessels using natural gas as a fuel is to provide guidance for LNG bunker operations in order to achieve a level of safety considered equivalent to the regula-



LNG Simulation training in progress at MSI.

tion applicable to traditional bunker operations." Based on the interim guidelines contained in the IMO resolution, MSC.285 (86), this includes guidance on equivalent standards for the following aspects of bunkering operations on gas-fueled vessels:

- ***Fuel transfer procedures as described in 46 CFR 154 and 33 CFR 127.319***
- ***Operations, emergency, and maintenance manuals as discussed in 33 CFR 127.309***
- ***Mariner training and drills***
- ***Transfer operations, including PIC designation and qualifications, Notification of Transfer, and transfer procedure requirements contained in 33 CFR 155 and 33 CFR 156***
- ***Simultaneous operations***
- ***Pre-transfer actions***
- ***Conduct during and after an LNG fuel transfer***
- ***Conduct after an LNG fuel transfer***
- ***Vessel equipment such as the bunkering system, deck lighting, personnel protection, portable gas detectors, radio and communications equipment, LNG fuel transfer hoses, the LNG bunkering manifold, emergency shutdown systems, and alarms and indicators***

The finalized policies will serve as guidance for the USCG Captains of the Port (COTPs) and guidelines for fuel transfer operations and training of personnel working on U.S. and foreign vessels that (a.) use natural gas as a fuel and (b.) conduct fuel transfer operations in U.S. waters.

Mind the Gap

Similar gaps exist in the rules that are already in place. At an April meeting of the Merchant Merchant Marine Personnel Advisory Committee (MERPAC), a review of the applicability of the STCW 2015 Amendments about Training of Ship's Personnel on board Small, Domestic Vessels using Alternative Marine Fuels was undertaken. For example, the applicability of the IGF Code and training for vessels using fuels subject to the IGF code is for vessels greater than 500 Tons. But, as MERPAC personnel noted, there are likely to be vessels of less than 500 tons that will be using such fuels in the future. It is the position of MERPAC that personnel serving aboard such vessels should be subject to similar training requirements. MERPAC's purpose is to advise the Secretary of the Department of Homeland Security (DHS), via the Commandant, U.S. Coast Guard, on matters relating to the training, qualification, licensing, certification and fitness of seamen in the merchant marine.

At that same meeting, firefighting was discussed and un-

derstood that the firefighting training as found in STCW V/3 is covered in Coast Guard approved basic, advanced and tank barge firefighting. This applies to all vessels using Alternative Marine Fuels. The MERPAC working group noted that there is no requirement for specific practical firefighting training, bunkering or onboard experience during the interim period. And MERPAC noted, "In addition, any mariner found qualified under the interim guidelines should be grandfathered into the appropriate endorsements. As stated previously (MERPAC 40), the Coast Guard should begin approving courses and issuing endorsements as soon as possible. The Coast Guard should accept training that is given by qualified personnel, such as, engine manufacturers or other vendors as being qualified under 1.5 of the Interim Guidelines for the appropriate training elements."

Separately, the U.S. Coast Guard's Chemical Transportation Advisory Committee (CTAC) is also looking closely at LNG as a marine fuel. Margaret Kaigh Doyle, an MSI vice president, heads up the CTAC's Working Group for Safety Standards for the Design of Vessels Carrying Natural Gas or Using Natural Gas as Fuel. Doyle also regularly attends relevant MERPAC meetings and participates on the US Delegation to IMO that is looking at low flashpoint fuels regulations, including training." She told ***MarPro*** in May, "This [CTAC] working group was asked to identify gaps in current Coast Guard policy and

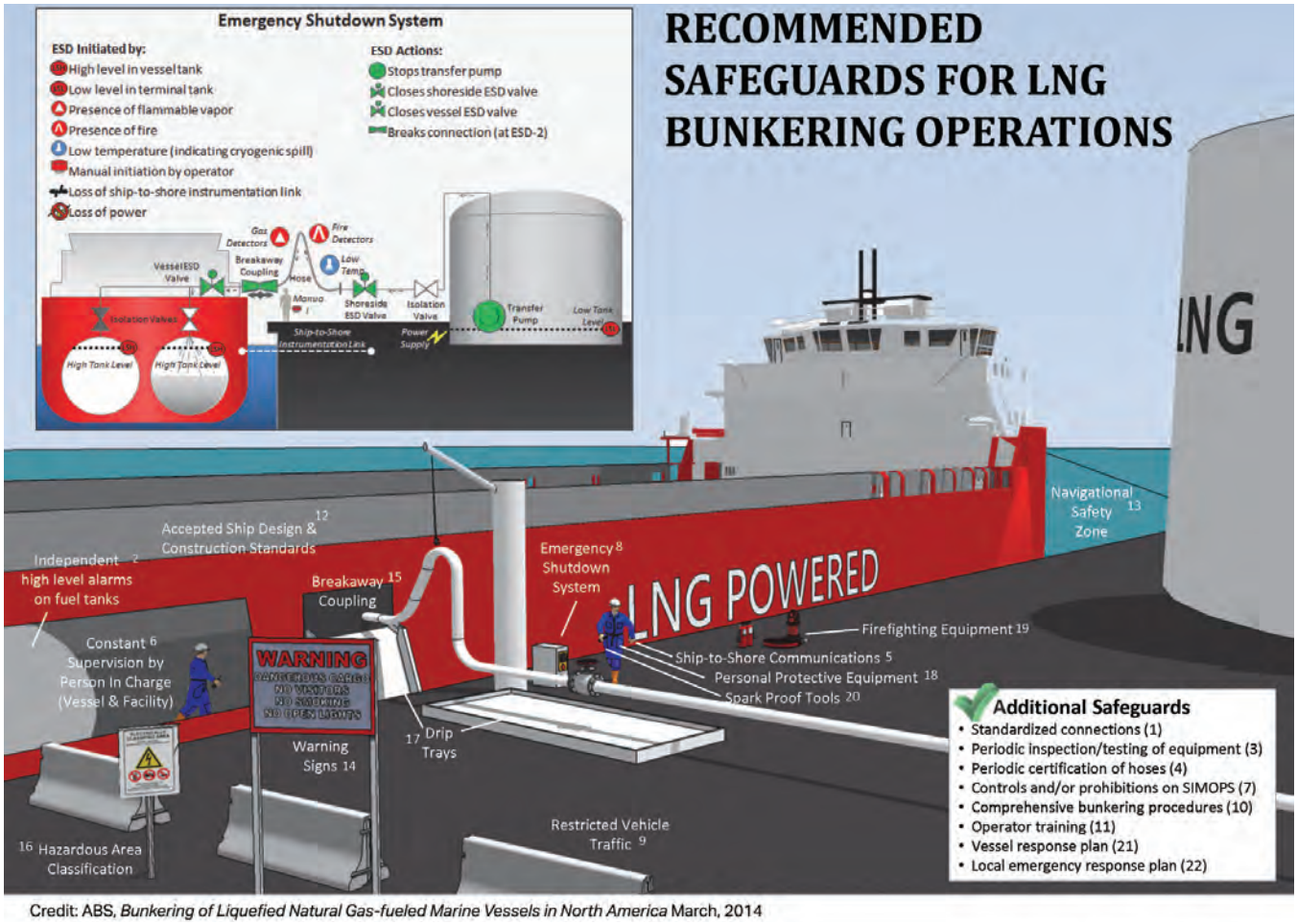

Night ops LNG training

regulation on the design, installation and operation of natural gas fueled systems for propulsion of commercial vessels and the design of novel vessels carrying or processing natural and compressed gas vessels. The working group also has been selected to develop acceptable design criteria to fill those gaps."

And, using this very philosophy, industry is moving forward with the training necessary to operate that equipment.

LNG Bunkering Options

LNG bunkering, according to the ABS report, can take the form of three basic options. Option 1 involves delivery from a terminal storage tank directly to the vessel, via fixed hoses and cranes or dedicated bunkering arms. A second option might involve use of a tank truck which would arrive at a prearranged transfer location and provide hoses that are connected to the



Credit: ABS, *Bunkering of Liquefied Natural Gas-fueled Marine Vessels in North America* March, 2014

> "LNG bunkering training is different than LNG PIC training. PIC training doesn't involve firefighting. We wanted the LNG firefighting – there are only two places nationwide that give it – and the Massachusetts Fire Academy was close by. There, in conjunction with the LNG bunkering course, students will get firefighting training."
>
> **Chad Verret, EVP Alaska & LNG Operations Harvey Gulf**

truck and to the vessel moored at a dock. Another method could involve an LNG bunkering barge to come alongside the ship, allowing cargo to be loaded and the vessel to be fueled at the same time, much the same way standard bunkering is done today in many ports.

Alternatively, some stakeholders are contemplating the use of portable LNG tanks (ISO tanks) for use as vessel fuel tanks. These tanks, when emptied, could be replaced by preloaded tanks staged at a terminal capable of transferring containers to a vessel moored at the dock. This approach, according to ABS, can simplify bunkering facility project startup by leveraging intermodal transportation capacity and by not requiring large and expensive land-based storage tanks. In addition, says ABS, "it may have some regulatory advantages. For instance, the USCG does not consider the loading or unloading of these portable LNG tanks for use as fuel as bunkering. Rather, these operations would follow the hazardous cargo stowage and handling requirements (e.g., 49 CFR Part 176). Therefore, facilities performing these types of operations would be considered cargo facilities rather than bunkering facilities and would fall under the simpler regulatory regime for safe transfer of cargo."

LNG Training at MSI

Answering the need for training in the critical area of LNG bunkering is Middletown, R.I.-based Maritime Simulation Institute (MSI). MSI is developing an LNG bunkering safety training course for Harvey Gulf International Marine as the Gulf Coast offshore support operator prepares to launch its first dual fuel offshore supply vessel. The *Harvey Energy* is the first of at least six such Wärtsilä 34DF-powered ships and will run primarily on liquefied natural gas and if Harvey Gulf CEO Shane Guidry has his way, that's the only fuel that will see the inside of his new dual fuel engines. But, before that can happen, his crews have to come up to speed on something that's never been tried under U.S. flag, or in U.S. waters. The first session, which is expected to begin in June, will be given exclusively for New Orleans-based Harvey Gulf International Marine.

Doyle says the new LNG bunkering course has its roots in existing policy and guidance from global regulators. She explains, "The MSI LNG Bunkering Course syllabus has been developed using the specific knowledge, understanding and proficiencies developed for the IMO Sub-Committee on Human Element, Training and Watchkeeping (HTW). The HTW Sub-Committee developed draft amendments to Chapter V of STCW Convention and Code relating to training and certification requirements for seafarers on board ships using gases or other low flashpoint fuels as well as interim guidance on training for seafarers serving on ships using gases or other low flashpoint fuels."

MSI's Wärtsilä-designed simulation system is based upon Wärtsilä's equipment and operations stations, with a software/operator interface. The simulation will mimic a myriad of possible outcomes and emergencies, with the operating system, tank monitoring, pressure and temperature alarms all part of the mix. Starting in mid-June, Wärtsilä will also provide training for Harvey Gulf's engineers in their Florida location, where they have run dual fuel/gas engine training to a wide range of users for the past decade.

> "This [CTAC] working group was asked to identify gaps in current Coast Guard policy and regulation on the design, installation and operation of natural gas fueled systems for propulsion of commercial vessels and the design of novel vessels carrying or processing natural and compressed gas vessels. The working group also has been selected to develop acceptable design criteria to fill those gaps."
>
> Margaret Kaigh Doyle, Vice President, MSI

The 45-hour bunkering course for Harvey's LNG bunkering persons-in-charge (PIC) will be offered ahead of any U.S. Coast Guard regulations governing LNG bunkering. Beyond Doyle's qualifications and industry participation, MSI itself has extensive experience in full-featured tugboat operations teaching and is applying its simulator expertise to LNG bunkering.

LNG Bunkering 101

As MSI prepares to roll out its version of LNG Bunkering Training – the first such offering in the United States – course content will be developed on the dual-fuel propulsion system and the Harvey Gulf International Marine vessel and terminal designs. Eventually, the course will be ABS and DNV GL certified – both organizations are coming in June to 'vet' the course. In a unique arrangement that involves a partnership between engine OEM Wärtsilä, Harvey Gulf International, and the Massachusetts Firefighting Academy, course participants will also get the benefit of fighting LNG fires at one of the few institutions set up to do so. And, it was this 1-2 punch that was so attractive to Harvey Gulf, says Harvey Gulf's Executive Vice President Alaska & LNG Operations, Chad Verret.

Risk and Real Life Operations

Probably no one has more to lose if things do not go right than Harvey Gulf International Marine. The leader and also first out of the gate in terms of LNG as a fuel in North America, they also have an enviable safety track record to protect and build upon. According to Harvey Gulf's Chad Verret, the decision to choose MSI for this first-of-a-kind training was not made lightly. But MSI, in business since 1981, also has deep roots in simulator knowhow and will leverage that in its new LNG bunkering offering. Indeed, MSI's client list already reads like a 'who's-who' of marine LNG operators and stakeholders.

Verret told ***MarPro*** in May that there would be no corners cut on the way to a safe and fully compliant dual fuel operation for his firm. "Every person that needs to respond to an emergency – on some boats, that might mean a cook, on others, it might not – will get this training." He added, "We'll have 6 vessels involving 9 to 10 crews, plus safety and certain office/shore personnel. It'll eventually involve over 100 people." Also according to Verret, the course adheres to recommendations from IMO and the U.S. Coast Guard, is designed to provide competencies and employs a proprietary Wärtsilä designed simulation system. "As things evolve even further, we will ramp up to meet those requirements," he said.

Verret insists, "LNG bunkering training is different than LNG PIC training. PIC training doesn't involve firefighting." As for why Harvey Gulf chose MSI – over many other well-respected training institutions – he explained that the new course was born from collaboration, not marketing. "We wanted the LNG firefighting – there are only two places nationwide that give it – and the Massachusetts Fire Academy was close by. There, in conjunction with the LNG bunkering course, students will get firefighting training. Most students will get the basic course. Licensed deck and engine personnel will get the advanced course, too."

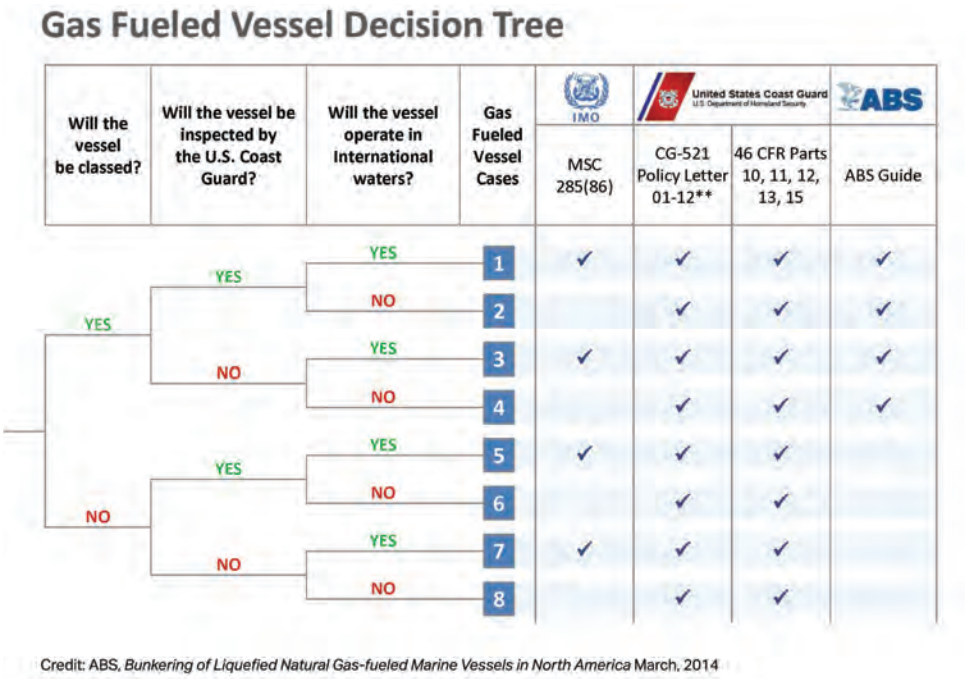
The nascent partnership was a good fit from the start. With Verret and Doyle working together on the Chemical Transport Advisory Committee (CTAC) and MERPAC, a level of trust was quickly established. "We both had a good idea of what would be important for the regulations," said Verret, adding, "I believe this 5-day course will be top-notch."

Guidance: Ahead of the Regulations

The American Bureau of Shipping says that "There is a need in the maritime industry for guidance when considering the adoption of LNG as a fuel or supplying fuel to the marine market." The global classification society, as much as any other, has been busy doing just that. But, with LNG and/or dual fueled vessels already in the water and still others on the backlogs of U.S. shipyards, the need to quantify that advice for early adopters is paramount. And, unlike the conundrum presented to operators trying to decide when, where and what kind of ballast water treatment systems to install ahead of final approvals and alignment of global, federal and state regulations, LNG as a marine fuel is already here.

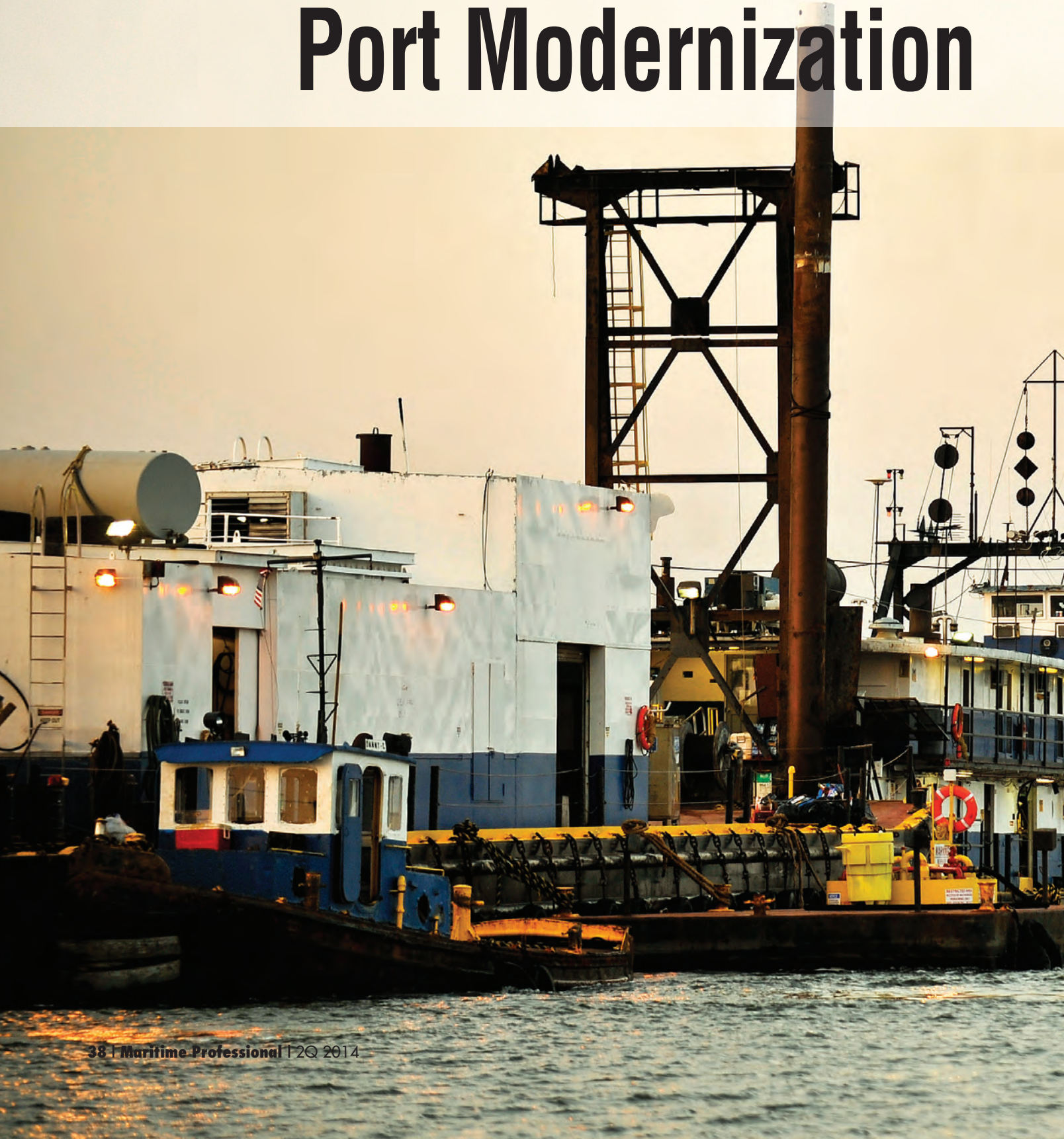
Fortunately, the training necessary to ensure that the rollout goes smoothly in North American waters is also here. Being first with dual fuel engines, the North American vessels that employ that technology and the training that defines how they will be operated carries with it a measure of risk.

There is virtually no room for error as the age of dual fuel and LNG propulsion kicks off on this side of the pond. MSI's LNG Bunkering training course, the product of industry collaboration – OEM's, vessel operators and an experienced training center – and based exclusively on existing, available regulatory guidance, is just one more example of where maritime stakeholders are at the spearhead of efforts to ensure a safer waterfront.



Credit: ABS, *Bunkering of Liquefied Natural Gas-fueled Marine Vessels in North America* March, 2014

Port Modernization



Critical to Export Futures

Readiness for Panama Canal Expansion is Just One Variable Driving Global Play. Inland Waterways, Ports Must Tackle Time and Money Issues to Play in the Post-Panamax Era. It's risky business.

By Patricia Keefe

It always comes down to time and money, doesn't it? And when it comes to the readiness of U.S. ports and inland waterways to handle the opening of the expanded Panama Canal, service post-Panamax ships and deliver exports to burgeoning middle classes in southeast Asia and China, it's the same old song and dance: Will they have the money to get done what needs to be done, and will they get it done in a timely fashion?

Given estimates that as much as 99% of U.S. trade – $1.4 trillion in goods every year – travels through the ports and inland waters, and as much as 81% of U.S. agricultural exports ride the Illinois and Mississippi Rivers, the answer could significantly impact U.S export market shares – and even open the door to aggressive South American ports and suppliers if we're not careful. The United States is the world's economic powerhouse – we buy the most stuff and ship the fastest in key areas. Shippers want to come here. Our rate of consumption is unlikely to abate anytime soon, but from an export standpoint, where we are most at risk is time to market, or more precisely, time to port. And time is money – at all stops along the delivery channel.

Speed

"What makes the U.S. so competitive is not because we do, say agriculture better. But because we can get the agricultural goods to market better. We win on the world market consistently because of our speed. If we lose that ability it puts a whammy on the system," says Jim Kruse, a ports and waterways expert and researcher at the Texas Institute of Transportation.

The Panama Canal Authority (PCA) claims that roughly 14,000 ships transport 300 million tons of cargo through the canal every year, adding that 66% of that cargo traffic today flows to and from the U.S. Post expansion, the PCA expects canal volumes to grow from 12.3 million TEUs to 25.4 million TEUs by 2028, in the process doubling existing TEU volumes to the East Coast and Gulf ports by 2028.

Those increased volumes are going to show up at U.S. piers in significantly larger vessels. The canal is currently limited to handling vessels up to 5,000 TEU, but that will jump up to 13,000 TEU once the third set of locks is completed sometime in early 2016. Moreover, some U.S. ports are already seeing vessels as large as 18,000 TEU coming through the Suez Canal, which can handle even larger vessels that are not too far off on the horizon. According to the U.S. Army Corp. of Engineers (USACE), post-Panamax vessels accounted for 16% of the world fleet and 45% of its capacity in 2012; it estimates that by 2030, those vessels will account for 62% of the global container fleet capacity.

Partially driving the movement to bigger vessels is the rise of shipper mega alliances, which are likely to pick a handful of ports to do business with. "Shipping companies are going to pick one or two ports that they are going to come into. They aren't going to hopscotch between ports. They want to drop off a massive load and pick up another massive load and leave as soon as possible. They don't make money in port," says Kruse.

Those big vessels will be looking to load up with U.S. goods to bring back to new hot consumer markets abroad. And increased demand for exportable products at the ports means an increase in grain and other traffic up river, on a system that has "flat out-lived its intended design life," says Paul Rohde, vice president at Waterways Council, Inc., an inland industry alliance. "They'd be on the National Registry of Historic Places as if they were museum pieces instead of the essential transportation infrastructure providing for our future needs, like whatever the Panama Canal may dish up."

That's a lot to get ready for, and size is going to matter – a lot. The deepest pocketed, deepest dredged ports with the biggest cranes, rail heads, cargo space and most access to the most forms of intermodal transportation, are going to be the winners here – for their communities and for the nation, as it strives to protect and expand its export business in a global marketplace that is getting more level by the day.

Inland Issues – International Implications

Inland, the issue revolves more around getting project authorizations and funding for new construction and repairs to proceed fast enough to outrun the growing creep of unscheduled delays due to breakdowns within the crumbing system of 240 locks and dams. "If you've got a million dollar port, it doesn't do you any good if you can't get to it," noted Gary LaGrange, president of the Port of New Orleans.

In fact, in terms of readiness, for the inland waterway system, the answer is decidedly no. Not with estimates ranging from 78% to 90% of the system locks and dams being well into their dotage – some locks are between 60 and 90 years old – and barges being stopped for hours each day with unscheduled delays, preventing goods from getting to market and driving up costs, according to the American Society of Civil Engineers' (ASCE) 2013 Infrastructure Report Card. It cited an average of 52 service interruptions a day throughout the system.

Worse, there is little to no money to fund repairs because the Inland Trust Fund is essentially broke, and has been hijacked by one repair project. It is fed by a diesel tax paid by operators on the river that hasn't been increased in over a decade. But more importantly, allocations from the fund have been eaten up by the money pit that is the Olmsted locks, a project so delayed, its estimated completion date is 23 years late. In fact, Olmsted's delays have ricocheted onto other projects, either pushing them back as well, or in some cases stopping them, and any new funding needed, cold. If something isn't done to get Olmsted off the Corp.'s budget for maintaining and repairing the Inland system, Rohde warns it could take until 2090

for all currently authorized repair projects in the system to be completed, and there would likely be no new projects approved until 2040.

To hear river advocates and U.S. Army Corp of Engineers (USACE) tell it, the system daily is steps away from disaster. "We could have a catastrophic failure," says Dennis Wilmsmeyer, executive director of America's Central Port, adding that "some of these locks could shut an entire river system down." Unscheduled maintenance is increasingly wreaking havoc on the Corp.'s carefully prioritized budget and causing delays in both traffic and other scheduled projects and planned delays. "At peak travel times, you can get barge tows backed up for three-four to five days," says Wilmsmeyer.

And then you are talking about trust in the system. "Becoming more unreliable is never a good thing," says Kruse. "What's important for shippers is for cargo to arrive on the day it is supposed to arrive – not early, not two days late." Impatient shippers can turn to rail or trucks – both decidedly more expensive, less green and more time-consuming options.

"Doom's Day is not imminent, but the clock is ticking," warned Col. Mark Deschenes, an engineer with the Corp., while speaking earlier this month at the 10th Tri-State Development Summit at Hannibal-LaGrange University. "The Mississippi River is a vital connection to the global market, but the locks and dams are under resourced and decades past their design life."

Deepwater SITREP

From a deep water perspective, it's much more of a mixed bag, but more ports will likely be ready than not. The West Coast contains the nation's busiest ports and the majors – Seattle, Oakland, Los Angeles and Long Beach – are already at post-Panamax depths. On the eastern seaboard and on the Gulf, some ports, like New York/New Jersey, Baltimore and Norfolk, are already at 50 feet. Others, like Miami say they will be by year end, some are at 45 feet and fine with it (Savannah with its two high tides a day, and Houston) and still others are shooting for approved depths of 45 to 48 feet, by 2018 at the latest. All are in various stages of multi-year modernization and expansion plans. Each believes it can attract the new breed of big vessels, some as big as four football fields, and increasingly, the mega alliances operating them.

Money issues threaten to run many of these projects aground, assuming the interminable permitting and approval process doesn't bring them to a hard stop first. All port dredging and maintenance and all inland maintenance and repair work is handled by the Corp., and funded partially by federal dollars and appropriations from user fees paid into a trust fund set up in each system.

However, the approval process used by the Corp can drag the vetting process out for years, with one of the longest being the 17-year gauntlet run by a Port Everglades project. "We are literally studying infrastructure to death," laments Rep. Bill Schuster, chairman of the House Transportation and Infrastructure Committee. Funding has also increasingly become an issue.

The Harbor Maintenance Tax is a user fee collected by the ports and turned over to the Trust for the sole purpose of dredging the ports. There are two problems with the tax: it can't be used for any other modernization or repair work, and deep draft ports are handing over millions of dollars and getting back either pennies on the dollar or some monies – but not enough to cover their annual dredging costs; and Congress consistently allocates about half of the fund to the Corp. each year, siphoning off the rest for other projects.

Show Me the Money

"Here's how I view the Harbor Maintenance Tax Trust Fund: Imagine a bank vault, and inside are cubby holes and everyone has an IOU in it. Less than half gets spent for its intended purpose; the rest disappears into the Treasury. It's very similar to Social Security in that regard – while it has billions of balance, there's no cash in it. It is the travesty of the HMTF," says Mike Christensen, executive director for development at the Port of

Los Angeles. He estimates at least $4 to $5 million dollars is gone into the General Fund. “That’s money we’ll never get back. That horse has long since left the barn.”

The Port of New Orleans is dredged to 47 feet and was authorized to dredge the river to 55 feet in 1986. “It’s the money more than anything else,” says Port President Gary LaGrange, adding the port has been under constant construction since 2004 and is in the third phase of its modernization plan.

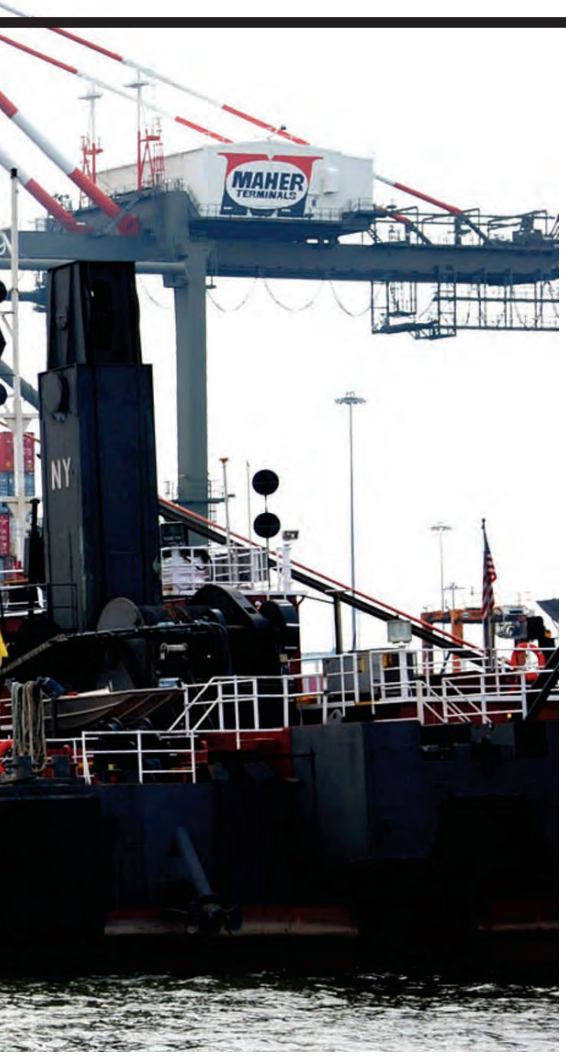
Getting funding for the billion-dollar port expansion projects is another kettle of fish. While the government has made an effort to expedite the approval process for dredging and other port projects, “they aren’t handing out much in the way of monies to pay for them, according to Kruse.

“Tiger grants aren’t going to do much here,” says Kruse, noting they run at most to $10 million to $15 million while the projects are more on the scales of billons. This is why he says, the state legislatures of Florida, South Carolina and Georgia went ahead and allocated money to update their ports. “They know the government isn’t going to pay for this – it can’t.” Other ports, like Baltimore and Norfolk, have turned to public-private partnerships to help fund their expansion and modernization plans. Still other ports use profits from port operations and or bonds to pay the bills.

Time is also an issue. And with project approval processes taking anywhere from 5-20 years in some cases, it’s not an exaggeration to say that time and ships could pass by some ports stuck for years in planning mode and environmental mitigation. Fortunately for these projects and the deteriorating interior, it looks like this will be the year of water infrastructure.

WRRDA

After a seven-year wait, at press time, the Senate and House announced a bipartisan agreement on the country’s first water resources bill since 2007. The Water Resources and Reform Development Act (WRRDA) still needs to be approved by both chambers, and signed by President Obama, who had urged its passage in the State of The Union address, declaring that “in today’s global economy, first-class jobs gravitate to first-class infrastructure.” (Not to mention export market ownership.) “I’ve been a port employee for 33 years, that was the first time I ever heard the word “port” used in a State of the Union address,” said LaGrange.



How far WRRDA will take country's ports and inland waterways toward Obama's goal, and into the 21rst century, is not clear, since few details were being released prior to the committee's report being fully signed. But industry insiders say the bill does tackle to a degree the industry's request that full amount of the HMT be spent each year. There is also said to be a provision that will enable the fund to return more money to already dredged ports for use on other purposes. The bill supposedly will significantly reign in the Corp.'s lengthy and costly plan approval process and encourages alternative forms of funding. While it's also expected that the bill will federalize the Olmsted repair, removing an albatross from the Inland Trust's neck, what's not said to be in the bill, is an industry-requested hike in the diesel

> "There is an old Chinese proverb that seems relevant to this discussion. 'The best time to plant a tree is twenty years ago. The second best time is now.' Twenty years ago we did not make changes to avoid woeful underinvestment in waterborne infrastructure, but that does not mean that we should put off making the right decision just because it might have been better to make that decision a long time ago. Today we can. Today we should. Our success depends upon it."

American Farm Bureau Infrastructure White Paper

tax hike it pays into the beleaguered Trust Fund. Regardless of the specifics, the long-awaited bill will have its work cut out for it.

The U.S. was ranked 15th in quality of infrastructure, and 5th in terms of overall global competitiveness, by the World Economic Forum's 2013-2014 Global Competitiveness Report, and ninth in its ability to move goods from manufacturers to consumers according to the World Bank's 2014 Logistic Performance Index. "We've fallen 20 spots in the last decade when it comes to the quality of our infrastructure. That puts us behind Barbados – a country with one airport," quipped Transportation Secretary Anthony Foxx, referring to the World Economic Forum numbers while speaking at a Transportation Research Board luncheon in January.

The ASCE, which issues a report card on the nation's infrastructure every four years, is more intimate with our byways, and hence, decidedly more harsh in its view of what Foxx has called "America's infrastructure deficit." Its 2013 report gave the country's overall infrastructure a D+. U.S. ports fared slightly better with a "C" grade, while the inland waterways garnered the lowest individual score, a "D-."

The ASCE defines a D as being in "poor to fair condition and mostly below standard, with many elements approaching the end of their service life" and exhibiting significant deterioration. "Condition and capacity are of significant concern with strong risk of failure." The ASCE will get no argument from the USACE.

Which is what industry advocates like the Waterways Council, the Vessel Alliance and the American Association of Port Authorities; and legislators like Sen. David Vitter and Congressmen Nick Rahall, Bill Schuster and Janice Hahn have been screaming about all along. By contrast, major ports in Europe and the Far East are said to be dredged and ready for the post-Panamax world. Closer to home, the fear now is that South American ports will eclipse their North American rivals, and sail away with key export markets, if action isn't taken now to shore up the U.S. infrastructure.

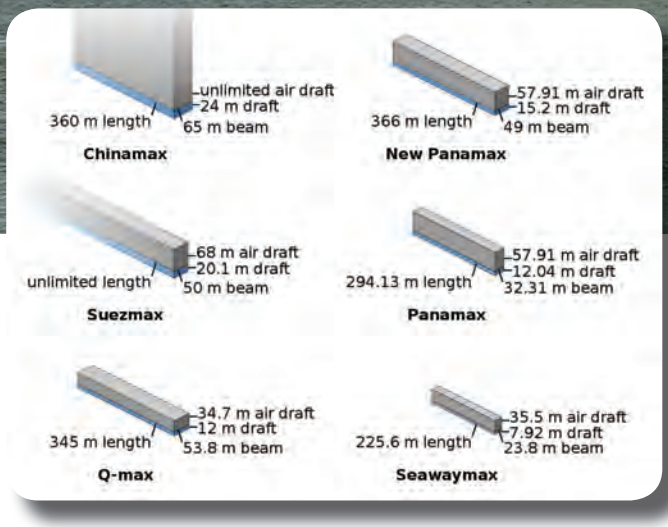
Risk in Rivals

U.S. ports are racing with the likes of Ecuador, which is the only coastal South America country without a post-Panamax-ready port, and Brazil's Port of Santos, which may be its biggest, but it is not the deepest. The Brazilian government is investing $240 million into a multi-year project to dredge the port to acceptable depth.

The United States has 300 commercial ports, 12,000 miles of inland and intra-coastal waterways and about 240 lock chambers, which carry more than 70% of U.S. imports by tonnage and just over 50% by value. Given that the U.S. Army

Mike Christensen, Executive Director for Development at the Port of Los Angles

New Orleans Cranes



Corps of Engineers estimates that more than 95% of overseas trade produced in or consumed by the United States moves through our ports, while the inland waterways carry the equivalent of about 51 million truck trips each year, it's not hard to see the threat to the economy, and to our competiveness on the export stage, that an aging and badly underfunded infrastructure poses.

As explained by the ASCE's 2012 companion study, "*Failure to Act: The Economic Impact of Current Investment Trends in Airports, Inland Waterways, and Marine Ports Infrastructure,*" those infrastructure issues boost the cost of shipping and goods, costs that "reverberate" through the economy, causing exports and GDP to fall, and ultimately threatening more than 1 million U.S. jobs and causing a drop in personal income. Costs attributable just to delays in the nation's inland waterways system were $33 billion in 2010, and the ASCE expects that will increase to nearly $49 billion by 2020. The report claims that if the marine funding shortfall is filled, by 2020 that investment will serve to protect $270 million in U.S. exports, 738,000 jobs and $697 billion in the GDP.

With each Report Card, the ASCE estimates the investment needed in each infrastructure category out to 2020, to maintain a state of good repair, i.e. a grade of "B." For the inland waterways and marine ports combined, the ASCE assessed a need of $30 billion, and with an estimated funding of $14 billion, we're looking at $16 billion funding gap.

But, laments the ASCE, even as the various port authorities and their private sector partners "have planned over $46 billion in capital improvements from now until 2016, federal funding has declined for navigable waterways and landside freight connections needed to move goods to and from the ports."

If you've got a million dollar port, it doesn't do you any good if you can't get to it.

Gary LaGrange, President of the Port of New Orleans

Inland, the need is pretty much the 'same old same old' – too many new or rehabilitated lock and dam projects and little to no funding to get them done.

And despite Obama's 2010 National Export Initiative, and his vow to "double exports in five years," and his State of the Union push aside, his last two budgets cut funding to the Corp. – by 9% in 2015 – and hence to the ports and waterways. "Our nation is at a critical point in maintaining our international competitiveness and the FY [President's] 2015 budget request would result in trade-related infrastructure losing further ground at a time when we are already behind many of our competitors," said Kurt Nagel, AAPA president.

Nagel is not alone in his criticism of the Administration. While there has clearly been a flurry of proposals and initiatives, such as ordering the USACE to speed up the vetting process, a National Infrastructure Bank, a freight investment program, the *We Can't Wait* initiative that has benefited at least 5 east coast ports, along with visits to various U.S. ports, there is growing grumbling that about a perceived lack of substance behind some of these proposals and Obama's speeches of support for U.S. Ports.

What most industry players aren't grumbling about, however, is the one thing that observers at many levels think the country desperately needs – a national policy specifically focused on ports and waterways – one that prioritizes and strategizes, and one that directs government funding to the ports that will provide the most bang for the buck, and return the most benefits to the country. Resistance would be huge of course, because such a policy would create the haves and have-nots. It's also a lot to expect from a legislative body that couldn't even take advantage of an offer from a group of taxpayers to tax them more, in a bid to help shore up the nation's riverways, which happen to also be their workplace. But with the future of U.S. trade hanging in the balance, can the government and industry really afford not make some hard choices about what ports are best situated and suited for handling the bulk of the coming new world order in vessels, trade routes and supply chains?

INSURANCE

Risk Assessments: the Critical Heart of Underwriting

By H. Elder Brown, Jr.

Underwriters must do their homework and those who do that will generally have solid results.

Insurers, by definition, are in the business of risk. Hence, risk assessment is a critical aspect of day-to-day operations. That said; it always helps when the risk being presented is done so in a clear manner. It is a fact that most insured's are proud of their businesses – they know their exposures better than anyone else. It therefore follows that having direct access to the insured generally provides an insurer with the best way to see firsthand the risks being considered. Underwriters who have work experience in the field, also benefits the risk assessment process. Unfortunately, with so many naïve insurers in the mix, all looking for income, risk assessment is often overlooked for quick income. It all adds up to disaster for insurer and insured alike.

The insurer can assess and evaluate risk, but it is the owners who are the first line of fire to lessen that risk. For example, safety management must be seen from top-to-bottom in any organization. A well trained management team capable of communicating a culture of solid safety management to the core workforce is a good place to start. This includes keeping up on the latest loss prevention techniques, training seminars and having zero tolerance for those who do not take heed to what could keep them and their co-workers alive. The best operators are the ones who take extreme pride in what they do. Accepting less than the very highest standards simply will not work for the long haul. Luck will run out eventually.

Underwriting Criteria

There is no one single criteria that would give an underwriter absolute assurance that the risk is acceptable. But, this starts with certifiable historical data. Too much or too little information can be equally confusing. Older tonnage is not a disqualification, but being old and neglected certainly is. Using quality field surveyors, engineers and industry knowledgeable talent helps an underwriter to consider the risk in the best context possible. The last thing an underwriter should do is make decisions based on salesmanship without taking into account all aspects of the risk. Underwriters must do their homework and those who do that will generally have solid results.

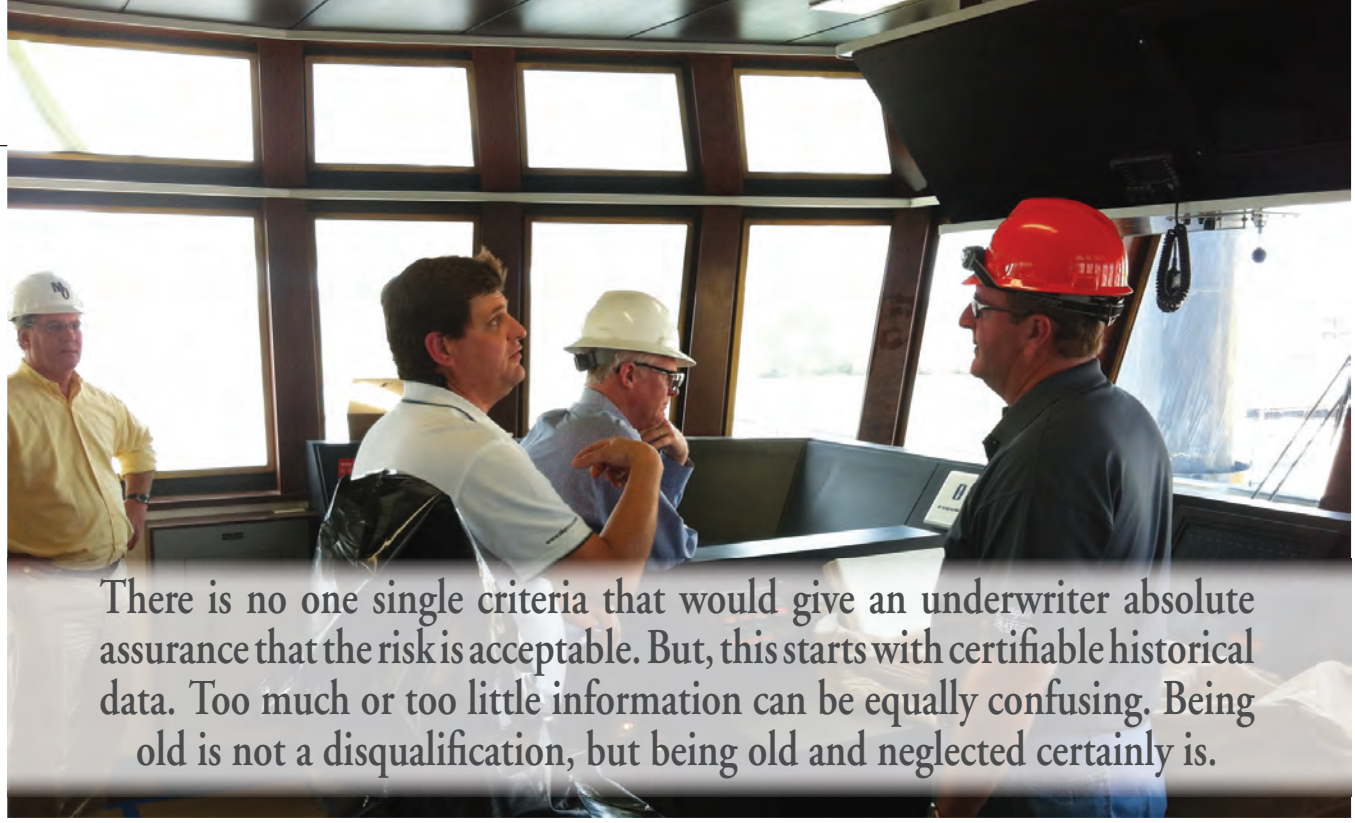
Many important variables influence the decision to either write policies or give favorable rates, when we do. No one value is more important that the others but some of the key values the savvy underwriter looks for include:

- ***Experience & Staying Power:*** *a prospect that has been in business for 5+ years. Exposing an insurer's capacity on a new venture is problematic. The expansion of vessel ownership for new owners is a positive trend, but there is a learning curve for many of these new companies. Insuring new vessel owners is considered, but we are careful in our assessment of their experience.*
- ***Certifiable Loss Record:*** *We prefer to see a loss record generated by a respected marine underwriter. Unfortunately there are a number of insurers who have no track record managing marine claims. Close inspection of the claims record often reveals sketchy data and poorly kept records. Claims personnel should have extensive experience handling all types of maritime claims and should know what is likely to be a reasonable outcome.*
- ***Employee Benefits:*** *When an insured spends wisely providing benefits such as medical, 401K and pays their people on the higher end of the pay scale, we believe that will ensure a happy work force. The better insureds consider such benefits a necessity. This in turn promotes low turnover.*
- ***Knowledgeable Management:*** *Most insureds know their business. However, having a solid support staff coupled with experienced senior management allows the insured to make informed decisions and grow their company. This aspect of the business should be vetted as closely as the equipment itself and the people who operate that equipment.*
- ***Well maintained equipment:*** *Look for vessels that are clean and well maintained. If a vessel owner scrimps on vessel maintenance and older vessels look their age, almost assuredly that owner will cut corners that will come back to haunt them.*

The Role of the Underwriter

The term underwriter is used loosely in today's marketplace. There are some solid well trained and mature underwriters left in the business, but underwriters are not the ones operating the insured's business. Nevertheless, an underwriter interested in a long term relationship will not fail to have a direct frank discussion with the insured and continue that communication throughout their relationship. Every account looks good on paper notwithstanding the respective loss record. Digging beneath the paper surface is imperative. The goal for any reputable underwriter is to visit all insured's annually – in person and using their field assessment representatives.

Field assessments are something we at Continental Underwriters do year in and year out. But, it would be a mistake



There is no one single criteria that would give an underwriter absolute assurance that the risk is acceptable. But, this starts with certifiable historical data. Too much or too little information can be equally confusing. Being old is not a disqualification, but being old and neglected certainly is.

to focus only on the less-than-stellar performing accounts. In fact, good performing accounts can become a blue print for those lesser performing insureds. It is then that a serious underwriter can share constructive ways for other insureds to improve their results. It is with this holistic approach that we hope to share what works, rather than look at only the negative side of a vessel owner's operations.

Evolving with Inland Operators

At one time – a very long time ago – Continental Underwriters carefully limited writing policies for inland towboat operators because of their unreliability and poor track record and lack of safety management systems. But that was then; this is now. Today, Continental Underwriters is one of the most prolific brown water underwriters in the business. To that end, the American Waterways Organization (AWO) has had a big effect – a positive one – in the brown water sector. The SubM Towing rules promise much of the same, especially for that sector of the market not yet on board with the AWO protocols. But, safety is a given regardless of the safety management systems being used.

We rate accounts on a number of criteria. We are hopeful that the U.S. Coast Guard will adopt a meaningful safety management system that all serious owners can readily accept and implement. We also know that the inland towing industry has been working very hard with the Coast Guard to establish regulations that are not seen as routine, but can be used to save lives, prevent injuries and minimize the loss to vessels. Safety seems like a very simple process but when you deal with people, weather and equipment, most anything can happen despite the best safety management system.

Eliminate the Unknown, Mitigate the Risk

We consider all elements of marine insurance risky. However, insuring the unknown is always a challenge. Insuring the interests of loss of life, illness and injury where judges and juries can award huge monetary awards is very perplexing for an insurer. Professional insurers know all too well how fast a good year can turn bad with such unknowns. And, for example, the U.S. court system is all over the map, depending on where a claim is being litigated.

While a close and long term relationship is critical to long term success for both the insured and for the insurer writing the policies, sometimes this isn't possible in the beginning. Insurers usually get their information from an application. Relying exclusively on that document does not paint an accurate picture of an insured's operation. At Continental, we drill down and ask peer groups what they know about an account. The input of surveyors, attorneys and other industry professionals is valuable, as is the ability to compare older submissions with the one in hand. Underwriting is not simply pulling a rate from a rate book; it involves the keen sense of what is being presented and asking the right questions in order to be able to arrive at a decision to put a price on the table.

At the end of the day, insurers do not reduce risk for clients other than by restricting coverage, which usually doesn't work. A good way to help a serious insured improve their results is to partner with them in risk sharing. Without exception, insureds who opt for higher retention will make sure that they do everything possible to save their bottom line. Helping an insured understand risk reward will help that insured understand that insurance should be used for catastrophic losses and not as a maintenance policy. A thorough risk assessment will make that very clear.

Bringing America's Waterways into the 21st Century

By Cmdr. Peter Niles, U.S. Coast Guard & Robert Trainor, U.S. Coast Guard

America's waterways are the economic engine that drives national prosperity. The federal effort in facilitating the safe and efficient operations of these waters must be an accelerant rather than a brake on this economic engine. To this end, the Coast Guard and our maritime partners must leverage existing and emerging technology to maximize mariner situational awareness while optimizing the balance between electronic and physical aids to navigation (ATON).

The Coast Guard's plan to bring the nation's waterways and in particular the United States Aids to Navigation System (USATONS) into the 21st century reflects the notion that the Marine Transportation System (MTS) is the economic engine of the nation and we must ensure it remains safe and efficient.

Shared Responsibilities: Common Goals

The Coast Guard, the U.S. Army Corps of Engineers (USACE), and the National Oceanic and Atmospheric Administration (NOAA) have a shared responsibility for maintaining navigation safety and disseminating marine information on the MTS. The Coast Guard establishes, maintains, and operates the U.S. Visual Aids to Navigation System (USATONS) component of the MTS and disseminates marine safety information. The USACE is responsible for establishing and maintaining navigable channels and critical navigation infrastructure (e.g., locks and dams), including dissemination of navigation information related to waterway infrastructure. They also provide hydrographic data for federal navigation projects and produce inland paper chart books and electronic navigation charts (IENCs). NOAA provides the National Spatial Reference System, nautical charts, tide, water level, and current information, hydrodynamic models, conducts and outsources hydrographic surveys for areas outside federal navigation projects, and provides weather information.

Each of these agencies has established as their cornerstone the continual improvement of the accuracy and timeliness of the information services provided to the mariner. Partnerships with MTS stakeholders have always been an integral component in the improvement process.

Navigation: an Evolving Landscape

At a recent meeting of maritime professionals, a Coast Guard senior manager casually inquired as to what mariners thought were the most significant changes on the waterways over the past 20 years. We thought the answer would be the introduction of GPS and other advances in electronic navigation technology. To the contrary, the overwhelming response was that today's ships are larger and beamier than 20 years ago, but the channel dimensions are the same, resulting in less maneuvering room and less margin for error. Overhead clearance, referred to at times as "air draft," also has become more critical when transiting under bridges and overhead obstructions – larger ships reducing draft for bottom clearance increases the vessel's air draft. Traffic volume has increased in some ports, particularly in larger ports and on the Mississippi River System. Much of this increased traffic involves hazardous cargo. The USATONS must keep pace with these changes and continue to keep our waterways safe for navigation by mitigating transit risks.

To meet these 21st century challenges, the Coast Guard, in consultation with our waterway partners and stakeholders, plans to enhance our current system with electronic aids to navigation (ATON), improve the maintenance and logistics support, and improve our risk analysis. This will increase the reliability, availability, and effectiveness of the USATONS by continuing to employ the latest technology, such as e-Navigation components and improved maintenance procedures and tools.

Electronic navigation — also known as e-Navigation — technology is advancing at a remarkable pace.

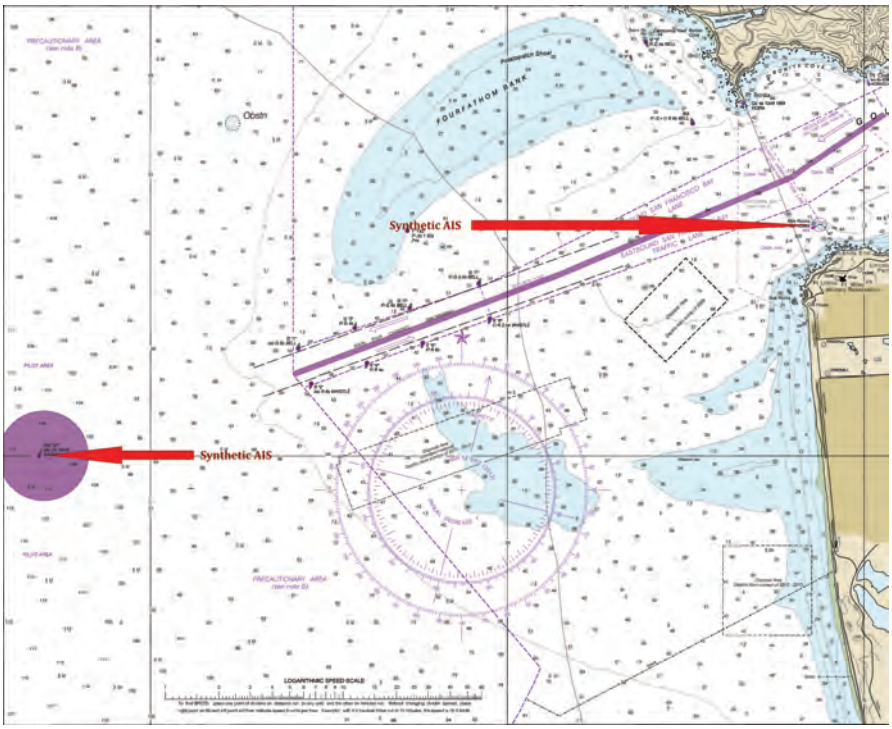
All kinds of data are readily available on today's bridge equipment on all size of vessels. By leveraging existing National Automatic Identification System (NAIS) infrastructure, the Coast Guard is able to disseminate the most critical marine safety information directly to the mariner through existing navigation tools, such as Electronic Chart Display and Information Systems (ECDIS) and AIS enhanced radar. There is also the possibility of web-based tools for less time-critical information.

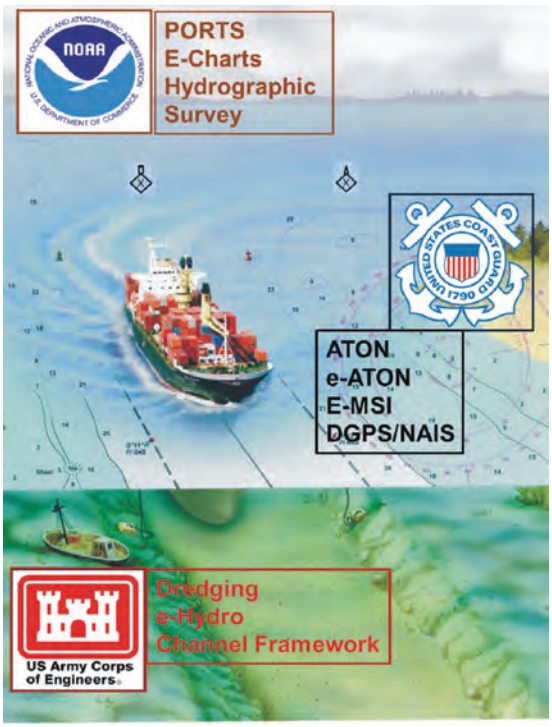
Other types of NAIS delivered marine information include synthetic and virtual aids to navigation. A synthetic AIS ATON is information transmitted from a remote base station

USATONS Scheduled Listening Sessions

Location	Date / Time	Address
Juneau, AK	May 1, 4-5 pm (done)	Prospector Hotel
New Orleans, LA	May 7, 9-11:30 am (done)	Port of New Orleans Auditorium
Honolulu, HI	May 19, TBA	Harbor View Center
Fort Lauderdale, FL	May 22, 5-7 pm	Embassy Suites, 110 SE 17th Street
Hampton Roads, VA	May 22, 5 pm	Renaissance Hotel & Conference Ctr
Boston, MA	June 3, 10 am – noon	Volpe Center, Cambridge
Seattle, WA	June 3, 6-8 pm	Downtown Seattle Public Library
New York, NY	10 am – noon	Hamilton U.S. Customs House, Manhattan
Port Huron, MI	June 12, 5 pm	Double Tree Hotel
St Louis, MO	June 18, 9-11 am	USACE National Great Rivers Museum
Alameda, CA	TBA	TBA

Source: NOAA. If you are unable to attend any session, you can always provide comments through Coast Survey's Nautical Inquiry & Comment System, at nauticalcharts.noaa.gov/inquiry.





Above is an example of current synthetic AIS ATON emitting today in San Francisco Bay. The SF buoy is on station and an AIS ATON is being transmitted as well. In addition, Mile Rock light has an AIS ATON. This structure is becoming unsafe for USCG crews to access and the AIS ATON may be a solution to notify the mariner.

that coincides with a physical ATON. A virtual AIS ATON is information transmitted from a remote base station that does not coincide with a physical ATON.

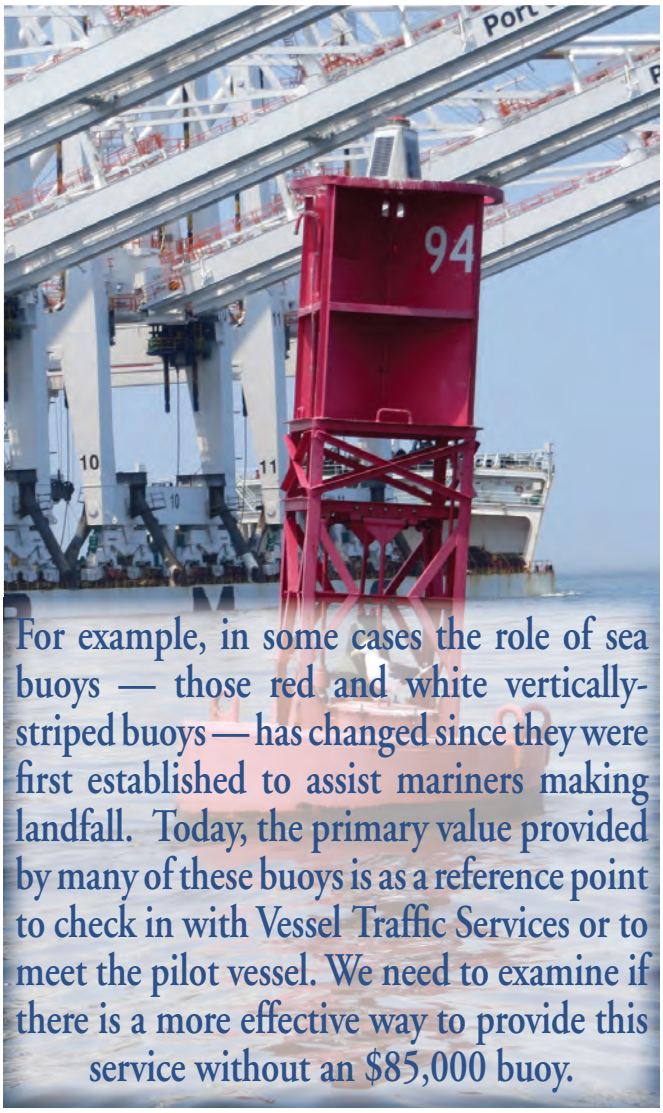
Data Driven Risk Assessment

A critical element for readying our waterways for the 21st century is a comprehensive, data-driven waterway design and risk assessment tool that will properly evaluate and quantify the USATONS design. Applying Geographic Information System (GIS) data driver tools to waterway design processes will facilitate a holistic assessment of the waterway and its ATON system

As mentioned in a recent Irish e-Navigation article, "Local knowledge and experience built through time at sea cannot be replaced by desktop analysis no matter how modern and sophisticated the tools may be." That statement rings true, which is why the most critical component of the 21st century waterway initiative is mariner and waterway user input and recommendations.

Improving the design of the existing USATONS will allow the Coast Guard, again in consultation with waterway stakeholders, to better identify high, medium, and low risk transit areas and evaluate the current ATON mix. For example, in some cases the role of sea buoys — those red and white vertically-striped buoys — has changed since they were first established to assist mariners making landfall. Today, the primary value provided by many of these buoys is as a reference point to check in with Vessel Traffic Services or to meet the pilot vessel. We need to examine if there is a more effective way to provide this service without an $85,000 buoy.

The Coast Guard is aware that not all waterway users are equipped with the latest technology, so we'll have to continue accounting for the wide range of waterway user groups in any given waterway. To meet that end, we're engaged in clearly defining levels of service to effectively manage waterway users' USATONS expectations. Certain waterway and USATONS design parameters will target user groups with specific navigation capabilities. For example, a major deep water maintained channel that facilitates SOLAS (Safety of Life at Sea) class vessels would have an aid to navigation system configured to complement their carriage requirements. Waterway users who do not fall under the SOLAS carriage requirements would still be able to transit the waterway in the example and would be encouraged to obtain some fairly inexpensive technology suitable for their sized vessel.



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Cmdr. Peter Niles is a 30-year veteran of the Coast Guard with more than 16 years at sea and commanded three of his nine Coast Guard Cutters. His present duty is as the Chief of the Aids to Navigation Division at Coast Guard Headquarters under the Director of Marine Transportation Systems.

Robert Trainor served 31 years as an active duty member of the Coast Guard, with more than 24 years experience in the Aids to Navigation mission. Since his retirement from active duty in 2006, Bob has served as a technical advisor to the Office of Aids to Navigation.

Eliminating Aids to Navigation?

By Jeff Cowan

MarPro contributor (Captain) Jeff Cowan weighs in on the U.S. Coast Guard's ambitious plans to bring America's waterways into the 21st century. Some parts of that template do not sit well him, and others.

One of the issues that piqued this writer's interest during a recent discussion with a US federal official was the pending elimination of certain Aids to Navigation (AtoN) off the coast of California. That's right: elimination of certain aids to navigation. The action rests upon the assumption that ALL vessels are equipped with Electronic Chart Display and Identification System (ECDIS) which is mandated to be installed in all ships between 2012 to 2018 depending upon type and size.

"A mark [virtual buoy] will be placed upon ECDIS chart showing where the eliminated buoy was and could be used as a waypoint," said official sources. This official assumed that Global Position System (GPS) with ECDIS would be enough justification to replace visual aids to navigation. But what about domestic tow boats and commercial fishing boats and recreational boats? Aids to navigation support more than just internationally trading commercial ships. Prudent navigation of ships and boats still rely upon visual references to perform safe navigation within close proximity to land. More importantly, IMO regulations require that "a method be in place that provides "a means to provide for safe navigation for the remaining part of the voyage in case of ECDIS failure" (IMO RESOLUTION A.817 (19) / APPENDIX 6). Or, in other words, if the ECDIS fails, then visual aids to navigation will still need to be used as a backup. So why are they being eliminated?

First argument: We have GPS

Stakeholders have long warned the federal government about the situation, and advised against the action. During a recent the Coast Guard and Marine Transportation Congressional subcommittee hearing, Mr. Dana A. Goward, President and Executive Director, Resilient Navigation and Timing Foundation cited several examples of downgraded or masked GPS signals. He also acknowledged Dr. Brad Parkinson, widely regarded as the 'father' of GPS, who said "Reliance on satellite navigation and timing systems has become a single point of failure for much of America and is our largest, unaddressed critical infrastructure problem."

Parkinson continued, "This is because GPS is a distant, faint signal that is very easy to disrupt. In fact, it is being actively disrupted every day. Fortunately, most of these disruptions are very local and of short duration. Occasionally, however, they can cause economic loss and can threaten safety of life."

Approximately two months before the subcommittee hearing, a team masked a GPS signal and transmitted a false signal to a test vessel (called spoofing). After cloaking the device and transmitting the false signal, the subject vessel changed course abruptly upon receipt of the false signal. Granted, a system linked to the ECDIS handled steering and not under a live helmsman. But what can be done to ensure that a navigation change will not be made based upon false GPS information in the future? Without aids to navigation, what can mariners use to verify the accuracy and trueness of a GPS signal?

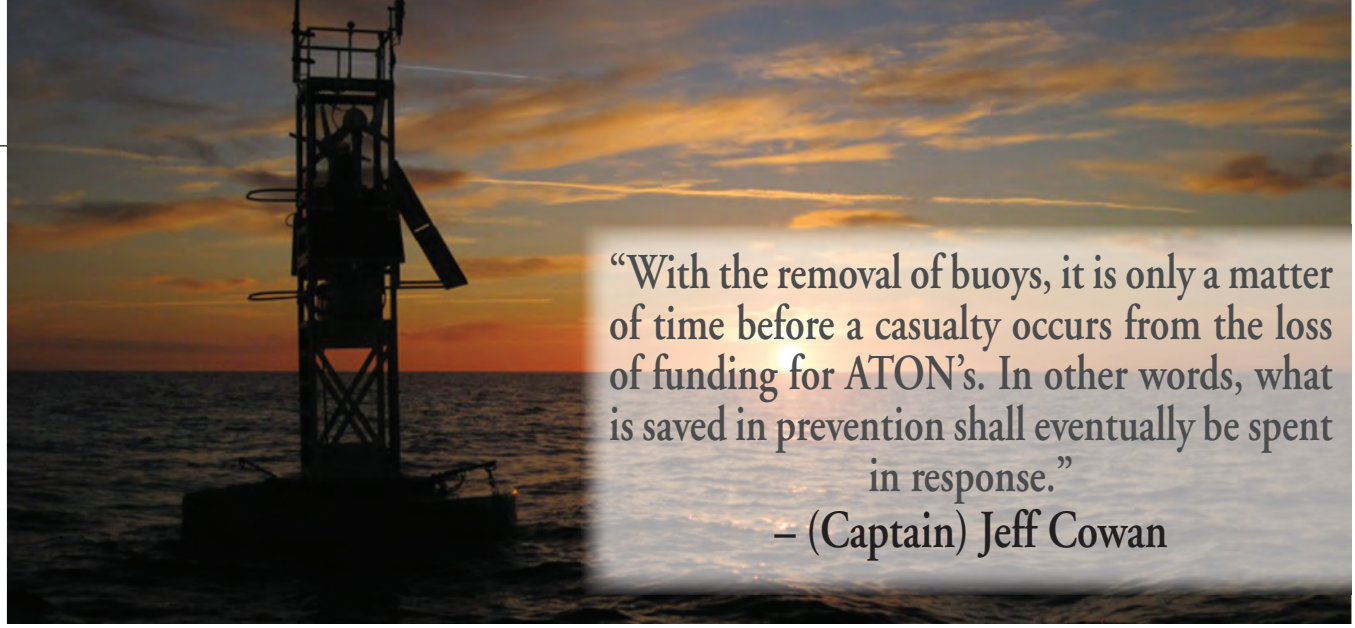
Second argument: We could use eLORAN

Also during his testimony, Mr. Goward further stated, "The federal government has long recognized GPS vulnerabilities and the risk they pose. In response to presidential direction, and after much deliberation, the government announced in 2008 that it would establish a nationwide, resilient terrestrial system to augment GPS, called eLoran. This new, eLoran system would build upon and modernize the Cold War vintage Loran-C system, be much less expensive to operate, and much more precise. Implementation of eLORAN in the US would cost $40 million and annual maintenance costs of $16 million."

Goward adds, "Numerous countries (Russia, China, most of Europe, India and South Korea) recognize this GPS vulnerability and have installed or are installing eLORAN systems. What is the US doing? Dismantling what infrastructure remains of the old LORAN-C system under the auspices of our Department of Homeland Security." The use of the remaining Loran-C installations for eLoran is feasible, but unfortunately, that is not the direction the Federal government is going.

When the buoys are gone: What happens to situational awareness?

In some circles, 'situational awareness' is defined as "the perception of environmental elements with respect to time and/or space, the comprehension of their meaning, and the projection of their status after some variable has changed, such as time, or some other variable, such as a predetermined event. It is also a field of study concerned with perception of the environment critical to decision-makers in complex, dynamic areas from aviation, air traffic control, ship navigation, power plant operations, military command and control, and emergency services such as fire fighting and policing; to more



ordinary but nevertheless complex tasks such as driving an automobile or bicycle."

Arguably, the removal of aids to navigation (ATON) affects the situational awareness for all mariners commercial and recreational. Depending upon the situation, aren't aids to navigation important for safety? The majority of boats without ECDIS will be commercial fishing boats, domestic tow boats and recreational boats. It is understood they may have some form of Electronic Chart but probably not a SOLAS approved system. Most of these individuals will still be relying upon visual aids to safely navigate. How will these boats navigate without aids to navigation?

While transiting the coast of California in restricted visibility, experienced mariners find themselves looking out the wheelhouse window. Prudent mariners know that not all targets show on radar or in this case, enhanced ECDIS. Granted, Automatic Identification System information will show on the ECDIS, but during a 35 year career spent at sea, this writer has seen numerous times when the AIS data was incorrect. In these instances, sighting a navigation buoy enhances the "situational awareness" of the mariner, prevents allisions, collisions and groundings. Sometimes a quick visual reference outside in conjunction with a screen display (radar and/or ECDIS) – in this mariner's experience – has proven invaluable.

"Mariners rely on multiple layers of information to establish their positions, and the foundational layer they depend upon most is the physical objects they see out the window," said Captain Lynn Korwatch during the Congressional subcommittee hearing. "In fact, many of the nautical charts specifically warn mariners not to rely solely on any one means of navigation." If experts, GPS creators, and experienced mariners have safety concerns, why is the Coast Guard proceeding with removing the aids to navigation?

"We have GPS receivers in our cars telling us where to turn but street signs have not been eliminated," continued Korwatch, trying to put the situation into more tangible terms. "Why are the nautical street signs being eliminated?"

The truth: Show us the money

Federal officials sometimes justify eliminating aids to navigation and using virtual aids under the IMO requirement for ships to utilize ECDIS by 2018. Yet, there is a more pragmatic reason which revolves around cost savings. A review of the US Coast Guard budget shows that funds for maintenance of aids to navigation were redirected to security, USCG functions; not related to civilians. The Federal official excused the cuts and reported confidence in virtual navigational aids, making reference to the lack of funds to support them. Consider the following:

USCG Nav Aid Line Items

Line Item	2013	2014	Difference (+/-)
Operating Expenses	$1.3 billion	$1.2 billion	$100 million (-)
Acquire, Improvements	$40.4 million	$17.1 million	$23 million (-)

The funding existed. Where did it go? Analysis reveals that the missing funds are redirected to Maritime Safety and Defense Readiness, among others. Consider this: The Air Transport industry contributes $1.2 Trillion to our economy and is responsible for 5.2% of GDP and 10 million jobs, according to the FAA. The Maritime Transport industry contributes $8.6 Trillion to our economy and is responsible for 32% of GDP and 13 million jobs, according to AAPA.

Is a backup system to GPS and visual aids to navigation no longer important? Does defense/security readiness supersede commerce or does it support it? Commerce produces jobs that pay for defense. Navigational aids are one small part of the puzzle that could be enhanced with proper funding. Not everyone will have the latest ECDIS (video game) that money can buy and even if they do, heaven forbid that a power failure occurs. What price should we put upon the safety and security of mariners lives and the sanctity and beauty of our shores? With the removal of buoys, it is only a matter of time before a casualty occurs from the loss of funding for ATON's. In other words, what is saved in prevention shall eventually be spent in response.

OIL SPILL LIABILITY

Piling it on:

Overlapping State and Federal Requirements for Vessel Discharges, Abandoned Vessels, and Oil Spill Liability

By Andrew J. Garger, WQIS

While the U.S. Congress can create and pass legislation, in many circumstances there can be state laws that either augment, overlap or potentially create conflict with the federal laws. This can be especially true in the maritime world, where federal admiralty jurisdiction results in legislation that often specifically allows concurrent state law requirements. Three good examples of this can be found in the areas of abandoned and derelict vessels, vessel discharges, and liability for oil spills.

Abandoned and Derelict Vessels

Abandoned and derelict vessels are a continuing issue for federal, state and local officials, impacting many U.S. harbors, bays, and shorelines. Sunken, stranded, and decrepit vessels can be an eyesore, a hazard to navigation, or present a significant environmental threat. Wrecks can physically destroy sensitive marine habitats, sink or move during coastal storms, disperse oil and toxic chemicals still on board, become a source of marine debris, and spread derelict nets and fishing gear that entangle and endanger marine life.

For many years, the National Oceanic and Atmospheric Administration (NOAA) has taken the lead on derelict vessels through its Marine Debris Program, and focused its activities on coral habitats where they performed surveys in Guam, the Commonwealth of the Northern Mariana Islands, American Samoa, Puerto Rico, and the U.S. Virgin Islands.

Since 2005, the NOAA Marine Debris Program has expanded its efforts and has been mandated to take actions through a number of statutes, including The Marine Debris Research, Prevention and Reduction Act; The Coral Reef Conservation Act of 2000; The Marine Protection, Research, and Sanctuaries Act of 1972 (Ocean Dumping Act); The Coastal Zone Management Act of 1972; and the Marine Plastic Pollution Research Control Act.

Through its programs, NOAA has identified over 1,100 abandoned or derelict vessels. These vessels are prioritized based on environmental and other threat levels. In addition to the federal government's program, several States including Florida, Maine, Maryland, New Jersey, Texas, and Washington State have established derelict vessel response regimes.

Washington State has been the most aggressive state in attacking the derelict vessel issue. In 2001, Washington State's Legislature authorized a grant program for local governments to clean up and dispose of hazardous substances on abandoned and derelict vessels. However, funding was inadequate and only generated a fraction of the funds that would be required to address its current backlog of over 200 vessels identified as derelict and in need of removal.

If the Washington legislature needed an incentive for additional funding legislation, they got it as a result of the DAVY CROCKETT incident. In January, 2013 the owner of the DAVY CROCKETT, a World War II Liberty Ship, was issued a fine by the Washington State Department of Ecology ("DOE") in the amount of $405,000 for environmental violations and negligence arising from the owner's attempt to perform an in-water scrapping of the vessel along the banks of the Columbia River. Washington State DOE also issued a bill to the vessel owner for State response costs in the amount of $680,000. The unsuccessful scrapping of the DAVY CROCKETT began in October 2010, and resulted in a ten month multi-agency response led by the U.S. Coast Guard at a cost of over $22,000,000 to the National Pollution Fund Center's Oil Spill Liability Trust Fund. Authorities determined that the 430 foot vessel continuously discharged oil and oily debris for a minimum of 40 days with no notice of the discharges being reported by the vessel owner. The owner of the DAVY CROCKETT pled guilty to two criminal violations of the Clean Water Act.

The DAVY CROCKETT response was the second largest draw down in history from the National Pollution Fund Center Oil Spill Liability Trust Fund. The largest was for the sunken wreck of LUCKENBACH off the Golden Gate in San Francisco Bay. Not surprisingly, the West Coast is the origin of significant legislative and regulatory activity to address derelict vessels and orphan wrecks. The immense cost to taxpayers to respond to a private vessel problem triggered the formation of a work group in the spring of 2012 amongst the Federal Government, the States of Oregon & Washington and other regional Pacific Northwest public and private stakeholders. The work group submitted recommendations to the Washington State Department of Ecology and some of those recommendations have found their way into legislation recently passed by Washington State.

The new Washington State derelict vessel legislation provides for, among other things, a tax of $1 per foot on commercial vessels to raise revenue for the state's derelict Vessel Removal Account. Proof of financial responsibility for potential pollution removal and salvage costs must be demonstrated by both transferors and transferees of vessels over 40 years old and over 65 feet long. The seller of a qualifying vessel has secondary liability for response costs for a derelict vessel should

the subsequent purchaser not maintain mandatory $300,000 marine insurance cover for a period of twelve months. This secondary liability regime may raise a constitutional question: how can a seller continue to have liability for a vessel they no longer own or control?

The legislation also requires marina owners and operators to maintain wreck removal and pollution coverage or else may be subject to liability under the statute for derelict vessels within their marina. It is still not clear if the full extent of the coverage required is actually readily available in the current insurance market.

Federal and State government Regulators continue to seek private resources to address pollution and wreck removal costs for derelict vessel responses. When an owner of a derelict or abandoned vessel is insolvent or cannot be identified, regulators frequently seek to tap past insurance coverage for mitigation costs. These efforts are not always successful given the government's burden of proving that a covered incident occurred, or peril arose, during an applicable policy period.

Vessel Discharge Regulation

For over 30 years, vessels were excluded from U.S. Environmental Protection Agency (EPA) permit regulations that required permits for any "discharge of a pollutant" from a point source. Lawsuits by environmental groups challenged this exclusion, and in 2008 the exemption was eliminated for most seagoing vessels operating in U.S. waters. These vessels are now subject to the Vessel General Permit (VGP) which is part of the National Pollution Discharge Elimination System (NPDES). The NPDES incorporates dozens of discharge types into the regime, including deck washdown and runoff, bilge water, antifouling hull coating leachate, aqueous film-forming foam, boiler blowdown, cathodic protection, chain locker effluent, fire main systems and various other gray water and effluents.

Although the system is national in scope, the NPDES allows individual states and Native American Tribes to establish additional water quality standards. These state specific requirements are more restrictive than the broader national regulation scheme. For example, Section 2.2.15 of the 2013 VGP establishes guidelines for the storage and discharge of gray water. However, California certified the VGP with additional permit conditions, including the outright prohibition on gray water discharges from large passenger vessels and cruise ships, as well as any oceangoing vessel with sufficient holding capacity that weighs 300 gross tons or more. This condition cannot be made less stringent without violating the requirements of state law.

To address this patchwork regulation of vessel discharges, legislation has been introduced in the U.S. Senate that will establish a single federal framework for the regulation of ballast water and other vessel discharges.

Unlimited State Liability for Oil Spills

Limitation of liability for shipowners has been a basic tenet of maritime law since the middle ages, limiting liability to the value of a vessel and its cargo, but it wasn't until 1851 that Congress codified the dictum in the Shipowner's Limitation of Liability Act (SLLA). Originally intended as a way to encourage productivity in shipbuilding, the law's relevance eroded over time as the shipping industry modernized and as Congress introduced additional incentives. Nonetheless, the SLLA remained the prevailing authority for limitation of liability until passage of the Oil Pollution Act of 1990 (OPA 90) in the wake of the Exxon Valdez. Not only did OPA 90 replace federal limitation provisions for liability in oil spills, but it also eliminated the protections against liability for vessels and facilities under state law which had conferred some degree of uniformity among the various states.

OPA 90 did not preempt state oil spill liability law, so states were free to impose additional civil and criminal liability (including unlimited liability), funding mechanisms, requirements for removal actions, and fines and penalties for responsible parties as allowed under OPA 90 (OPA 90 §1018(c)). This development effectively opened the floodgate for states to establish their own peculiar liability regimes with respect to oil pollution damages and remediation. To date, legislators in some twenty states have instituted unlimited liability regimes for either damages, or cleanup costs, or both, notably including states along the Eastern Seaboard, the Gulf of Mexico, and the West Coast.

The most recent state to avail itself of its right to impose unlimited liability on vessel and facility owners is Delaware. Prior to passage of DE HB 32 in June of 2013, Delaware law limited liability for damages to $300 per gross ton or $250,000, whichever is greater, up to a maximum of $30,000,000 for ships; and $50,000,000 in the case of a facilities. DE HB 32 removed this limitation, and extended the object of damages to include cleanup costs; injuries to, loss of use of, and loss of profits from of real or personal property; injuries to, loss of use of, and loss of profits from natural resources; and loss of tax revenue due to injury to real or personal property. By contrast, OPA 90 limits liability for non-tank vessels to the greater of $1,000 per gross ton or $854,400; and $75,000,000 in the case of facilities. As Hawaii considers HI SB 2018, another unlimited liability statute, it seems that our patchwork quilt of state-level liability promises only to grow.

Summary

Despite the primacy of federal admiralty law, Congress has still left plenty of room under various statutory schemes to allow states to create their own requirements. This means that almost all vessel operators must be cognizant of the various layers of state and federal regulation and potential liability faced when operating in U.S. waters. Smooth sailing!

RESPONDER IMMUNITY

Why Responder Immunity Benefits a Responsible Party

By Jon Waldron

Putting to rest the fears and misconceptions about what responder immunity means and what it will eventually do. It's all good.

As many in the response industry, and in many cases the marine industry in general appreciate, there has been an extended effort to enact an enhanced responder immunity regime following the lessons learned from the Deepwater Horizon incident. It is hard to believe that we only recently observed the fourth anniversary of this unfortunate incident. And, ironically, some of the responders sued after the incident, remain in the litigation even though BP was able to settle its claims with plaintiffs. This article will not only provide a status update of the effort to enact an enhanced responder immunity regime, but it will address the key concerns that often have been raised by those stakeholders who have expressed skepticism as to the need or desire for such legislation.

Why the Response Industry Needs Responder Immunity

In way of background, following lessons learned from the Deepwater Horizon incident, specifically the extensive lawsuits filed against all segments of the response industry involved in the response, a Responder Immunity Coalition (the "Coalition") was formed, which is represented by all response interests including the salvage industry, oil clean-up industry, spill management industry, the offshore vessel support industry, and the well containment industry to work with Congress to enact enhancements to the current responder immunity provisions enacted by the Oil Pollution Act of 1990 ("OPA 90").

Based on lessons learned, the two main concerns following the incident were that (1) plaintiffs sued responders under general maritime law due to personal injury caused by the exposure to the spilled oil and the dispersants which were approved for use on a daily basis by the Federal On-Scene Coordinator ("FOSC") pursuant to the National Contingency Plan ("NCP"); and (2) bare allegations by plaintiffs of gross negligence and willful misconduct related to the response actions without having to provide any underlying facts to support such allegations.

To address these concerns, the proposed legislation would:

- ***Extend the immunity under the law to a full range of response activities by explicitly defining the response activities covered under the immunity.***
- ***Provide immunity to a responder with regard to exposure claims related to the oil and dispersants but otherwise maintain the current regime of responder employer liability for slips, trips, and fall type injuries (seaman Jones Act remedies) that commonly occur in marine operations.***
- ***Establish a presumption that response actions do not constitute gross negligence and would require claimants to pay attorney fees and court costs for meritless claims to disincentivize frivolous lawsuits.***

Why a Responsible Party (RP) Should Support or not Object to Enhanced Responder Immunity

As the Coalition moved forward with this effort it received numerous comments and concerns with regard to the specific language of the proposal. As a result, the Coalition took action to fix those deficiencies to make sure the immunity was not unnecessarily broad and would not have unintended consequences.

In particular, to address these comments, the current proposal includes new language to make it explicitly clear that no new liability is transferred to an RP. Under the law today, an RP is strictly liable for damages and removal costs and would be liable for an exposure claim as discussed above if found negligent under general maritime law. This proposal would not change that liability. And in all cases, an injured party will always have a remedy which will be backed up by the Oil Spill Liability Trust Fund even if an RP is unable or unwilling to pay compensation.

In addition, concerns have been raised that "opening up OPA 90 to amendments" would result in numerous other OPA 90 amendments that could be attached to the Coalition's proposal which would have severe negative effects on the marine industry such as increased limits to liability that were proposed shortly after the Deepwater Horizon incident. It has been four years since the incident and the constant barrage of OPA 90 related to proposed legislation has died down completely. This is simply not a valid reason today not to move forward with this proposal. The Coalition is committed to work with industry to make sure that does not happen.

Moreover, there are real tangible benefits that will inure to an RP as a result of this legislation if enacted. That is because ultimately, it is the RP and others requiring the services of responders that pay the cost of any frivolous litigation against a Responder. This is because if a robust responder immunity protection is not available through statute, then the RP will still have to bear this liability and cost.

Specifically, under the usual response contract between an RP and responders, the RP will have agreed to provide enhanced contractual indemnity provisions to their contracted responders. And, as a result of this indemnification the RP will have to pay in the future the increased time and material services costs as their contracted Responders are forced to pay for increased insurance premiums to insure against these risks because the current regime of responder immunity is not providing the protection from lawsuits that was envisioned.

In addition, once a responder is sued, the RP will not only have to pay for its own defense costs as the RP, but it also will have to pay the defense costs of the responder as a result of its indemnification provision. Thus, the RP is paying double defense costs if adequate responder immunity is not available and will ultimately pay for the responder's increased insurance rates through higher costs for response services which will be passed along to the RP. This is exactly what happened as a result of the Deepwater Horizon incident due to the claims against responders which are still pending in court. Accordingly, the Coalition proposal benefits potential RPs by avoiding unnecessary additional defense costs and increased rates for services.

Current Status & Looking Ahead

Although there has been mostly great support from key Congressional offices to move this project along, there have been objections expressed by certain insurance interests and a key industry organization opposing this effort. I truly believe that the concerns addressed by these interests are misplaced as addressed in this article. As the result of a Coalition effort to better educate industry, we have recently seen a turn within industry to support this effort as more stakeholders begin to fully understand how this enhanced responder immunity will not only help the response industry but also provide tangible benefits to an RP that has a future incident.

However, this turn-around has to happen quickly so that objections from these interests are at least changed to neutral if not in support of the proposal. This is because the House passed its version of the Coast Guard Authorization bill earlier this year and the Senate is now in the process of finalizing its version. Senate action could happen soon but in any event is expected before the summer recess in August 2014. It is critical that the Coalition's proposal be included in the Senate version of the bill because it was not included in the House version. In order for there to be any realistic chance for enactment, a responder immunity provision needs to be included in either the House or Senate passed bill in order to be germane for consideration when the bill goes to Conference and is finalized later this year.

In conclusion, litigation following the Deepwater Horizon incident demonstrated that the current responder immunity provisions of OPA 90 are inadequate to fully protect responders from lawsuits and exposure to liability. As discussed herein, not only will the Coalition's proposal help the response industry, it will also provide real benefits in terms of costs to RPs due to increased litigation defense costs due to indemnification of response contractors as well as the increased cost of response services in order to pay for higher insurance premiums. This will provide responders with the necessary confidence that it can continue to respond expeditiously without the fear of unfounded lawsuits in order to minimize the damages to the greatest extent possible which will have the added benefit to lower the RP's liability for additional damages that would result from a slow response effort.

Thus, it is time for the entire marine industry to get on board with this proposal so it is enacted by Congress this year as the response industry is losing its appetite for continuing the fight much longer. Indeed, there is a need for urgency here before we forget key lessons learned from history in our world of oil spills.

Jonathan Waldron of BlankRome is Chair, Maritime, International, Trade and government practice group. He concentrates his practice in maritime, international, and environmental law, including maritime security. Mr. Waldron is also the Counsel for the American Salvage Association.

AMERICAN SALVAGE ASSOCIATION

STATISTICS

Allianz Global Corporate & Specialty's Safety and Shipping Review 2014

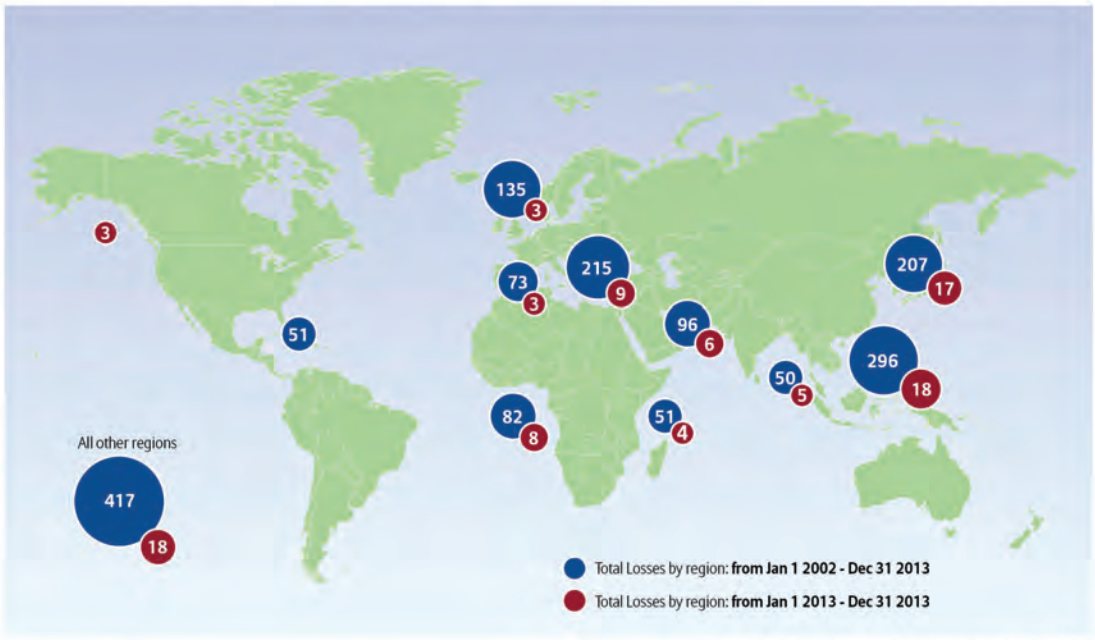
This annual review of trends and developments in shipping losses and safety looks back at 2013 in terms of shipping losses (of over 100 gross tons) by location, type of vessel and cause and also examines future challenges and key risks. Tim Donney, Global Head of Marine Risk Consulting, told ***MarPro***, "While the long-term downward trend in shipping losses is encouraging, there is more work to be done to improve the overall safety of these vessels as well as their cargo, crew and passengers, especially in Asian waters. As an insurer we are always concerned about recognized issues such as training and safety management. Human error is not something we can ignore and lack of skilled workforce is still an issue, but we also need to be alert for new risks as the industry continues to develop."

Good news and bad news: The 94 large ships lost worldwide in 2013 represent a 20% year-on-year reduction in losses and the total annual loss dropped below 100 for only the second time in 12 years. Total worldwide shipping losses having declined by 45% since 2003 (174). At the same time, so-called 'Mega ships,' the Arctic, new fuels and piracy continue to present new challenges and risks.

Regions & Types: More than a third of 2013's total losses were concentrated in two maritime regions. South China, Indo China, Indonesia and the Philippines was the region with the most losses (18), closely followed by Japan, Korea and North China (17). The most common cause of losses in 2013, and for the last 12 years, was foundering (sinking or submerging) [69], accounting for almost three quarters of all losses, with bad weather a significant driver. More than a third of the vessels lost were cargo ships (32) with fishery and bulk carriers the only other vessel types to record double-digit losses. This year's figures illustrate that the maritime industry has continued to improve its safety record although the quality of operations varies significantly in different regions, underscoring the need for universal regulations on ship safety.

Passengers & Freight: More than two years after the Costa Concordia disaster, improving passenger ship safety continues to be a priority with a particular focus on services in Asia,

Total Losses by Top 10 Regions: 2002-2013 and 2013



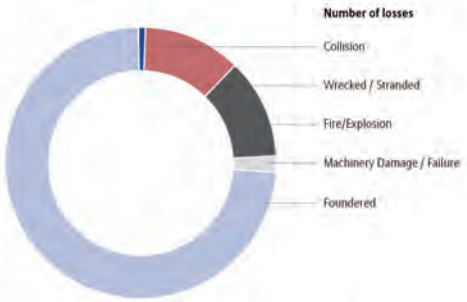
Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Causes of Total Losses

Jan 1 2013 - Dec 31 2013

For the 12th successive year foundering (69) was the most common cause of loss, accounting for almost three quarters of all losses (73%). This was up on both 2012 – 55 (47%) and the previous 10-year average – 62 (44%). Wrecking/running aground (11) and fire/explosion (11) were the cause of the majority of the remaining losses, although both were down on the prior year.

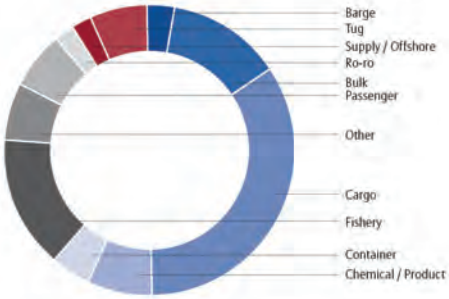
Collision	1
Wrecked / Stranded	11
Fire / Explosion	11
Machinery Damage / Failure	2
Foundered	69
Total	**94**



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

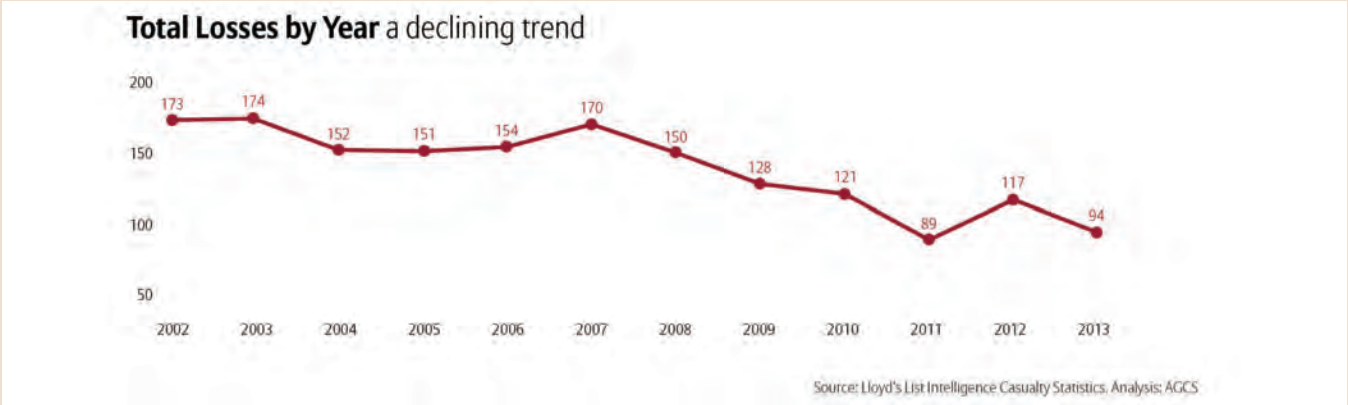
Total Losses by type of vessel

Jan 1 2013 - Dec 31 2013



Barge	3
Bulk	12
Cargo	32
Chemical / Product	7
Container	4
Fishery	14
Other	6
Passenger	6
Ro-ro	2
Supply / Offshore	2
Tug	6
Total	**94**

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

where quality standards can be an issue. Meanwhile, the total loss of two bulk carriers in 2013 – Harita Bauxite and Trans Summer – highlights the importance of proper cargo handling and stowage.

Size Matters: An increasingly difficult operating climate for ship operators has resulted in larger ship sizes to capitalize on economies of scale and the use of alternative fuels. Last year marked the arrival of the largest container vessel ever, over 400 meters long with capacity in excess of 18,000 teu. Such scenarios present new risks and challenges, particularly around crew safety and training. As much as 80% of marine casualties are due to human error and lack of skilled workforce is still an issue. The claims arising out of maritime emergencies of "mega ships" can be huge, especially if an accident was to block entrance to a port.

Arctic waters: and data shows the average number of shipping casualties has increased to 45 per year between 2009 and 2013 from only seven during 2002-2007. Damage to machinery caused a third of these incidents, reflecting the harsher operating environment. A tenfold increase in the number of vessels using the Northern Sea route during recent years has been recorded.

Piracy: Piracy attacks declined by over 10% during 2013, but some hotspots saw their share increase. Indonesia has seen a 700 percent increase in attacks since 2009 and differences in piracy models continue to create challenges.

Domestic Pollution: With the 25th anniversary of the Exxon Valdez oil spill come and gone, oil pollution prevention is still a significant concern in the U.S. New regulations requiring owners of vessels over 400 gross tons to submit an oil spill response plan to the U.S. Coast Guard have been passed. Use of liquefied natural gas to power ships is expected to dramatically increase by 2020. There are safety concerns as ports that have never previously handled LNG providing bunkering will start to do so.

The full Safety and Shipping Review 2014 can be seen at:
http://www.agcs.allianz.com/assets/PDFs/Reports/Shipping-Review-2014.pdf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Publish: **March 2014**

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- **The Global Energy Boom:** Is gas the question, the answer, or both?
- **Cruise Control:** Changing business models
- **Classification & Registries:** Evolving roles & responsibilities
- **Software Solutions:** Modern command & control

CMA Shipping / Mar. 17-19 / Stamford, CT
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Marine Money Houston / May 7 / Houston, TX
Cruise Shipping / Mar. 10-13 / Miami, FL

Q2 Maritime Risk & Shipping Finance

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Publish: **May 2014**

Identifying, mitigating and managing risk and finance is the cornerstone to a successful maritime operation.

- **Security:** Technology & techniques to keep ship, crew and cargo safe
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- **Marine Salvage & Response:** When prevention isn't enough
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Capital Link 2nd Annual CSR Forum / May / New York
Marine Money Week / June 17-19 / New York

Q3 Power & Fuel Management

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As mariners at sea are increasingly tasked to pull double duty, MarPro examines the products, systems and technical solutions designed to lighten the load.

- **Emission Control:** Regulations tighten ... again
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Q4 Shipbuilding & Repair Edition

Ad Closing: Nov. 7

Publish: **Dec. 2014**

Blue water, Brown water, Deepwater & Offshore Oil & Gas: Shipyards are the bellwether of market trends.

- **The Power Struggle:** LNG, distillates or diesel
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International Workboat Show / Dec. 3-5 / New Orleans, LA
ASNE Day / Feb. 2015 / Arlington, VA
Sustainable Ocean Summit / Feb. 24-26, 2015 / SFO

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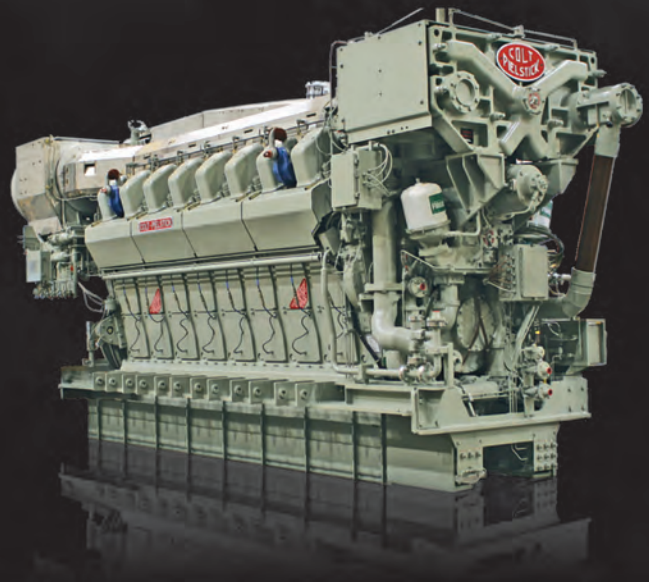

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