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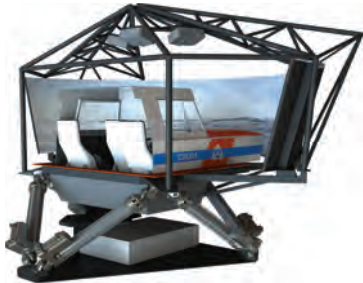


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Image: courtesy American Bureau of Shipping

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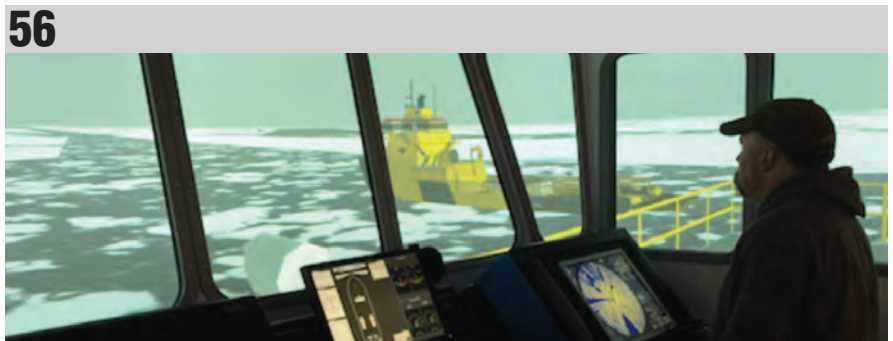
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#### Dialing for Dollars, Reaching for Relevance

It was just last week that U.S. Maritime Administrator Paul Jaenichen made the annual trudge to the Hill to present his case for an operating budget in the coming fiscal year. At the same time, it is important to note that the President's Fiscal...

#### Lake Nicaragua shark

The Lake Nicaragua shark is a common bull shark (*Carcharhinus leucas*) that has adapted to living, at least temporarily, in the fresh water of Lake Nicaragua and the San Juan River, which connects the lake to the Caribbean Sea. Similar adaptive...

#### River sharks

River sharks (*Glyptis*) are five rare species found only in rivers and estuaries of South Asia and Austronesia. They are related to the larger bull sharks, which are sometimes found in the same waters, but unlike bull sharks, they do not migrate into marine waters.

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## Energy IQ

**T**he price of oil: everyone seems to be fixated on it. That's because it also seemingly drives every aspect of the offshore energy business. This includes OSV day rates, rig utilization, shipbuilding and repair, and yes, manpower recruitment, retention and training. One year ago, the price of Brent Crude Oil was hovering at about \$108 per barrel. At press time, the same commodity hovers at \$60 per barrel. What a difference a year makes. Nowhere is that pain felt more acutely than in the human resources end of the business, where an estimated 120,000 professionals have gotten pink slips.

In an industry where maritime employment is increasingly and inextricably tied to offshore energy, I can't think of any more important issue than the decisions that employers make in times of trouble. Looking back to the mid-1980s, we remember well the 'brain drain' that the last oil bust brought the energy business. It's why 45-year old managers in the business are now rare commodities. With as much as 50% of the American offshore industry set to retire in the next decade, this is no time to make any mistakes.

In light of this challenging environment, we looked at two different angles on what is happening today. The first, an exhaustive look at the offshore energy industry by *MarPro* contributor Patricia Keefe not only zeroes in on exactly where the industry finds itself today, but also what stakeholders need to do in order to avoid repeating yesterday's blunders. No less important is William Stoichevski's intimate look at the innovative design-and-build Ulstein group. The Norway-based firm takes a slightly different tack when it comes to human resources, training and recruitment. It's a model worth studying. That story begins on page 32.

Regardless of economic conditions in the maritime and offshore sectors, this is no time to stop recruiting, developing and training the next generation of professionals. And, as simulation techniques evolve with newly available technology, there seems to be no limit with what can be effectively taught, even without the benefit of a floating platform. Simulation saves time, money and, as our contributors in this edition tell us, it allows mariners to "fall forward" in a controlled atmosphere where mistakes can be critiqued, corrected and eliminated for good. The technology also allows operators to evaluate potential new hires and current seafarers alike. There's no need to break the ship while we "get it right."

Marine and energy managers everywhere now know that cuts may be unavoidable, but how those tasks are handled now, will make all the difference later. The savvy companies are giving as much notice as they can, providing packages and outplacement resources where possible. For their part, mariners and energy professionals are watching these machinations carefully. In an industry that is known for its cyclical ups and downs, there is only one certainty: this cycle will eventually end, as well. For all stakeholders, how they handle today's nadir will eventually dictate how they prosper during the next peak.



A handwritten signature in blue ink that reads "Joe Keefe". The signature is fluid and cursive.

Joseph Keefe, Editor | [keefe@marinelink.com](mailto:keefe@marinelink.com)

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# The Perfect Storm

**Maritime Employment:** The next three to five years could be a defining era for the Maritime industry. That's because, in the United States, demand for skilled/technical labor continues to increase in an industry seeing less and less graduates and adequately trained new career professionals entering the workplace. An aging workforce, technological advancements, changing environmental and safety regulations, growth in offshore energy production in the Gulf of Mexico, and the expanded Panama Canal will all impact the business. All of this, coupled with a decreasing volume of Technical Trade Institute or Special Tradesman Programs, as it impacts Human Capital Management within the Maritime industry, will likely create what can be fairly characterized as "*The Perfect Storm.*"

A chilling report, the *Maritime Workforce Study*, jointly released in April 2015 by the Louisiana Association of Business and Industry (LABI) and the Louisiana Community and Technical College System (LCTCS), paints both an impressive picture of the depth and power of Louisiana's maritime industry,

but at the same time, a dire warning of what could come if training, recruitment and retention efforts in this vital sector are not stepped up. And, Louisiana is just part – albeit an important one – of the domestic maritime industry. LABI is a Louisiana-based business advocacy group representing more than 2,200 member businesses of every size, sector and region. LCTCS provides strategic management and support for Louisiana's 13 community and technical colleges and more than 100,000 students.

**Generational Gap:** The vast majority of Maritime companies in the U.S. will continue to hire over the next 3-5 years, but during the next 10 years, up to 50% of this workforce will retire. With fewer maritime graduates opting for a life at sea and those that do, coming ashore earlier than ever before, a technical knowledge vacuum – *the generational gap* – will form and, without measures to address it, will be difficult if not impossible to overcome. Many factors in-

fluence this lack of new talent coming into the industry including demand for work/life balance, social media influence, increased regulations to the industry, criminalization of mariners, increased certification/educational requirements, lack of direction from offshore to onshore career path and poor communication of "passing the torch" within organizations. On the skilled trade side, education isn't the issue. Rather, the lack of communication to those individuals at the high school graduate level (who need to be recruited and informed as to what opportunities could be out there for them through various technical/vocational training) is the real culprit. In many respects the maritime industry does a poor job of telling its story, and when it does, the message is not adequately disseminated to those who could best benefit from it.

**Employed vs. Employable:** More and more, companies are looking to change their personnel metric from a fixed cost

**59  
BILLION**

## MARITIME EMPLOYMENT BY THE NUMBERS

- 1** – the number of jobs for every 5 in Louisiana connected to the maritime industry.
- 1** – Louisiana's national rank in employment of captains, mates, pilots and ship engineers of all types.
- 25** – PCT of companies that could lose 25-50 PCT of Louisiana maritime workers to retirement over the next 10 yrs.
- 3000** – jobs expected to be created over the next five years in Louisiana from just 50 of 400 companies surveyed.
- 82,610** – average mean wage in dollars earned annually in Louisiana in marine positions.
- 500 million** – tons of waterborne cargo every year, ranking Louisiana No. 1 in the nation.
- 2 billion** – Tax Dollars in "waterway dependent" jobs generated annually in Louisiana.
- 3.5 billion** – employment income in dollars earned by Louisiana maritime workers annually.
- 11 billion** – total annual economic impact of the maritime industry in Louisiana, expressed in dollars.
- 59 billion** – total value in dollars of Louisiana's export intensity and export growth.

Source: *Maritime Workforce Study*, April 2015 (LABI & LCTCS)

## Eric Peters, Faststream's U.S. Managing Director



to a variable situation. This introduces the continued use of contract labor, which is growing at an all-time high in the Maritime industry. That's because, work in the Marine and Offshore industry is increasingly becoming project related in nature, thus creating a need to bring on individuals with a specific skill set for a detailed timeline rather than a continual full-time arrangement. As projects and work flow vary, the employment of staff needs to follow and give companies flexibility in their pricing models and manage costs better. The recent price of oil and the "sting" that still is remembered from the economic collapse of 2008-2010 has pushed more organizations to look at this model. Employees in the Maritime industry will need to embrace this model going forward as the new standard. Hence, with certain roles and functions, it is no longer just about being employed on a full-time basis, but rather having the skills, credentials, references and ability to be employable on a contract or project basis. As a minimum, maritime professionals need at least need to be open to entertaining the idea.

**Oil Prices?:** Whereas the current price of oil has impacted many businesses, at least for the short term, many sectors of the Maritime Industry continue to grow. The Gulf of Mexico, for example, will see a historic boom in oil production over the next two years, led both by new offshore projects and redevelopment of older oilfields, according to Energy Information Administration (EIA) projections. Expansion of US exports and federal funding has given new life to Port and Terminal Expansion along the coastline. Furthermore, existing workforce shortages may be complicated by the historic growth in manufacturing and in the petro-chemical industry,

which will frequently occur on or near waterways and affect maritime workers, operations, and companies. As maritime businesses seek to expand and add jobs, projects and investments will be put at risk if a skilled workforce is not on-site to execute. Whereas the oil price has impacted equipment usage and OSV (and other support vessel) scheduling, many of these assets needed repairs and upgrades and so the shipyards have work to sustain them for the remainder of 2015 with hopes that the oil prices re-

bound in time for them to come out of dry dock.

It's a good time to be in the Maritime industry and regardless of what analysts are saying, jobs are out there, demand is evident and there is a driving need for more talent in this industry. Companies, Educational Institutions and Employees themselves need to be aware of the challenges facing the collective waterfront and be open to discussions that yield best solutions, as we hope to avoid "*The Perfect Storm.*"

### RECOMMENDED SOLUTIONS

#### POSSIBLE SOLUTIONS FOR THE FUTURE:

- Continuing Education
- Involvement with Trade Associations and Groups
- Referral Programs
- Transition to Shore Roles – HR Involvement
- Vessel Living Conditions
- Use of Contract Personnel
- Interim, Contract-to-Hire, Seasonal Need, Specialized Skills
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By Barry Parker

## The Other Side of the Flange

Looking beyond the dollars and cents in the demise of bunker giant OW Bunker, MarPro contributor Barry Parker examines the unusual human resources aspect of the story.

**T**he old cliché in shipping and commodity businesses says that, “When the tide recedes, you can see which vessels have hulls that are battered up, or worse, actually breached.” OW Bunkering, which took on water and foundered in November 2014 – a mere seven months after a highly successful IPO in Copenhagen that valued the company at nearly \$1 billion – offers a case study in bad risk management, along with a mélange of poor governance, ineffective controls and a dose of outright fraud. It also brought the management of human resources to the forefront.

When it comes to the OW Bunker story, one can’t help but look back to the similarly quick and catastrophic demise of energy giant Enron that occurred back in 2001; not because of the financial ruin that took place, but instead, because of the impact that the event wrought upon thousands of hard working employees who suddenly found themselves out on the street in its choppy and roiled wake.

OW Bunkering had started small, around 1981, actually as an adjunct to O. Wrist Ship Supply, a ship chandlery business founded in Aalborg, Denmark in the 1950’s. The fuel

**OW Bunker’s modern barge in Singapore, Marine Noel, circa 2014.**



Courtesy: OW Bunker

“ Rather than an ‘every man for himself’ mentality, the fundamental tenet of being stronger as a group (which typically would include senior deal-makers, traffic/logistics specialists and clerical/billing personnel) prevailed. Conversations with insiders suggest that senior traders told personnel recruiters, “You take all of us, or none of us.”

company grew into a large regional player which was active primarily around the Continent and Mediterranean markets. After its sale in 2007 to the Swedish private equity (PE) fund Altor (which retained 35% after the IPO), the OW footprint grew wider. The worldwide bunker supplier would grow to more than 600 employees; spread over dozens of offices all over the globe.

Among multiple business failures, two stand out. First, an inordinate amount of credit by a Singapore subsidiary- Dynamic Oil Trading, was extended to a defaulting Singapore customer, Tankoil Marine. Credit limits that had been established were ignored. Secondly, activities in the commodity derivatives markets that were meant to manage risk instead turned into speculative bets that lost money as oil and fuel prices plummeted during Q3 and Q4 of 2014.

Supply businesses that are inherently “long” oil (i.e. holding actual inventories, or commitments to purchase fuel) need to protect against downside price movements. The risk managers, instead, placed various wagers that prices would rise (responding to whispers, perhaps, of possible shortages of low sulfur marine fuels at end of 2014 as new regulations kicked in).

### The Human Cost

OW’s business issues have been thoroughly dissected in both mainstream financial and shipping trade press outlets. The financial fallout was severe, and its impact reached into many sectors of shipping and trading. On the other hand, less has been written about the softer issues, dealing with people and personnel. There was no warning when the OW ship went down. Internal notices circulated among staff and partners,

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“ The analogy of OW Bunkering as a shipwreck – really a constructive total loss (CTL), resulting from that storm, applies here. Yet, the old culture (rather than the PE framework) prevailed: survivors were plucked from the waters by their work colleagues (not by top management or by financial engineers, who were in full damage control mode), enabling the survivors to swim collectively, rather than sinking. ”

dated Monday (November 3), were announcing an after-work wine and cheese party for a soon-to-rotate colleague. By Friday, November 21st, just two weeks after banks ceased extending credit to OW, a different story was being told. Top management pointed to pending bankruptcy and liquidation.

The actual bankruptcy filing occurred on November 7th in Denmark, and on November 13th in the United States. Like the company, individual employees were also ‘caught out’ – literally. Danish employees posted to far flung places were stranded at overseas airports with their families, unable to get back home. According to sources, their return tickets had been canceled by the Danish bankruptcy administrator, losing the full value of the tickets, just to recover the airline taxes for the benefit of the bankruptcy estate. These people, apparently, could only travel home at their own expense.

Conversations with insiders suggest that, historically, OW Bunkers was a caring company, viewing employees as being akin to close relatives. Retention policies, though of an informal nature, were built around the close-knit family feeling. But it was back in 2007, with the acquisition by Altor (a step on a well-trodden trail that leads to a public listing after building up a business), that OW’s management pendulum began to shift towards that of a business run by numbers men (and women) who may not have spent their careers in the maritime business. Altor’s holdings span a broad spectrum; the apparel maker Helly Hansen is perhaps its best known portfolio company. After a seven-year holding period (not unusual in the PE world), and the IPO in March, 2014, the culture was increasingly all about numbers and margins.

### Softer Landings, Focused Strategies

In the months following the bankruptcy, the shipping and energy business trade press have also published another side to the story – a steady stream of happier stories – describing movements of OW teams, en bloc, over to other marine fuel suppliers or energy traders seeking to establish outlets for their inventories of heavy fuels and middle distillates. For example, Mercuria, a large trader based in Geneva, had initially absorbed more than 40 former employees from OW offices

in South Korea and Singapore (though subsequent reports have the South Korean group de-camping over to World Fuel Services). In a December 2014 announcement, Minerva, the fuel trading arm within Mercuria, had talked about opening multiple additional offices, including in Geneva and Houston.

Separately, Aegean Marine Petroleum, the buyer of multiple bunker tank vessels, and inventories of fuel in storage from OW, hired a fuel supply team based in St. Petersburg, Russia. Vitol, another large trader, took on an OW team serving the markets in China. Elsewhere, Glander International is mentioned as having snared an OW group in its home-base of Dubai. Closer to home, Dan Bunkering brought an OW team into an office in Aalborg, Denmark, in addition to taking over a Denmark-based physical supply operation for ports in the Baltic region. Other well known market participants who absorbed staff from OW include KPI Bridge Oil and Peninsula Petroleum.

Though the list is a long one, one fact stands out. Personnel movements following the bankruptcy, in nearly all cases, involved entire teams, which former OW insiders attribute to the long-standing company culture that remained hidden underneath the P/E and IPO veneer, but never really vanished. This old style culture bubbled up, and reasserted itself after November 13th. Rather than an ‘every man for himself’ mentality, the fundamental tenet of being stronger as a group (which typically would include senior deal-makers, traffic/logistics specialists and clerical/billing personnel) prevailed. Conversations with insiders suggest that senior traders told personnel recruiters, “You take all of us, or none of us.”

### What not to Do

The management literature, found in scholarly articles and websites of well-knowns such as Bain & Company, McKinsey and other high powered consultants, obsesses on corporate culture. A subset of this obsession concerns what happens after P/E investors buy businesses, often from the standpoint of infusing a win-at-all-costs culture into target companies. A Bain & Company article that focuses on managing businesses that are owned by investment funds, said, “... *the leading Private Equity companies systematically create a ‘performance cul-*



ture' in the businesses they own. Management and employees come to work each day determined to do everything they can to increase the equity value of the business. Nothing is allowed to get in the way of making the business more successful and more valuable."

Such attitudes may have precipitated the problems at OW, and, in particular, at Dynamic Oil Trading, its catastrophic loss-making Singapore subsidiary not mentioned in OW's March, 2014 prospectus. Altor, on its website, describes a key criterion for its investments: "As a rule of thumb, we only invest in companies where we see a potential for the company to double the operating profit in a five-year perspective." Ambitious targets, in a thin margin business such as marine fuels, at a time of a huge external shock (falling oil prices) can only be described as putting OW into the path of a perfect storm.

The analogy of OW Bunkering as a shipwreck – really a constructive total loss (CTL), resulting from that storm, applies here. Yet, the old culture (rather than the PE framework) prevailed; survivors were plucked from the waters by their work colleagues (not by top management or by financial engineers, who were in full damage control mode), enabling the survivors to swim collectively, rather than sinking.

Like most casualties that impact one sector or another, the aftermath of the OW Bunkering saga might give pause to outside investors who seek to enter sectors of the maritime businesses where price exposure looms large. It also should provide a cautionary tale for loyal employees who unexpectedly find themselves in companies now controlled by financial investors, and then unexpectedly looking for work. Career-minded maritime industry professionals everywhere – and not just in bunkers – should therefore be closely watching closely the machinations that occur in the c-suites.

### 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](http://www.conconnect.com)



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By Joseph Keefe

## So, You Want to be in Bunkers?

*A primer for the curious from Dan-Bunkering.*



Dan Bunkering head office  
in Middelfart, Denmark



The Aalborg, Denmark  
Dan Bunkering team

According to Denmark-based Dan-Bunkering, a global supplier of bunker fuels, lubricants and related products and services, it is difficult if not impossible to pinpoint the perfect background for a Bunker Trader. The worldwide and diverse organization manages both the local tugboat company as well as the international mastodon carrying hundreds of containers worldwide. Dan-Bunkering CEO Henrik Zederkof explains, “We need both ‘farmers and hunters’ to maintain our brand, however, a performance oriented team player with experience within sales or better yet; shipping, is not a bad combination.” With that said; several of their bunker traders have been with the firm for decades and started out as trainees. He adds, “We are proud that we each year have colleagues who celebrate both 10th and 25th anniversaries with Dan-Bunker-

ing, something which is quite unusual in our line of business nowadays.”

Dan-Bunkering runs its own internal training program making sure that everyone – people coming directly from business school as well as people coming in with experience from other businesses – will be well prepared to step into the role of Bunker Trader. Beyond this, the firm employs many different nationalities onboard which is essential in order to strengthen and maintain its global market coverage. For example, the sales department in the home office in Denmark boasts several different nationalities – China, Turkey and Russia, just to

“ LNG fuel is still a very small market and we can only consider it a market niche. As a fuel product for ships, LNG still has to prove that it is a real alternative and that it is capable of playing a significant role in the overall bunker market. It is not impossible, but we do not foresee it happening within the next decade or two.”

– Henrik Zederkof, CEO, Dan-Bunkering



name a few – providing what Dan-Bunkering says promotes the best possible cultural understanding, as well as language skills that come in handy for countries and markets where the firm sees great potential. The majority of these employees had studied or worked in Denmark for a couple of years before starting with Dan-Bunkering and, according to Zederkof, all or most have proven to be assets to the organization despite having come in with no actual bunker experience.

#### **New Fuels, New Regulations – new ways of doing business**

Environmental Control Areas, the evolution of engines in the “tier” scheme, and indeed, the advent of LNG as a fuel has already begun to change the business of bunkers. Nevertheless, the first ECA area in the world was actually in Danish waters, thus Dan-Bunkering from day one found itself in the center of it all. Henrik Zederkof explains, “From our point of view, this is where we can provide comfort to our partners who, with the right guidance and support from our side, will feel more comfortable about the changes ahead. We have never seen a situation where we have not been able to guide or help our partners, and all bunker markets have always found the balance to work within any ECA regulations.”

Zederkof warns that ECA regulations are, however, fraught with risk. He insists, “It seems very optimistic to believe that everyone is complying and at the same time no violators have been found since the latest ECA regulations were implemented on 1 January 2015. The fact that the task of enforcement is to be handled individually within each country makes more room for uncertainty and minimizes the level of real control and enforcement.” And he says that this reality could not only damage the environment, but also form the basis of unfair competition between those who comply and those who do not.

On the matter of the slowly developing LNG revolution, he says simply, “LNG fuel is still a very small market and we can only consider it a market niche. As a fuel product for ships, LNG still has to prove that it is a real alternative and that it is capable of playing a significant role in the overall bunker market. It is not impossible, but we do not foresee it happening within the next decade or two.”

#### **Hedging on the Future**

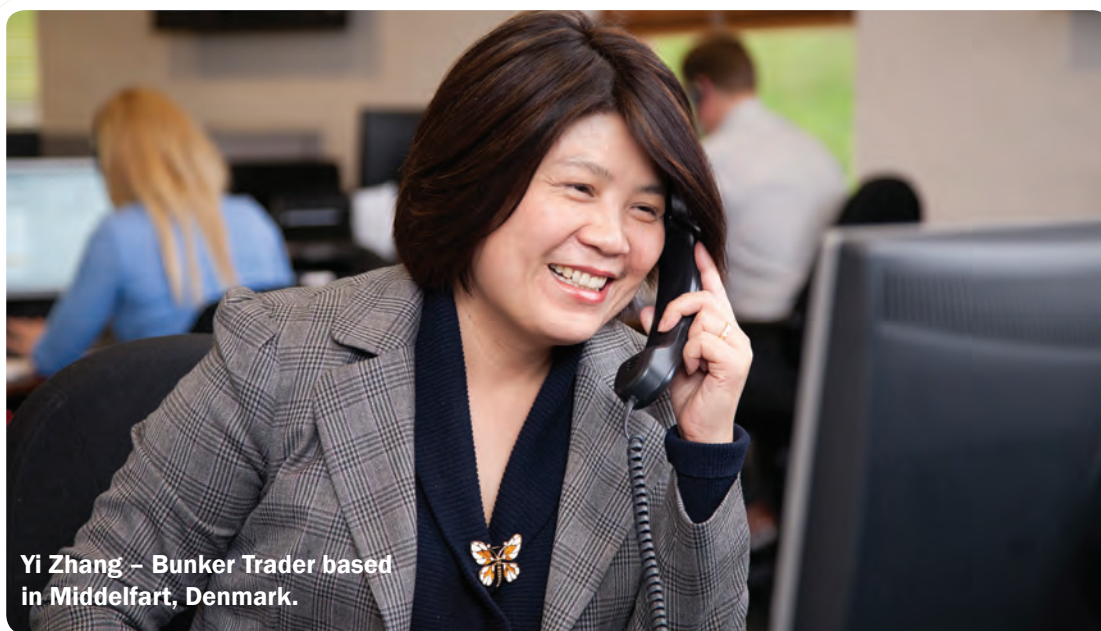
According to Dan-Bunkering, hedging is many things and the term hedging is often used for so many different risk management products that today, hedging is more a general term for buying paper security to manage your risk in volatile oil prices. And, says Zederkof, “Hedging or paper trading is a massive support to the oil industry, as no producer, storage holder, supplier or end user wants to take on the risk of volatile oil prices.” In practice the same ton of oil can be hedged many times, from starting as crude oil until it ends up as bunker fuels at the end of the supply chain.

Hedging is a product and a service that Dan-Bunkering offers to its clients, but it is used only as an instrument to secure bunker prices or to “lock” in a maximum price for bunkers. He adds, “Using pure paper trading to speculate in the future development of oil prices is something we do not do, as we consider that equal to speculation. However, when a client has a contract for transport and wants to secure a stable bunker price for the contract and in that way manage the risk of increasing oil prices, hedging is a perfect tool and we use it often in such respect to support our partners’ needs. We make sure to guide them properly on how to handle this so it does not end up as speculation but on the contrary; a tool that limits or eliminates the risk of volatile oil prices.”

## Insights

“It seems very optimistic to believe that everyone is complying and at the same time no violators have been found since the latest ECA regulations were implemented on 1 January 2015. The fact that the task of enforcement is to be handled individually within each country makes more room for uncertainty and minimizes the level of real control and enforcement.”

– Henrik Zederkof, CEO, Dan-Bunkering



Yi Zhang – Bunker Trader based in Middelfart, Denmark.

Zederkof believes that when used correctly, hedging is a strong tool, but it has to be used for the right reasons. “If we believe we know where the market is going and we speculate in that belief, then hedging becomes high risk gambling, he says, adding, “Thus, we are very thorough when guiding our clients and partners so we make sure that they use the tool right and understand the possibilities and risks within the tool before entering into any hedging deals.”

### **Bunkers: post-OW business, and Employment, too**

Henrik Zederkof reflects on the demise of a longtime competitor, and what it means for the industry long term. “What happened to OW last year was certainly the biggest tragedy we have seen in the bunker business. We refer to it as a tragedy as it was sad to see a long-standing, solid competitor go down like this, however, of course the OW bankruptcy has given

Dan-Bunkering some benefits in the form of less competition, new clients, contracts and employees,” He said, adding, “Some may think that one less significant player in the market would only benefit companies like ours, but the OW case has certainly also induced negative consequences in the entire bunker business. Banks, suppliers and clients have all become more hesitant and in general we have seen more circumspection in the market in the form of suspended credit lines and weaker credit terms.”

That said; the human resources benefits for Dan-Bunkering are clear. Dan-Bunkering group has employed over 20 former OW employees since the November bankruptcy. That’s because, without a doubt, OW had many highly skilled and experienced people on staff. And, Zederkof insists that the new hires have already started to impact the organization, bringing a fresh eye to the market. Bringing the new blood on board



Arjun Sundar – Indian Bunker Trader who started with Dan Bunkering Middelfart, Denmark, and relocated to the Dan-Bunkering office in Dubai.



took the form of more than one approach. “We employed a team of five traders based in Aalborg and decided to open a Dan-Bunkering office in Aalborg so that our new colleagues and their families were not forced to relocate in order to pursue a career with Dan-Bunkering. We used the same approach in South America with great success, but we also entered into a dialogue with several individuals whom we have employed in our offices around the world, he told *MarPro* in April.

Toiling in the bunkers game means constantly adjusting to change – something the former employees of OW Bunkering learned only too well in the last six months. But change comes in many forms for this dynamic, but essential business. New fuels, new regulations and new advice for clients in a shifting business climate greet the average bunker trader every morning. And, at Dan-Bunkering, that’s business as usual.

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# Changing Classrooms for Changing Class Societies

**The role of IACS classification societies has evolved over time. Career development within those organizations has also changed. At the forefront of this movement is the American Bureau of Shipping.**

**By Joseph Keefe**

**M**ark A. McGrath is the Corporate Learning Officer at Houston-headquartered American Bureau of Shipping. The job description is a relatively new one – just three years old – and, ABS could have given him any one of a half dozen titles. In truth, the semantics of what to call the individual in charge of shaping the employees of one of the world’s largest Classification Societies is less important and goes much deeper than just a name.

McGrath told *MarPro* in April, “This was a position created approximately three years ago to come in and oversee

the revamp, and to oversee the learning process at ABS. So basically, I’m in the position that I run the learning steering committee and that reports up to the executive committee, and that’s part of aligning the interests of the various stakeholders in the learning process, and then, of course, to take that and crystallize it into course development and the learning objectives we’re working on.”

Significantly, and immediately prior to his current position, he served as President and Chief Operating Officer, ABS Pacific. Joining ABS in 1981, he has spent most of his career



in Asia with multiple assignments in Singapore, Japan, Korea and the Philippines. The SUNY Maritime graduate brings 30 years of experience to his current role as well as certifications from Harvard Business School's Management Development Program. The ABS Corporate Officer also brings focused ideas as to where this global organization should head next in terms of developing the next generation of maritime subject matter experts.

"I signed on in ABS in December of 1981. And interestingly enough, how the world turns, you never know. They told me that I would go to Japan for a 3-month training program, and then I would come back," says with a smile, continuing, "Well, 33 and a half years later, I completed the training program, I got back, and then I inherited training." Along the way, however, McGrath has experienced virtually almost every facet of ABS market penetration. Starting as a surveyor, McGrath also spent time in shipbuilding (Japan), ship repair (Korea), VLCC repair (Portugal), column-stabilized drilling units (back to Japan again) and then a manager's position in the Philippines. Along the way, there isn't much he hasn't done.

More stops in Korea, Singapore and China punctuated a career which has landed him at the Corporate Officer level. Finally, and in a meeting with nearly 100 ABS executives, he opined that 'the training programs were not effective and that ABS should really be following the model of what he had done in Asia.' This led him to where he is today. He explains, laughing, "Guess what? My next job was chief learning officer."

**Learning at ABS = Clear Business Results**

Before McGrath's arrival in Houston, ABS was a traditional 95% instructor-led training establishment, without a learning management system, or for that matter, a professional learning development team. Under McGrath's guidance,



An ABS training class in session.

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“It’s quite exciting. I like the way we’re moving things. It’s integrated. It’s blended. We have web-based courses, we have animation, and then we have job aids we develop sometimes just to help people along. Feedback – now we’re redesigning the classroom experience, all interactive. We’re learning by case studies: what happened and how do you fix it? Our people try to figure it out in the classroom in small groups, come back and then learn off of each other. I like that method. When you see people talking to each other, they’re learning the whole time they’re working.”

– Mark A. McGrath,  
ABS Corporate Learning Officer

however, that’s no longer the case. “We’ve set up a whole learning organization which, in addition to our subject matter experts and content developers, we have a learning architecture, we have degreed people with learning degrees, and what they do is help us format a systematic – what they call “sticky method” for the learners.” McGrath says that the days of “death by PowerPoint with jet lag” are a thing of the past.

The ongoing effort includes education to not only ABS surveyors, but the clients as well. ‘Courseware’ is then designed to a particular goal, the course is rolled out, and then, business results are compared to the design of the course. McGrath adds, “Learning should have clear business results. That’s generally what we do: try to show business impact to the various stakeholders of the company so that then they’re on board with the program and continue with the support.” The key change, insists McGrath, involves determining what the learner needs, as opposed to what the company needs. Beyond this, it involves measuring the impact of training on the performance of the employee.

The ABS learning management system now employs evaluations where corporate staff can go out and mine the data or performance in various programs with the goal of improving the performance of the employees.

#### **Building the Ideal Surveyor**

Who is the average ABS surveyor? Actually, it might not be for everyone, but at the same time, it could also be anyone. McGrath, for one, embraced the nomad life. “I love it and I prefer the knapsack and the suitcase, so that’s a way of life kind of thing. But I think in general we could say that, ‘Yes, this is a job that requires some rotation.’ And one of the reasons for that is you are exposed to so many different avenues of life. So for instance, nowadays if you went to Korea, it’s predominantly new building; there’s no repair. If you want repair experience you’d have to go to Singapore, China, or Dubai, or the other areas. So in general, for a career, it’s good to go see the different pieces.”

According to McGrath, in the past, it would take as much as



five years to develop the average surveyor. Today, ABS is looking to compress that process down to about 3 years. And, says McGrath, there isn't necessarily a typical blueprint for who will make the best surveyor, but there are three basic components that all of them will absolutely need. He insists, "For me, it is integrity and trust. You're making decisions which impact the maritime industry, and that moves at a pretty quick pace. So, I think one of the things is responsibility, but to do that, you need integrity and trust, and that's what I look for aside from the type of degree that the person has, and so forth."

Today's ABS internal training program is laid out not so much on the background of the individual, but towards the different career slots available. McGrath says that the intent is to allow ABS to put together training for the desired career path that the employee wants to go in. Eventually, this will entail some innovative and forward-thinking training techniques. For ABS, this will definitely involve the "virtual ship."

### The Virtual Ship – and more

The Virtual Ship is an ABS training initiative which is in the early development stage. Quite simply, McGrath says, "The object of the 'virtual ship' is to allow people to 'fail forward.' We don't want people making mistakes on the job; we want to give them a simulated environment to go practice it. We've done some simulation in some of our business-type training courses for new managers, first time managers and so forth. This allows them to make mistakes in the classroom and take home the concept. We just stood up the whole new team and this is one piece. We'll eventually look at making it into a simulation model."

In the meantime, much has changed in the three years that McGrath has served in his latest role. The course 'compression' that McGrath touts has removed redundancy and aligned training to mirror the needs of the employee, as well as his or her particular period of career. He explains, "One of the objects is to reduce the time to proficiency and help people get up and get out and start working on their in-depth, structured, on-the-job certification qualifications. And the idea is to improve consistency because in the past it wasn't centrally-driven; divisions were doing training, a little bit separate, and there was a couple of basic courses here. Now we're standardizing for the whole company, the levels of training as we go."

The idea is this: standardization of training will ultimately improve delivery of service in the field. Coupled with a computer-based learning management system that tracks the assignment and the completion of learning, a view of the whole organization emerges for the training team. McGrath offers, "It is run so we can see in real-time what's going on. That's allowed us to do some really exciting things."

Separately, a video capability has been integrated with a virtual classroom setup, which eliminates the need to fly the



  
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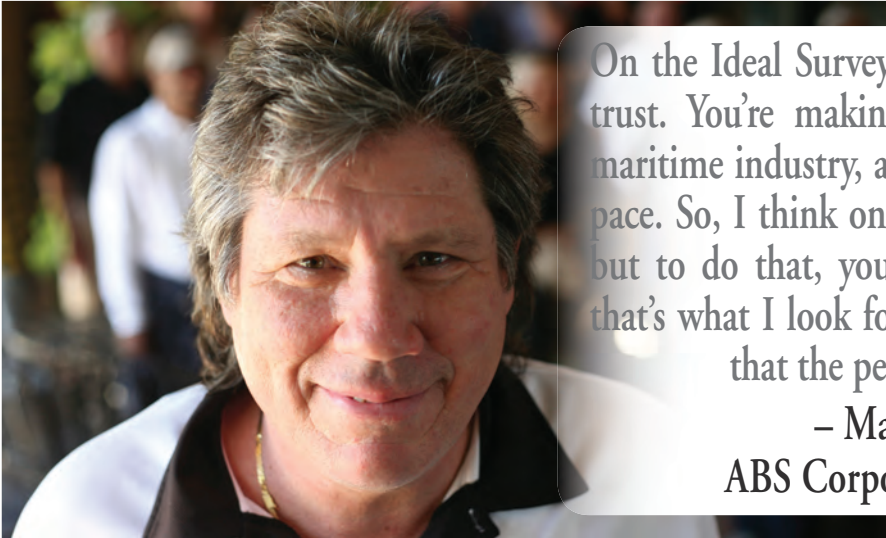

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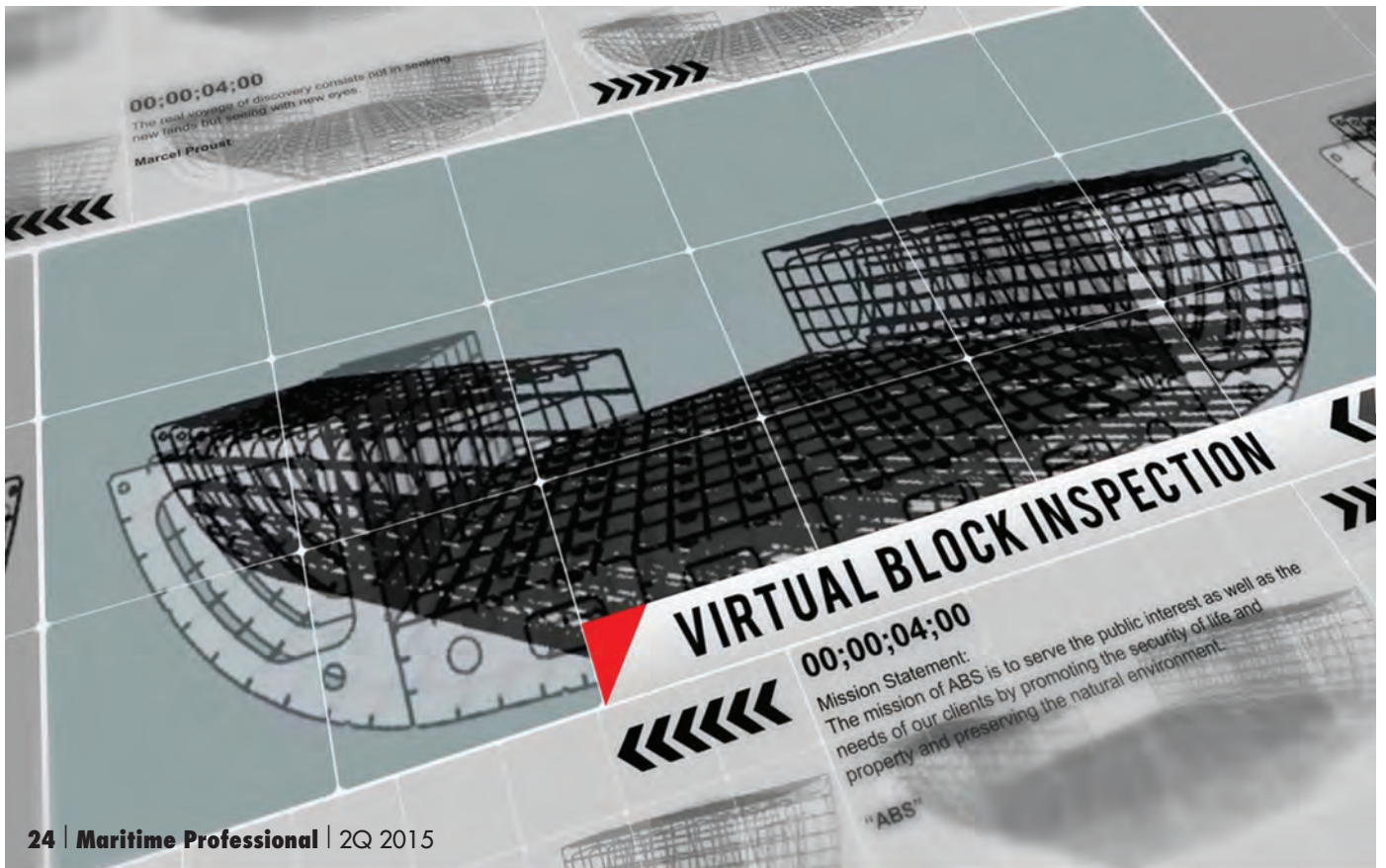
instructors and/or students back and forth. Beyond this, ABS academies based in Piraeus, Singapore, Shanghai, South Korea, and Houston bring the corporate standardized learning approach that much closer to the learner. Certain training that might involve experts which are located only in the head of office can be beamed live to students around the globe.

And, like many other places, ABS is looking at the online version for some of its training needs. One class – an interactive, chemical tanker operations training course – involves 26-hours of training, developed in conjunction with the Mari-

time Academy of Malaysia. “It’s self-paced. The nice thing about the e-courses; you go at your own pace. This one has the maritime staff of the Malaysian Academy there in there. They run a little help box while you’re going through the course and you can actually chat with an instructor in real-time.”

**Looking Ahead ... and Behind**

Mark McGrath was reluctant to talk about “the next big thing.” That’s a decision, he said, was for someone else to decide. That said; he also knows that he will be right in the mid-



dle of making that vision happen as it emerges. "Information flows at such a fast rate nowadays, and the change is so quick. Now, everything's electronic. This world changes fast. People are thinking in small bits and chunks, and we align our training and development efforts to address that need. And that, for me, is the biggest challenge. And I always reiterate it to my staff: 'Short, small chunks that they can use.' And this is what we're looking at now, how to get it down to that modality."

With 200 offices spread around 70 countries, that's no easy task. Part of the effort to integrate and standardize training therefore involves looking to that diversity and then trying to use what works best, and discard what does not. "We capture the best programs of the different countries, and then take that and export it on a corporate basis. And, we do that a lot," says McGrath.

For now, McGrath gets pulled into 100 different directions – sometime all at once. We asked him what a typical day might entail for the ABS Corporate Learning Officer. It turns out there is no such thing. "I'm involved in a lot of different things; overseeing the development, and the structure of our learning environments," he explained, continuing, "The next portion is the actual course development with the different working groups. We ask ourselves, do we have the resources responding to our requests to meet the development deadline?" Other duties include communication with the other executives in the company to determine business needs.

Because today's modern classification society often bears little or no resemblance to the traditional notion of what they once were, so too has the training for these organizations evolved. ABS today is a multi-cultural organization involved with a myriad of important missions. Training here is forward looking, with an eye towards blending the best of the past into what will come next. For his part, McGrath's enthusiasm for the job, 33 years past his first assignment for ABS in then far-flung Asia, is more than evident.

"It's quite exciting. I like the way we're moving things. It's integrated. It's blended. We have web-based courses, we have animation, and then we have job aids we develop sometimes just to help people along. Feedback – now we're redesigning the classroom experience, all interactive. We're learning by case studies: what happened and how do you fix it? Our people try to figure it out in the classroom in small groups, come back and then learn off of each other. I like that method. When you see people talking to each other, they're learning the whole time they're working."

A visit with Mark McGrath has many key 'take-aways' but none more telling than the notion that it is the learning that's most important when it comes to training. The process of making that a reality is also important. And, it takes a Corporate Learning Officer to put it all together.

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# Mariners, Drug Testing and the Law

*Appeal Decision 2704 (Franks) Further Clarifies 46 CFR Part 16 Drug Testing Requirements.*



By **Walter J. Brudzinski**

If the Coast Guard proves a credential holder has been a user of or addicted to a dangerous drug, the law requires that the holder's credential shall be revoked unless the holder provides satisfactory proof of being cured. Identifying credential holders that are users of or addicted to a dangerous drug is typically accomplished through federally mandated chemical testing procedures found at 46 C.F.R. Part 16. Those procedures require marine employers to conduct five specific types of drug testing programs. These include:

1. *pre-employment;*
2. *periodic;*
3. *random;*
4. *serious marine incident; and*
5. *reasonable cause.*

The requirements for these drug testing programs are detailed in Subpart B of Part 16 which also requires collecting and testing to be conducted in accordance with Title 49 C.F.R. Part 40. If an individual fails one of the above chemical tests for dangerous drugs, that individual will be presumed to be a user of dangerous drugs. To trigger that presumption, the Coast Guard must prove the following elements:

1. *the respondent was the person who was tested for dangerous drugs;*
2. *the respondent failed the test; and*
3. *the test was conducted in accordance with 46 C.F.R. Part 16.*

Proof of those three elements establishes a prima facie case of use of a dangerous drug (i.e., a presumption of drug use), which then shifts the burden of going forward with the evidence to the respondent to rebut this presumption. A prima facie case is one in which the facts as alleged will prevail until contradicted and overcome by other evidence. If the respondent produces no evidence in rebuttal, the Administrative Law Judge (ALJ) may find the charge proved on the basis of the presumption alone.

## APPEAL DECISION FRANKS

The recently issued Commandant Decision on Appeal 2704 (FRANKS) (2014), available at <http://www.uscg.mil/Legal/CDOA/CDOA.asp>, further clarifies element 3. To establish a prima facie case and thus trigger the presumption of drug use referred to in element 3, the drug test must be conducted as required by 46 C.F.R. Part 16. Part 16 requires testing to be done not only in accordance with the procedures in 49 C.F.R. Part 40 but also in accordance with the regulatory requirements of the reason the drug test was conducted; that is, pre-employment, periodic, random, serious marine incident, and reasonable cause drug testing.

In *FRANKS*, the Coast Guard's Complaint alleged that the Respondent was a user of or was addicted to the use of a dangerous drug. The ALJ found that the Respondent tested positive for cocaine metabolites but determined the employer did not conduct the drug test in accordance with 46 C.F.R. Part 16 because one element of the prima facie case was missing – in this case; evidence showing the test met the regulatory requirements for a Periodic test found at 46 C.F.R. §16.220. The ALJ therefore found the Complaint “Not Proved” and dismissed the matter with prejudice.

On appeal, the Vice Commandant held “when the test was ordered pursuant to the regulations, but the justification for it is not consonant with the regulations, or the test is not conducted in accordance with 49 C.F.R. Part 40 and is therefore unreliable, there is no prima facie case proved.” The Vice Commandant further stated, “[b]ecause the Coast Guard failed to show that the relevant drug test was properly ordered under 46 C.F.R. Part 16, [Subpart B] it failed to establish the third element of its prima facie case and the ALJ was correct to dismiss the matter.”

## FOURTH AMENDMENT CONSIDERATIONS

*FRANKS* also recognized Part 16 implicates the Fourth Amendment [which protects individuals against unreasonable searches and seizures conducted by or mandated by the Government] because drug testing undertaken by private employers that must comply with Federal regulatory requirements

constitutes Government action. For a search to be considered reasonable, the government must demonstrate that, on balance, the public's legitimate interest in conducting the search outweighs the individual's legitimate expectation of privacy. Thus, the courts must "... consider the scope of the particular intrusion, the manner in which it is conducted, the justification for initiating it, and the place in which it is conducted."

FRANKS goes on to say the public's legitimate interest in conducting the search stems from its interest in making sure commercial vessel personnel performing duties directly affecting a vessel's navigational or operational safety do so free of prohibited substances. But, when searches are undertaken in situations where individualized suspicion is lacking, other safeguards must be relied upon to ensure the discretion of the party conducting the search is properly defined and the search's scope is limited.

Those other safeguards consist of the Part 16 constraints placed on an employer's discretion in conducting mandated drug testing as well as ensuring minimal invasion of privacy. For example, selecting an employee for random testing must be made in accordance with the prescriptions in 46 C.F.R. § 16.230(c). Other testing, such as pre-employment, periodic, serious marine incident, and reasonable cause must be made in accordance with §§ 16.210, 16.220, 16.240, and 16.250 respectively. These tests are severely circumscribed to limit an employer's discretion in administering these tests to employees.

## CONCLUSION

In Part 16 cases, the Coast Guard must prove compliance with 46 C.F.R. Part 16 (Subpart B) as well as compliance with 49 C.F.R. Part 40. Failure to prove both requirements not only eliminates the presumption dangerous drug use, but also the Administrative Law Judge must

dismiss the case as not proved. Administrative Law Judges are not to "save a case" intended as a Part 16 case by allowing it to go forward simply without the presumption. If the case is initiated as a Part 16 case, then it must be treated as such throughout.

Part 16 prescribes "minimum standards, procedures, and means to be used to test for the use of dangerous drugs." Employers are free to conduct other tests (non-Part 16) as per their company policies; e.g., a company can test every Tuesday. In those cases, the Coast Guard may present test results from samples not taken in accordance with Part 16 but must supplement that proof with "modest additional evidence" of drug use.

**Chief Judge Brudzinski** was initially appointed U.S. Administrative Law Judge in 1996 with the Social Security Administration. He was previously an Assistant and later Deputy Commonwealth's Attorney for Virginia Beach. Prior to his prosecutorial career, he served in the U.S. Coast Guard as a commissioned officer both afloat and ashore and in various legal assignments as a judge advocate. He is a graduate of the University of Maryland and the George Mason University School of Law (with distinction) where he was a member of Law Review. Chief Judge Brudzinski also holds a Master's and Ph.D. in Judicial Studies from the University of Nevada.



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# Weighing in With WISTA's Alexandra Anagnostis-Irons and Jeanne Grasso



*Anagnostis-Irons*



*Grasso*

**Meet the women who manage the maritime industry and discover what makes them tick.**

**By Joseph Keefe**

**A**lexandra Anagnostis-Irons is the founder and President of Total Marine Solutions (TMS). Jeanne M. Grasso is a partner and, among other things, Co-Chair of Blank Rome's Maritime Industry Team. These two dynamic leaders share the honor of serving as (present and immediate past) Presidents of the U.S. Chapter of the Women's International Shipping & Trading Association (WISTA), the networking organization for women at management level in the maritime industry.

## **Leaders**

In an industry historically and traditionally dominated by men, it is also no accident that both Alex and Jeanne have risen to the top of their chosen sectors. That's because talent is talent – regardless of where it came from or what gender it might be. Alex, for example, started her shipping career in the cruise sector and enjoyed over 16 years serving in a number of executive roles within Marine and Technical Operations. She left the cruise industry in September 2000 as Royal Caribbean's Director, Technical Purchasing in order to launch Total Marine Solutions. Leveraging global support and local presence, TMS works closely with their clients in support and strengthening of their compliance culture from all markets of the industry – cruise,

commercial, offshore, government and mega yachts. Armed with both an MBA and undergraduate degree in Accounting, she currently serves as President of the Board of WISTA USA.

Jeanne Grasso worked in the Office of Congressional Affairs at the National Oceanic and Atmospheric Administration handling fisheries and oceans matters and also served as staff to the House Committee on Merchant Marine and Fisheries prior to joining Blank Rome LLP. She graduated from the University of Notre Dame with a B.S. in Biology, later obtaining a Masters in Marine Affairs, and then attended the University of Maryland School of Law. Her practice involves counseling on all aspects of maritime and environmental regulatory compliance, including Coast Guard, Maritime Administration and Customs matters; internal and grand jury investigations; defense of administrative, civil, and criminal enforcement actions; and pollution incident response. Jeanne is also a guest lecturer at the Massachusetts Maritime Academy. She also served as president of the U.S. Chapter of WISTA from 2008 through 2013.

## **The Journey**

How and why both women arrived to where they are now, is an even more interesting part of the story. Anagnostis-Irons' road to becoming an entrepreneur was less than conventional.

She told *MarPro*, “I was working for one of the major cruise operators as Technical Purchasing Director during the time that they pled guilty to the Department of Justice for falsification of records and intentionally bypassing pollution control equipment. As an outcome of the resulting Environmental Compliance Program and probation, we replaced the oily water separators throughout the fleet. The technology chosen was just being developed and introduced by a company out of Sweden.” Eventually, the need for local after-sales support became apparent, but despite her push to make that happen, nothing really got started.

Separately and at about the same time, Anagnostis-Irons sadly lost her brother to a rare blood disorder, and for the first time in her professional life, she gave something other than her job focused attention. When he passed, she suddenly realized that things can change in an instant and the next time she thought about pushing the vendor to find local representation, she thought “what about me?” Armed with a savvy business plan, she approached them and the rest is history. The move entailed real risk but she insists, “I loved what I did throughout my career in the cruise industry and any time you leave something you love, you take a risk. I hope those I worked with during my cruise industry career would say that I contributed to the success of the operation.”

Anagnostis-Irons’ real beginning in the maritime industry came as she went to a temp agency in Miami looking for work. Her first (and only) assignment was with Bahama Cruise Line as an Assistant Purchasing Agent. The Vice President of the company, Paul Grant, quickly became her mentor and friend, and for the past 31 years, an important part of her life. Looking back, it was an exciting job. Alex explains, “We did everything in that office – crewing, technical purchasing, hotel purchasing, managed the duty free stores for three ships, drydocking, everything. We sold ships, bought ships, handled passenger claims – in hindsight, it is remarkable how much we handled with so few people and limited third party assistance.” In other words, the arguably perfect maritime education.

TMS was founded to focus on supplying MARPOL compliant solutions to ship owners and operators with the highest levels of support and customer service. In the end, Alex felt as though she could do this best being out on her own. She adds, “Much of this could have been accomplished internally while working in the cruise industry, but not to the same level. What I enjoy most about being out on my own is the opportunity to illustrate what I mean by the highest level of customer service. I’ve taken a lot of what I learned working for some of the major cruise lines and incorporated it into our processes. We’re a very lean organization and our ability to adapt as needed is a major advantage.”

Jeanne Grasso’s love for the ocean stems from her early work at the Jersey shore and lifeguarding in the little town

where she grew up. Later, while in college, she had the opportunity to do aquatic biology field work for a summer on the Upper Peninsula of Michigan, and then spent a Semester at Sea through the Sea Education Association in Woods Hole, MA. As it turned out, that very program confirmed her love of the sea and eventually had a profound impact on her career path.

A Masters obtained in Marine Affairs at the University of Southern California involved the study of marine biology, ocean policy, and maritime law, and with law classes in Admiralty Law, Living Marine Resource Law, Non-Living Marine Resource Law, and Law of the Sea. This led to a Sea Grant Fellowship to work on Capitol Hill for the House of Representatives Merchant Marine & Fisheries Committee, after which, she went on to work in fisheries for NOAA for a few more years. Grasso quips, tongue-in-cheek (or maybe not), “My greatest regret is that Jacques Cousteau never called; it was my dream to sail and work on Calypso. This disappointment ultimately led to my decision to go to law school 8 years after graduating from Notre Dame. I’m a big believer in fate and that things happen for a reason, and that oftentimes your biggest disappointments turn into your greatest opportunities.”

### **WISTA ... and beyond**

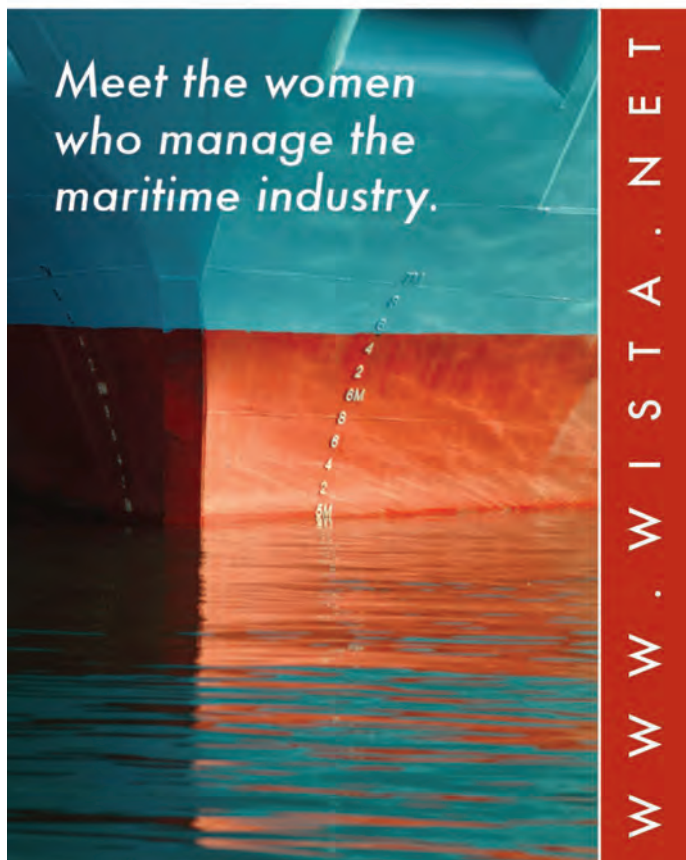
WISTA International celebrated its 40th Anniversary last year at its Annual International Conference with more than 300 members and guests hailing from 33 countries in attendance. Anagnostis-Irons has lofty visions for her term as President of the USA WISTA branch. “My goal for WISTA USA includes pushing the profile to ensure WISTA is recognized worldwide as the quality organization it is and included in some of the industry think-tank activities. And as a ‘numbers person,’ I’d like to see our membership hit 500 in 2015.”

Grasso, not surprisingly, has every confidence that the organization will do just that. Today, WISTA’s USA membership stands at 447 members, representing almost 20 percent of global numbers. As President of WISTA for 5 years, Grasso’s goals also included growing the organization and bringing (more) credibility to it, garnering support from the industry and government, and putting the organization on the path to success. She adds, “I wanted to turn the reins over to someone like Alexandra who has the ability to take it to the next level – which she is doing spectacularly after a little more than a year. After that, I moved onto the WISTA International Board with a clean conscience, knowing that WISTA USA was in incredibly capable and energetic hands.”

For both Alex and Jeanne, the WISTA experience has been a valuable asset to which both occasionally ‘go to the well.’ It is also a serious time commitment. “WISTA has helped me fine tune my time management and organizational skills, that’s for sure,” said Anagnostis-Irons, laughing. “Seriously though, WISTA has afforded me the opportunity to meet some extraor-



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inary women and men within our industry. Perhaps most important to me is that WISTA allowed me to meet some women who I now consider some of my closest friends," she added.

Grasso agrees. "WISTA provides great networking opportunities all over the world. It is a forum to share ideas and experiences and to discuss business opportunities. And, if you are faced with gender issues or other challenges, you have numerous women in many professions more than willing to share their thoughts and some possible solutions." Beyond this, more and more organizations and trade associations are calling on WISTA for support, advice and guidance. These include, she said, the International Chamber of Shipping, InterManager, the U.S. Coast Guard Alumni Association's Women's Leadership Initiative, International Maritime Organization's Women in Maritime Associations program, the Maritime Administration for its Women on the Water (WOW) conference, and others.

Grasso and Anagnostis-Irons don't limit their talents and outreach to just one organization, however. Alexandra Anagnostis-Irons today is heavily involved with the Seafarers' House Port Everglades as well as the North American Marine Environmental Association (NAMEPA) and the Society of Naval Architects and Marine engineers (SNAME). She wouldn't have it any other way. "Being on the Board of Seafarers' House of Port Everglades is rewarding on so many fronts. The biggest take-away for me personally is the opportunity to contribute my time, energy and financial resources to give back in some fashion to the mariners who are so vital to our everyday lives."

Grasso's industry outreach includes trade associations which include the Passenger Vessel Association (PVA) and INTERTANKO. She also serves on the Advisory Board of the Smithsonian Environmental Research Center, which houses the National Ballast Information Clearinghouse, on the National Academies of Sciences' Marine Board and as a Board Member and Secretary of the World Ocean Council.

Beyond the good work done by both professionals, the opportunity to meet and interact with some amazing people has its own rewards.

**Advocacy & Mentoring**

At a recent WOW conference at the U.S. Merchant Marine Academy, one female engineer with 20+ years at sea told this writer privately, "I look forward to a time when these sorts of events aren't necessary." And, you get the idea that both Grasso and Anagnostis-Irons didn't necessarily need a lot of help from other women on the way up. But that isn't always the case.

Anagnostis-Irons has good advice for women who would contemplate this line of work: "My simple advice has been, and always will be, just be true to yourself. If you find something within the maritime industry which you genuinely love, stick with it and make it your own." She adds, "Male or fe-



male, this isn't always the easiest industry to endure but it is by far one of the best in the world to be a part of."

Grasso's take on the subject isn't much different. "The biggest challenge for any woman in a male-dominated industry, including the maritime industry, is establishing your credibility at the outset – whether shipboard or in a corporate office. Don't take things too personally and don't be easily offended. Work hard, sometimes 24/7, guard your dignity, respect others, and be honest. Strive for being the best at whatever you do, do whatever it takes to get the job done, manage expectations, and communicate, communicate, communicate. I do not like to think in terms of obstacles being unique to women. My view is that women have to work extremely hard and excel in any profession to succeed, including in the maritime industry. Real talent will rise to the top – male or female."

### Recruiting: the Right Woman for the Job

While the role of women in the maritime industry is growing, it is not yet representative of the numbers of women professionals who would like to be on this side of the ledger. Alexandra Anagnostis-Irons insists that her firm recruits the best person to fill positions, regardless of gender. She explains, "I've been asked the question that if two candidates of the opposite sex were equally capable of the job, would I award it to the female. My answer is that two candidates are rarely equally capable. I look beyond gender to persistence, flexibility, the desire to learn and the drive to succeed." Alex adds, "The opportunities afforded to women on the water and ashore are growing and this is a great tribute to those women who blazed much of the trail. We can all do our share to market the opportunities within shipping to kids at grade school level so that girls and boys alike realize the great potential which exists inside Shipping."

For her part, Grasso also points to the need to keep recruiting and encouraging young people to join the shipping industry – women and men alike. "WISTA is involved in numerous efforts, including establishing mentorship programs, being involved with maritime academy cadets through the WOW Conference, and forming a Female Cadets Committee at the WISTA international level looking at policies and procedures to provide more opportunities for female cadets aboard ships," she told *MarPro*.

Blank Rome, for example, actively recruits women maritime lawyers and while Grasso is the only female partner in the maritime group, she does serve as Vice Chair of the Maritime Practice Group and Co-Chair of the Maritime Industry Team, and on the Firm's Executive Committee. Grasso remains optimistic about what will come next. "I think the opportunities for women are probably better ashore than at sea, but improving on both fronts. More and more, companies, including oil majors, are demanding more diversity in the work

place, which helps open more doors for women. Gender diversity is good for a company's bottom line and businesses are finally starting to realize this, which can only help facilitate the advancement of women."

Trust an attorney – and accomplished one like Grasso – to drill down to the very essence of the maritime industry. She told *MarPro* in April, "I thoroughly enjoy working in the maritime industry and feel very lucky, as a lawyer, that I really like what I do. The maritime industry is an exciting space in which to work – different every day, fascinating issues, challenges, and very interesting people from all over the world. I get particularly energized when I have the opportunity to go on ships and in facilities, and love throwing on a hard hat and life vest."

Sharing the common goal of bringing qualified women in greater numbers to the industry, with the shared vision of knowing that much more is possible, Jeanne Grasso and Alexandra Anagnostis-Irons also come from dissimilar beginnings and interests. Brought together by hard earned success, common experiences and the collaborative efforts of organizations like WISTA, the best – for the waterfront and these leaders alike – is yet to come.



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# Ulstein: Stronger Than a City

***“Two brothers united are stronger than a city,” goes the biblical paraphrase. Surely, brother-sister tandems are also implied.***

**By William Stoichevski**



According to local business records for Ulsteinvik — a swampy but beautiful corner of coastal Norway — Ulstein Group chief exec Gunvor Ulstein is tied to her chairman and deputy-CEO brother, Tore Ulstein, by 16 business entities. Strong ties on paper, to be sure, but this is no ordinary family enterprise. That’s because Ulstein has grown into a conglomerate comprising power and propulsion outfitting, worldwide shipbuilding, revolutionary ship design, property holdings and financial interests.

The 46-year-old Gunvor and 48-year-old Tore have largely captained the \$42 million-per-year Ulstein Group ASA to exponential growth since about 1999, when the Group’s yard began its modern era of design-and-build. Today, 53-year-old Kristian Saetre manages the shipyard with Gunvor chairing its executive. Yet, when she whirles her BMW all-wheeler efficiently into its parking space at the entrance to Group HQ in Ulsteinvik, it’s clear to soggy journalists that Gunvor — granddaughter to the 1917 founder of Ulstein’s original shipyard — is the heart of Group financial interests.

## **Fast Driving Business**

“I drive fast,” a blonde, slim and serious Gunvor asserts. She drives the business in similar fashion, helping grow it with great urgency, poise and brotherly love into a major concern. While family before her grew the company to nearly 3,000-strong, a 1997 acquisition by Vickers claimed 75 percent of staff, and numbers have only in the past decade been brought back up to about 800. A new breed of designers, engineers and management talent now presides. Affiliates in Poland and China provide services. Financial oversight is PwC.

Dressed in a smart gray business suit and not the brown leather she drove in wearing, Gunvor confirms there have been personnel changes of late. “We have brought in many better-qualified people the last few years, and it has made all the difference in what we’re able to do,” she says, a nod to the challenges of modernization and survival amid powerful Asian and strapping Norwegian competition. The careful manning has come with investments in sophisticated inspection, maintenance and repair vessels.



**Future generations: Deputy CEO Tore Ulstein with Ulstein summer job hopefuls.**

Recent hires suggest her brother Tore's "side" of the business — engineering — balances her business skills with a builder's foresight. In this predominantly shipbuilding and service outfit where a handful of management personnel oversee scores of local and sometimes foreign workers, it can be heartening that the pick of design, leadership and technical talent is still to be found locally. New "managers of innovation" brought in late this winter came from across the quay at Rolls-Royce Marine and via promotion within the Group. Rolls-Royce Marine is a competing builder of ship's gear, and yet new hire Bernt-Aage Ulstein in March 2015 became Ulstein's new design manager. His MSc and MBA were employed as technical director in the Rolls-Royce propulsion department. An Ulstein communiqué describing the new manager as "a motivator and team builder" reveals prior detailed knowledge of another company's man in this tight knit coastal community.

#### **Business Sense**

Known for the Group's innovation, Tore and Gunvor

shocked some industry observers in 2011, when they showed financial élan and launched the investment vehicle Blue Shipping to operate ships until they find gainful employment or dedicated owners. Blue's been a smash hit in a local shipping industry known for cyclical business gains.

Blue Shipping AS appears to run a tiny deficit in order to promote an efficient new, reproducible ship design sought after by fleet owners. Launching it meant taking on risk to series-produce the streamlined PX121 platform supply vessels, but fortune favors the bold in shipbuilding, and offshore-interested buyers from southern Norway were quickly found.

Ulstein Power & Control AS, another entity in the Ulstein Group, has also run a managed deficit but provides ships gear, installation services and work for skilled area residents. The local focus is a key strength of the Group. Another entity — Ulsmo AS — is the Group's largest shareholder and oversees local-only property investment and a fund, in an apparent effort to give back to a region considered "very special" by industry observers.



Photos: ULSTEIN GROUP/PASA

People are the reason Ulstein pursued the Bridge Vision concept, a series of digital and physical innovations designed aimed at making ship leadership more efficient and engaging. During its development, bridge crew behavior was studied and mapped for two months before Ulstein's multi-disciplinary teams synthesized the research. Alarm-handling elements of Bridge Vision appear in the SX 165 platform supply vessel, *Blue Thunder*, as a yellow circle on a dash.

### Design Lessons

"If I'm late for a meeting with her, she goes crazy," says a trim and slightly professor-like Tore of working with his sister. Though firm on his feet, they begin to shift back-and-forth as he hurries to make several points about recent Ulstein moves before a tête-à-tête with Gunvor. From the pit of a collegial home-office cinema room, Tore talks animatedly of design as a business driver.

Earlier than many, he and Ulstein designers like X-bow hydrodynamics expert and U.S.-trained naval architect Oyvind Kamsvaag seem to have understood that building ships is also about people. In August 2014, Ulstein unveiled the X-Stern design for better station-keeping and working conditions in big waves. The design followed talks with veteran captains. "Taking a walk with ship owners" Tore says, is just one way to think the business of shipbuilding. Another is the "design conduit," where raw creativity can create a market. "We have to balance that creativity with a need to be efficient," he says, before rhetorically adding, "What is the design stage? (It can

be) more difficult to decide because you're deciding while developing your market."

People are the reason Ulstein pursued the Bridge Vision concept, a series of digital and physical innovations designed aimed at making ship leadership more efficient and engaging. During its development, bridge crew behavior was studied and mapped for two months before Ulstein's multi-disciplinary teams synthesized the research. Alarm-handling elements of Bridge Vision appear in the SX 165 platform supply vessel, *Blue Thunder*, as a yellow circle on a dash.

"The gaming generation has arrived on the bridge," an Ulstein manager reminds us. Indeed, graphics-savvy Americans will one day be serving aboard Ulstein X-Bows. The first SX 165 PSV slides out of a Louisiana slip at year-end 2015.

Though an economist and not a naval architect like her brother, Gunvor sees the business in designing for crews and customers. "You have to have bold missions and goals and work hard and fast if you believe what it is you're saying (about the new designs)," she says. But she adds, "We can't



“We have brought in many better-qualified people the last few years, and it has made all the difference in what we’re able to do.”

– Gunvor Ulstein, Ulstein Group chief exec

grow the top-end products if we don’t deliver the bottom line.”

Ulstein has also managed to convince the local supply chain, and of 200 sub-suppliers offering products and services on a recent project, half have come from the west coast of Norway. When Gunvor spoke to us, the order book of X-bows was still sizeable, and designs were being built in China and Poland with plans afoot for the United States. The better part of 68 ordered X-bows have now been sold.

“International growth will always be a part of us,” she says, adding, “You have to live in the future.”

Before a recent slowdown in the oil and gas business, charterer Statoil, a large Norwegian deep-water oil company, had been a great driver of technological change offshore Norway. Its well-intervention leaders and project managers have been appreciative Ulstein designs. “We like demanding customers,” says Gunvor. Subsea 7 and Eidesvik Offshore, co-owners of the Ulstein-designed Seven Viking IMR vessel launched in 2013, are now on a five-year contract with Statoil.

#### Tight Ranks

Winter 2015 also saw the employment of a new innovation and development manager for Ulstein Design & Solutions AS, another business of the Group. Frode Sollid ascended to the role when he moved on to enable the Rolls-Royce hire. Sollid will also manage Ulstein Strategic Innovation Center, a nod to the scale Ulstein has assumed.

Meanwhile, Tore’s roles continue to widen. He chairs the national Confederation of Norwegian Enterprise, which is business’s salary negotiating body in talks with Norway’s unions. Election to the post is a sign of Tore’s grasp of industrial Norway, the scale of the family enterprise and the Group’s central role as nation-builder in this Nordic country of five million souls. “We’re more than just an ordinary shipyard. We’re investing in vessels,” Tore says. Indeed, he, his sister and others preside over 30 shipbuilding projects worldwide.

“I think the center of gravity is (still) in this region,” Tore says of this patch of western Norway.

Gunvor, again, offers another take on her business vision



**A Norwegian high school student made this model of an X Bow.**

for the Ulstein Group. Asked if she thought the competition in Norway and Asia were getting too hot, she offers this: “The world is full of shipyards. We want to do the service side, too. We can prototype. We can build whatever we like.”

We’re caught off guard, as the economist points out a bit of design history. She reminds us that 15 years ago, Ulstein was building large anchor-handlers, but had moved on. “When we see the market move, we move as well,” she says.

Ulstein, meanwhile, has become a magnet for hopeful jobseekers and the Group actively stimulates early interest in offshore-related disciplines rather than overtly recruiting. High-school students are offered motivational courses; trade apprentices



are offered placement, and doctoral writers are all encouraged to engage and hopefully one day join the company.

“We cooperate with a number of higher education institutions in Norway, and students at these institutions are given priority,” an online Ulstein recruitment page states. Alongside the AD, the words “good written and spoken English” offer hope to the rest of us.



**William Stoichevski** arrived in Norway in 1999 to lead a media campaign for Norwegian green group Bellona. He later served as regional feature writer for the Associated Press in Oslo. In 2003, he left the AP to begin building, overseeing and writing for a number of print and electronic energy-industry publications in the Norwegian capital. He is currently the editor of Offshore Energy Reporter.



Photo: EIDESVIK Offshore

# '80s Brain Drain *Haunts* Today's Offshore Layoffs

**Companies struggle to balance cost-cutting with skills retention.**

**By Patricia Keefe**

If you can't accept the rollercoaster of employment that is the offshore industry, adding and shedding jobs like clockwork through its cyclical ups and downs, don't get on for the ride.

That cold bucket of reality is repeated like a mantra across the industry. Job security and highly paid offshore employment are like mixing oil and water. The emulsion will keep hold for a while until it eventually falls apart when oil prices disintegrate. It's a pattern industry veterans know well. But it's also a cycle that many agree needs to be approached more strategically today, with a greater eye toward future staffing needs. For some companies, their future success will depend upon it.

So far, there have been over 120,000 energy-related job losses globally, according to international recruiter Swift Worldwide Resources. In the U.S., in January alone, oil prices

were cited as the top reason behind job losses. Bad as it is, the current downturn is nothing like what happened in the 1980's – at least not yet, says Gladney Darroh, CEO of Piper Morgan Associates Personnel, energy staffing recruiters. "At that point in time there was a true financial meltdown in Houston. It came as close to a depression that the city has seen since the Great Depression," he recalled. That said, he adds that the oil and gas industry today is in a severe downturn. "It will impact Houston more severely in the next quarter or by the end of the year if prices do not recover."

According to ExxonMobil CEO Rex Tillerson, they won't. He told an industry conference in April that he expects prices to stay lower longer. BP Group CEO Robert Dudley concurs, and told CNBC that the downturn could last for several years or more.

## The Ax Men

**With an estimated 120,000 job cuts so far, and rising by the day, it's shaping up to be a brutal year for the offshore marine sector. Companies across the energy spectrum have announced layoffs, in staggering numbers in some cases, and multi-year spending cuts, which will likely lead to even more layoffs. Here is a sampling of where the ax has fallen to date this year:**

Company	Layoffs	Remarks
Schlumberger	20,000	... across two layoffs, including 11,000 in April, or 15% of its workforce.
Halliburton	9,000	... an estimated 10% of its workforce, with hints of more to come.
Baker Hughes	10,500	... across two layoffs this year, 17% of its workforce.
Weatherford Int'l	10,000	... about 18% of its workforce, with most of the impact in North America.
AP Moller-Maersk	310 (so far)	... and plans to cut spending by 20% over the next two years.
Statoil	2,000 in 2014	... 8% of workforce, w/possibility of more cuts in 2015 in the U.S. where it will cut onshore budget by 25%. Worldwide capital spending to be cut by \$2 billion.
BP	200 staff; 100 contractors	... slash 2015 capital spending by 20%, reduce E&P spending in 2015 to \$20 billion from an estimated \$26 billion and cut its budget by \$3 billion.
Exxon Mobil		... cutting capital budget until 2017, shrinking 2015 budget by \$4 billion (12% cut over last year) to \$34 billion, and to < \$34 billion each in 2016 and 2017.
Royal Dutch Shell	250, with 250 more in North Sea Ops	... \$35 billion in capital spending in 2015, but will cut capital spending by a minimum of \$15 billion over the next three years.
Conoco Phillips	200, 7% of Canada workforce	... plans to cut its 2015 capital spending by \$2 billion - 20% less than last year.





“Winning companies that have a long-term optimistic view of the market will use [this downturn] as an opportunity to go out and find those hard-to-find individuals who were previously bear-hugged by their employers.”

– Mark Charman, CEO of Faststream, a recruitment firm



“...We care about employees, and we want them to think of Hornbeck first when hiring picks up again.”

– Cid Paul Arceneaux, Fleet Recruiting Manager at Hornbeck Offshore Services, Inc.

### THE INDUSTRY RETRENCHES

As the steady drumbeat of layoffs continues, some analysts are predicting one or two more waves of layoffs by yearend. Cuts to date have ranged from huge, brutal chops to more selective, smaller cuts.

Schlumberger, for example, in mid-April axed in one fell swoop 11,000, bringing the world’s largest oil field services provider’s total cuts this year to about 20,000, or 15% of its workforce. Halliburton has jettisoned 9,000 workers over the last six months – an estimated 10% of its workforce – and is hinting there may be more. Merger partner Baker Hughes has so far cut its workforce by 10,500 (17%).

All of the major oil companies have announced their intent to implement massive spending cuts and billions in cost reduction over the next several years, also demanding at least 30% reductions from their business partners, many of whom are struggling themselves.

Shell’s \$70 billion bid to purchase BG Group is expected to start the ball rolling on industry consolidation, which in turn should trigger more layoffs. In an April interview with Reuters, Claus Hemmingsen, CEO of Maersk Drilling, predicted the industry will face a wave of takeovers in the next two years as crude prices are expected to remain under \$85 per barrel. The downturn has so far mostly affected upstream jobs, with the Gulf of Mexico and the North Seas bearing the brunt. For example, last month it was reported that there were at least 30 platform supply vessels in the North Sea without contracts.

“The midstream and downstream areas are still busy; they have been impacted to a lesser degree,” says Darroh, noting product still needs to be transported, and people still have to get out to the rigs.

But there is no question that the offshore sector is under enormous financial pressure as each level in the supply chain pushes their pain down to the next. “New orders have been



“The current downturn is nothing like the 1980s – not yet. At that point in time, you had a true financial meltdown here in Houston. It came as close to a depression that Houston has seen since the Great Depression.”

– Gladney B. Darroh, president and CEO of Houston-based Piper-Morgan Associates Personnel



“In today’s market, what people don’t talk about is individual geographic markets that move at different paces. The worst vessel market today easily is the North Sea and the Gulf of Mexico. An operator in those areas will have more difficulty working equipment than people in other areas.”

– Joseph M. Bennett, Executive Vice President and Chief Investor Relations Officer, Tidewater, Inc.

reduced tremendously, contracts canceled and hiring frozen, in addition to outright cuts, budget caps and new projects being pared back significantly. At these prices, it is exceptionally difficult to make money in the offshore industry,” says Darroh. Add in new regulations as a result of Macondo, and the Gulf of Mexico has become a very difficult environment in which to make money, he says.

“All the major drilling companies have lost 50% of their value – EnSCO, Transocean, Seadrill – banks absolutely don’t want to lend them money,” says Jason Waldie, energy analyst for Douglas-Westwood Pte, Ltd. “Exploration and seismic spending is down 15% to 20% globally; in the U.S. it’s [down] 30%.”

Amid the turmoil, mounting layoffs are calling up the ghost of the mid-1980’s market collapse that drove thousands from the industry, and have ignited fears of a second ‘lost generation.’ “The industry is traditionally wary of a drop in unemployment,” says Mike Haney, director, Houston office, Douglas Westwood.

### **MIND THE GAP**

The impact of the crash in oil prices on employment in the offshore marine sector is not without a sense of *deja vu*. It

calls up the old adage that those who fail to learn from history are doomed to repeat it. One of the major ironies of the current round of layoffs is that the industry has been bemoaning the lack of skilled crew and officers for years now, stretching back to the mass exodus of labor during the mid-1980’s implosion.

The energy industry and its offshore sector have suffered through several downturns since the mid-’80s, but the last big shutdown was a “generation and a half ago,” says Waldie. “In that span between 1985 and 2005, this was not a popular industry to go into.” The stigma left its mark, so much so that the industry continues to suffer the aftereffects today both of the mass exodus of labor and of generations of students who switched career plans to safer ground.

The result is a definable generation gap that has made the availability of a solid middle tier of skilled employees ready to move up as older workers retire, a shadow of what it should be. “There aren’t many 45-year-olds in our business,” notes Haney. That yawning void in the middle has created a work force today that is heavily weighted at both ends of the experience meter. Which begs the question of who, then, is going to replace the crush of senior-level workers when they start to retire?



Tidewater's OSV Dean Edward Taylor

“The average age in the offshore industry is 55-65,” says Darroh, an age group the Independent Petroleum Association of America estimates to be 71% of the workforce. Over the next five to seven years, up to 50% of that demographic is expected to retire, according to a February report from the American Petroleum Institute’s American Energy Works foundation.

This is no minor issue. The last market recovery did bring more engineers and business people into the field, but few are deemed ready to pick up the mantle of senior staff. And some warn the lack of experience could translate to an uptick in workplace hazards and increased liabilities.

Industry observers say companies are cognizant of the issue. There has been a lot of talk about the “graying” of the industry, and the need to avoid another brain drain, but little has been done about it, they say, beyond standard college recruiting tours and internship programs.

### **DÉJÀ VU ALL OVER AGAIN**

Decades later, the fear is that this downturn’s cuts will be déjà vu all over again. “You’ll have this same problem, only it will get worse because there won’t be any new kids coming into the

industry over the next three to five years. Not like they have in the last two to four years,” says Darroh. “These types of things will continue to haunt the industry in terms of closing the gap between retiring folk and success in [attracting] permanent employees making a career with the company.”

Where layoffs have been unavoidable, one way to fill the experience gap or plug-in a specific skill set, at least in the short term, is to bring in consultants or contract workers until a recovery has stabilized. Still, recruiters such as Faststream CEO Mark Charman and others have suggested that going forward, employers might want to consider using contract workers on a regular basis, a strategy more prevalent in Europe and other industries such as high tech, where the use of “perma-temps” is widely practiced.

Even in a downturn, the industry needs to take a medium- to-long-term view in workforce planning. The need for cost reductions is a good time to reorganize, eliminate deadwood, and restructure jobs. It’s a great time to look ahead and try to figure out where hiring needs to go. “Winning” companies “that have a long-term optimistic view of the market will use this as an opportunity to go out

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“All the major drilling companies have lost 50% of their value – Ensco, Transocean, Seadrill – from the third quarter last year to first quarter this year – banks absolutely don’t want to lend them money.”

– Jason Waldie, Associate Director and energy analyst at Douglas-Westwood

and find those hard-to-find individuals who were previously bear-hugged by their employers,” Charman recently said.

A particularly aggressive approach involves scanning the competition to see which workers are being retained – these being presumably the best and now most overworked – and to try to recruit needed skill sets, possibly at ‘discount’ given the volatility of the job market. Once the market recovers and companies compete to fill positions, these workers will be able to demand premium pay.

### A PLAN OF ACTION FROM ACROSS THE POND

When hunting for talent, it helps to have a global perspective – and contacts. The mid-level gap may be unique to, or at least more prevalent in the U.S. According to “Fuelling the Next Generation,” an Ernst & Young study on employment trends done for industry association UK Oil & Gas, the UK sector has a much more balanced, younger workforce. The study, which was designed to provide insight into the skills requirements of

the industry - says staff over 55 comprises just over 10% of the workforce while those 35 and younger make up 40%.

The report also highlights successful efforts to seed a sustainable pool of talent for the future, noting that 86% of companies have programs targeting graduate and “apprentice” workers, with an enrollment of 19,000. U.S. industry associations might want to take note: The UK’s Offshore Petroleum Industry Training Organization (OPITO) plans to use the report as a “blueprint” to design a “skills strategy to ensure a workforce fully equipped to sustain the oil and gas industry for years to come.”

Workers don’t grow on trees. But they can be nurtured by a forward-looking plan of action supported by a coalition of industry, training and government groups. The EY study of the UK upstream oil and gas workforce was commissioned “to better understand the current workforce profile and the employment disciplines which will be in the greatest demand over the next two to five years ....” explains Dr. Alix Thom, employment and skills issues manager, Oil & Gas UK.

### Act, Adapt and Aspire

**Given the volatile nature of the oil industry right now, this is the time to take stock of career plans and aspirations, and plan for the future. “It’s all about networking and talking to people. There is no substitute,” says Faststream’s Mark Charman. But there are a host of things job seekers can be doing in addition to shore up their candidacy, including:**

Maintain a positive attitude.	Go back to school if your career aspirations will require new skills.
Publish, speak at conferences, give talks.	Know where the work is. Singapore (booming)/Arctic Closer to Reality.
Consider working as a contractor or consultant.	Take charge. The days of waiting for recruiters to come calling are over.
Restructure your resume to cost cutting. Be specific with numbers.	Be willing to adapt: new assignments/roles, relocate or change job description.
Update certificates, training & latest tech.	Use social media accounts to highlight your achievements & expertise.
Get out there, start knocking, and Shine!	Expand your toolkit; broaden your repertoire of skills.

By working together on the retention and development of skills, the aim is to retain as many jobs as possible and to maintain the long-term supply of quality personnel to all disciplines across the industry, Thom added.

### **YOU DON'T KNOW WHAT YOU'VE GOT 'TIL IT'S GONE**

Employers who can keep key personnel in the midst of a depression while others around them are willy-nilly hemorrhaging pink-slipped hot skills out the door, will have the advantage when the market comes back around, as it always does.

The ideal situation is not to lose workers at all, or to at least maintain the relationship. In a bid to stave off layoffs, companies like Tidewater, Inc., a provider of offshore supply vessels, deploy tactics such as freezing salaries, cutting benefits, changing rotations to more days off than on, job sharing, etc. To keep crew and boats working, the company also looks for spot opportunities and where possible, moves assets into other geographic sectors if that's where the work is, according to Joseph Bennett, Tidewater Executive Vice President.

Flexibility and adaptability go a long way. So does keeping one eye on the horizon. Take a strategy that helped Tidewater shield a portion of its workforce and vessels from the market turmoil. Bennett explains that a year and half ago, the company got the sense that Gulf was in danger of vessel overcapacity. So it took 12 deep water vessels and locked them into long-term contracts at the peak of the market, the opposite of conventional wisdom at the time. Competitors who opted to play the spot market have since been more severely impacted by the downturn, while those 12 vessels and their crew will ride out the storm.

When layoffs become necessary, there's slashing and burning, and then there is precision cutting. The rule of thumb at Tidewater, the world's largest supplier of offshore supply vessels, is to look at corporate and onshore posi-

tions first. As Bennett says, if the boat is working, the mariners are working.

The opposite is also true. There are a lot of boats, old and new builds, stacked like frozen cod waiting for the market to return. In those cases, there are still forward-looking strategies that can be deployed.

### **A LITTLE OF THAT HUMAN TOUCH**

Cuts may be unavoidable, but Hornbeck Offshore Services thinks how you handle them matters. For example, says Cid Paul Arceneaux, Fleet Recruiting Manager, Hornbeck tries to personally speak to every affected worker where possible.

Darroh says smart companies are giving as much notice as they can, providing generous packages and outplacement resources. This way, when they are ready to hire again, they can say, "We had to do it at the time, but we did it with programs that lessened the consequences to employees as much as we possibly could." "Most companies don't do that. We care about employees, and we want them to think of Hornbeck first when hiring picks up again," says Arceneaux. One way to make sure that happens is to literally mean "furloughed." Hornbeck aggressively courts retention. It has eight new-builds coming in throughout the rest of the year and it has told valued employees who had to be laid off that they will be the first called back when the new vessels are deployed. This gives the employees motivation to stay in the industry, and can help Hornbeck fill future staffing needs.

### **NOT ALL DOOM & GLOOM**

Mark Charman points out that even as companies are laying off – many are hiring. He expects the market will calm down a bit in the second half of the year, resulting in new projects and renewed hiring. Beyond this, there are a lot of new supply and drill ships being delivered, with more to come. Those ships will need to be crewed.

"I tell people that if they have the fi-

nancial ability, that time and patience are their best allies. Don't panic that the market will be this way forever. It'll change for the better in a year or two, it always does," says Darroh. In the meantime, he counsels people to stay plugged in, and to take stock of what is really important to them. "My message is positive. 'You are smart, you have alternatives. Look for them and you will prosper again.' I have seen this over 38 years in the industry. You will prosper again."



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

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# UNREP as a Career

***The U.S. Navy's Military Sealift Command provides a unique option for those mariners looking for excitement and a professionally rewarding career path.***

**By Captain Sean Tortora**

**D**awn on summer day steaming at thirteen knots in the Central Arabian Gulf with the mercury hovering close to 100 degrees finds a civilian-manned United States Naval Ship tethered (to port) by six high-tension wires and steaming alongside some two hundred feet off is a U.S. Navy nuclear powered aircraft carrier. To starboard, tethered by up to three high-tension wires and steaming alongside at one hundred and sixty feet, is a U.S. Navy guided missile destroyer. In the distance, two specialized helicopters are ferrying items back and forth.

Underway Replenishment (UNREP) is a critical necessity required to keep warships ready and in the fight and at the same time, it is also one of the most dangerous operations for ships at sea. Prevalent to UNREP are thousands of tons of moving masses operating less than two hundred feet apart, while physically connected by high-tension wires shuttling tons of cargo. Adding to this is the high-speed movement of bulk petroleum through flexible rubber hoses and working on deck and or under the fuselage of specialized aircraft. The goal of UNREP is the safe and efficient transfer of the maximum amount of liquid and/or solid cargo in the least amount of time; while enabling the warship to remain on station indefinitely in order to carry out its mission.

The exciting evolution – known simply as Underway Replenishment – provides support to U.S. Navy warships. It is also a viable career track for seafarers in any specialty, deck or engine, to carefully consider.

## **UNREP DEFINED**

There are two general methods of UNREP; the first is the horizontal transfer of solid cargo and or liquid cargo via high-



**Crew of USS George Washington CVN-73 standing by to commence CONREP with USNS Supply T-AO 6 (in the background) in the Central Arabian Gulf 2002.**

tension wires and powered trolleys through specialized cargo and fuel rigs. This is referred to as Connected Replenishment or CONREP. CONREP of solid cargo is called Replenishment at Sea (RAS). RAS cargoes include food, stores, spare parts, mail, munitions, and even personnel. CONREP of liquid cargo is called Fueling at Sea (FAS). FAS liquid cargoes include fuels, bulk petroleum products, potable water, and boiler feed water.

The second general method of UNREP is the transfer of solid cargo via specially designed helicopters. Vertical Replenishment (VERTREP) includes the transfer of food, stores, spare parts, mail, munitions, and personnel. This may be achieved either through a cargo lift, which is connected under the fuselage through a specialized VERTREP pendant, or in some instances, transferred internally within the aircraft. VERTREP may be conducted either simultaneously, when the ships are conducting CONREP and thus in very close proximity, or when the ships are some distances apart.

CONREP is accomplished through the Standard Tensioned Alongside Method (STREAM), which is designed to permit greater separation between ships when conducting UNREP. The vessels steam between 12-16 knots with a lateral separa-



Courtesy: US Navy

tion distance normally between one hundred and sixty to two hundred and twenty feet. The UNREP ship or delivery ship is normally designated as the guide ship, keeping an exacting course and speed, while the receiving ship or customer ship keeps station on the guide ship. The STREAM RAS rig employs the use of a tensioned one-inch wire rope highline, a hydraulic RAM tensioner and trolley which rides on the highline transferring the cargo. The trolley moves back and forth via both one-half inch in-haul and out-haul wires connected through a Standard UNREP Fixture or SURF block.

Astern refueling, although not conducted via STREAM rig, nor alongside, is utilized for those smaller vessels, which are unable to come alongside and withstand the pull of a high-tensioned FAS spanwire. Astern refueling is conducted through a smaller hose, at much lower pressure, and with both ships making bare steerageway.

### THE UNREP SHIP

UNREP ships are part of the U.S. Navy's Combat Logistics Force or CLF. These vessels are owned by the U.S. Navy and operated by federal employees in the form of U.S. Merchant

Mariners employed as U.S. Navy federal Civil Service Mariners or CIVMARS through the U.S. Navy's Military Sealift Command (MSC). The modern UNREP CLF ship was designed from the keel up to perform the UNREP mission, and the current fleet of ships includes Fast Combat Support Ships (T-AOE), Fleet Replenishment Oilers (T-AO), and Dry Cargo/Ammunition Ships (T-AKE).

While the CLF ship is an integral part of the carrier strike group, it too must be resupplied so as it may continue to support the strike group. Most often, the CLF ship will break off from the strike group, which remains on station, and call upon a designated port where it will load cargo and personnel for the strike group ships. Over the course of ten days, the CLF ship will resupply and refuel the entire carrier strike group and then start the sequence all over. If the strike group commanders prefer their CLF ship remain on-station with the strike group ships, the CLF would need to be resupplied at sea itself. To accomplish such, a second CLF ship would act as a shuttle ship, conduct the cargo lift, and meet up with the on-station strike group CLF ship. Then the two CLF ships would conduct a type of CONREP/VERTREP called a Consolidated Replenishment (CONSOL).

### UNREP: THROUGH THE YEARS

In November of 1899, the USS Marcellus and the USS Massachusetts BB-2 conducted the first attempt at UNREP. On May 28, 1917, the USS Maumee AO-2 conducted what is credited as the first modern UNREP. On May 4, 1972, the USS Taluga AO-62 was decommissioned and then put into service as USNS Taluga T-AO 62, ushering in the operation of UNREP ships by MSC CIVMARS, which was hailed as an unqualified success. In August of 2001, the U.S. Navy put into service USNS SUPPLY T-AOE 6 with MSC Capt. Terry A. Rycenga getting the nod as its first Master. This was the first Fast Combat Support Ship, which is also the U.S. Navy's largest and most capable class of CLF ships, to be transferred to MSC CVIMAR operation. Just a few short years later, all CLF ships would be operated top to bottom by MSC CIVMARS with contact VERTREP pilots and crews.

### SEAMANSHIP AND UNREP

The myriad of actions that occur during the UNREP evolution require exacting ship handling, complete knowledge of stability and trim, vessel hydrodynamics, expert marlinespike seamanship on deck, superb solid and liquid cargo handling abilities, thorough coordination through exacting preparedness, and most importantly-the ability to adapt and adjust the plan in order to respond to any change or casualty. On deck, the crew works a choreographed 'ballet' with cargo elevators bringing up cargo to the deck, fork trucks shuttling the cargo



**USNS SUPPLY T-AO conducting six CONREP station and simultaneous VERTREP to USS GEORGE WASHINGTON CVN-73 in the Central Arabian Gulf in 2002. (U.S. Navy photo).**

**UNREP is professionally rewarding, providing a sense of tangible accomplishment, a key factor in determining job satisfaction. There are not many jobs ashore, never mind at sea, where the success of a single evolution, such as UNREP, will enable a key national security asset to remain on station to defend the Nation.**

to the CONREP stations as well as to the flight deck where it is netted and prepped for VERTREP.

Because there is such an abundance of marlinespike and overall seamanship involved, all UNREP ships require two full boatswains. Beyond this, the most capable UNREP ships even require two full chief mates, one just to handle the cargo and UNREP. On most UNREP ships, loading in port requires booms with the entire associated equipage. During the UNREP evolution, the STREAM winch operators must have superior skill and finesse so as to gently and expeditiously transfer their loads and land them precisely on the customer ship. It

is not uncommon to have to change out a spanwire or a high-line while the other stations are connected to the ship alongside. Frequently, the UNREP boatswain may have to perform a Flemish Eye or a ‘Molly Hogan’ to get the cargo on the hook and transfer started again. Separately, the Master and ship’s control, the bridge and engine room UNREP teams, must determine the safest Replenishment Course or “Romeo Corpen,” accounting for the customer’s follow on schedule, sea-state, traffic, etc. The physical handling properties of hydrodynamic bank cushion and bank suction effects when coming alongside always makes for an inherently dangerous operation.





Courtesy: CAPT Sean P. Tortora

**USNS Patuxent T-AO 201 conducting CONREP with two guide missile frigates (FFG) in the Baltic Sea 2007.**

## UNREP AS A CAREER

The business of UNREP is both exciting and demanding. Any former or retired UNREP crewmember from Master to engine room wiper will say UNREP was the best time they had at sea. Moreover, UNREP is professionally rewarding, providing a sense of tangible accomplishment, a key factor in determining job satisfaction. There are not many jobs ashore, never mind at sea, where the success of a single evolution, such as UNREP, will enable a key national security asset to remain on station to defend the Nation.

Other examples of the benefits that an UNREP career can provide include the sheer variety of skills required and the lack of boredom at work. No two UNREPS are the same and the schedule is always changing. Working on the newest and most advanced mission orientated ships provides the opportunity to both expand both sea-going technical knowledge as well as maritime skills in some of the industry's toughest conditions. The camaraderie of working with true professionals with decades of experience, and in the process making friends for life is yet another intangible benefit.

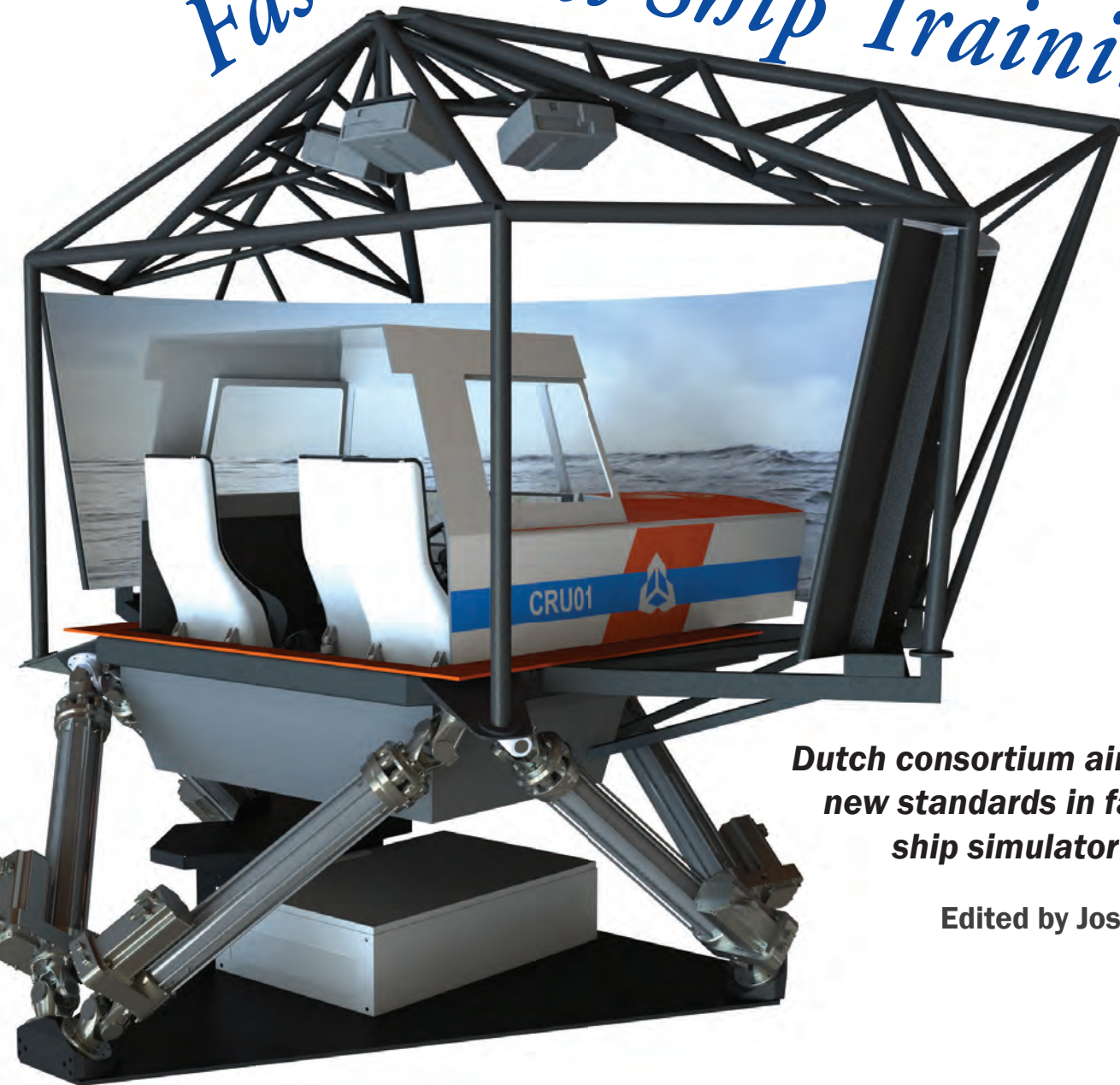
And yes: there is industry leading pay and job security, for if you choose UNREP as a career you will most certainly be employed by MSC, and that translates into a secure federal job in which you can build an entire career. Indeed: UNREP is serious business. *Romeo Closed Up!*



*The views expressed in this article are the author's own and not those of the U.S. Merchant Marine Academy, the Maritime Administration, the Department of Transportation or the United States government.* Captain Sean Tortora is a Master Mariner with twenty-five years at sea, most of which was spent with the Military Sealift Command on their Combat Logistic Force ships. He has conducted over 2,000 underway replenishments. He is also an unlimited Master of towing vessels and Master of underway replenishment vessels. Tortora holds a BS in Marine Transportation and MS in International Transportation Management from the State University of New York Maritime College. Today, he is a professor at the U.S. Merchant Marine Academy.

# Raising the Bar for

# *Fast Small Ship Training*



***Dutch consortium aims to set new standards in fast small ship simulator training.***

**Edited by Joseph Keefe**

**Image above: Cruden recently announced its entry into the marine simulation market with the development of a high speed boat simulator, based on a 6-DOF motion system and using detailed boat and water surface models.**

**A** joint venture between the Marine Research Institute Netherlands (MARIN) and the Dutch Ministry of Defense will see the development, within two years, of a new Fast Small Ship Simulator (FSSS) for the training of crews working on high speed boats. The effort is believed to be the first of its kind and heralds a new era of training options for a sector which has traditionally faced with expensive and difficult training options.

### Simulation & Fast small Ships

Using simulators for the training of maritime professionals is commonplace. As in other industries, from motorsport to aerospace, the real world variables and conditions that create the need for advanced training programs also provide the most difficult environments in which to train. Until now, marine simulation options have largely been focused on larger vessels, where the emphasis is on scenario planning, systems and processes as well as HMI/controls. However, fast small ships that play a vital role in all modern defense and littoral strategies – allowing a swift and flexible response to everything from illegal immigration and drug smuggling to fisheries protection and piracy – have just as much need for viable simulation technology. That’s because crew training is arguably more weather dependant and tough on instructors, who face up to a 1,000 hours per year at sea, all the while enduring slamming acceleration forces of up to 9 g.

Something had to be done. The worthy FSSS project involves recruitment of key suppliers Cruden and Tree C Technology as well as the simulator’s end-users, the Royal Dutch Naval Defense School and the Royal Dutch Navy’s Surface Assault Training Group to deliver a whole raft of training and cost improvements.

A solid team of industry stakeholders will take the project forward. MARIN is an internationally recognized maritime research institute, conducting research on the basis of numerical simulations, model testing, nautical training and life-size trials. For its part, Cruden designs and manufactures professional, interactive, motion-based driving and racing simulators. Its forte is the development of professional-grade simulator technology for the automotive, aerospace, rail and marine industries. Cruden serves many sectors of international motorsport, global car companies, automotive systems suppliers, universities and research institutes. Tree C Technology provides real time simulators for the offshore and remote handling industry, based on proprietary VR4MAX visualization and simulation technology. Applications for Tree C Technology in the offshore industry include training for niche operations such as heavy lift, pipe lay, drilling rig operation, rock dumping, dredging, deep sea mining and the nuclear fusion industry.



“We will offer a completely new solution for training in critical safety and boat handling situations where motion, forces and dynamic feedback play an important part, transferring simulation technology and know-how from the automotive and motorsport industries to the marine sector.”

– Cruden CEO Maarten van Donselaar

### Detail and Precision from Motorsports

Within the FSSS proposition, it is the focus on accurate motion that first differentiates this project from others known to the industry. The FSSS will be the first in the world to integrate advanced maneuver and seagoing simulation technology, the latest motion cueing algorithms and state-of-the-art visualization of both the marine environment and ‘at sea’ conditions. The latter variable is an important one, since the forces ex-

erted on mariners in these typically rough conditions can alter and diminish performance.

“We will offer a completely new solution for training in critical safety and boat handling situations where motion, forces and dynamic feedback play an important part, transferring simulation technology and know-how from the automotive and motorsport industries to the marine sector,” explains Cruden CEO Maarten van Donselaar.

“A hydrodynamics-focused simulator, using detailed boat and water modeling, state of the art motion cueing algorithms, as well as professional image generation, is the next frontier for realistic and accurate training in fast boat handling, safety and navigation. The FSSS simulator will be geared specifically to giving its crew a dynamic nautical setting in which they can perfect all the maneuvering and navigational skills they might require,” he added.

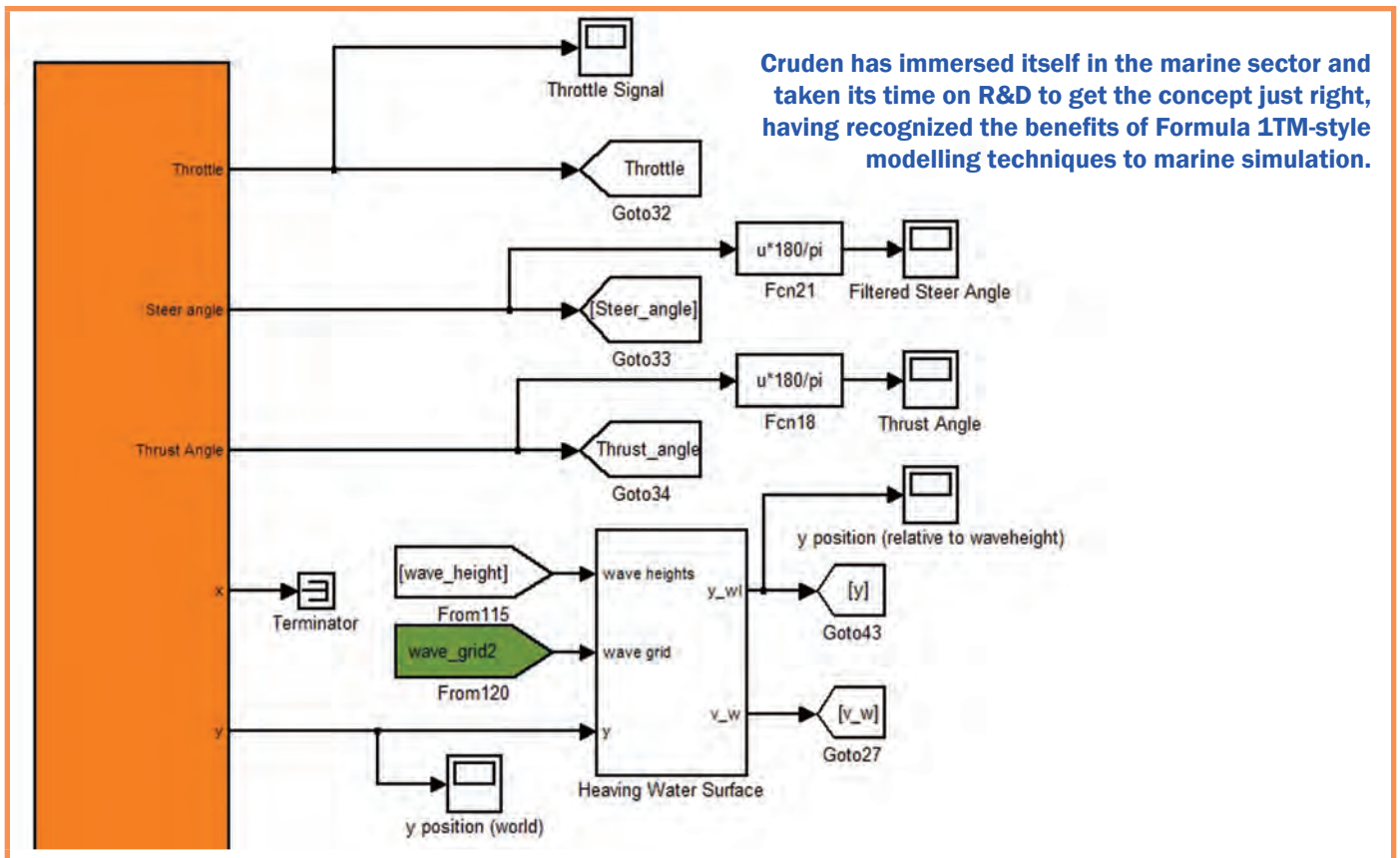
Although not necessarily well known in maritime circles, this is not Amsterdam-based Cruden’s first foray into simulation. Cruden, which originated from Fokker Aircraft Company and FCS Racing Simulation, has been developing professional motion simulators, simulator software, vehicle/boat and surface models, as well as professional image generation for more than two decades. The company recently announced its entry into the marine market and exhibited a high speed boat technology demonstrator simulator at the 7th HSBO

(High Speed Boat Operations) Forum in Lisbon, Portugal in May. The simulator was developed with data gathered from the Dutch military on its fast interceptor and security boats and from Florida-based powerboat specialists. It will enable realistic and detailed data-led AAR.

Cruden has immersed itself in the marine sector and taken its time on R&D to get the concept just right, having recognized the benefits of Formula 1™-style modeling techniques to marine simulation. van Donselaar explains, “We have created detailed models for waves and boats as well as the interaction between the water and the hull. These elements are linked to the visuals creating a perfect match between a wave’s appearance and its feel; a proper graphical and physical representation of water and a boat. Our waves are based on actual changing physical wind parameters, such as force and direction as well as swell, which can all be tuned by our customers.”

Back to those simulator benefits, the Consortium is promising reduced costs through savings in maintenance costs associated with front-line operational craft and through lower fuel consumption. Training hours will increase, enhancing safety through additional opportunities to practice accident prevention in repeatable conditions, while protecting instructors from real world elements.

On the WEB: [www.tree-c.nl](http://www.tree-c.nl) / [www.cruden.com](http://www.cruden.com)



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# Mind the G a p



***The AMO's STAR Center uses simulation to close competency and communication gaps at sea.***

*By Rick Eyerdam*

Captain Larry Reimer watches the radar and navigation charts arrayed in front of him while glancing at the screens filled with images of five licensed deck officers on the real life simulation bridge deck above him. The captain and mates are trying to make their way into one of hundreds of simulated ports aboard one of hundreds of simulated ships that live in the massive array of computer simulation technology the Dania, Florida-based STAR Center puts at the disposal of Capt. Reimer and a crew of veteran instructors and assessors every day.

For each approach there is a script that Capt. Reimer follows to challenge his students up on the 360-degree visibility bridge, which is surrounded by a massive holodeck displaying, as if real and in exact size and detail, a mixture of bad weather, wandering fishing boats, medical emergencies, churning seas and failing technologies. Today with a third

mate playing the role of captain and a rare female licensed deck officer at the helm, Reimer watches in amazement as the fledgling captain skirts a gaggle of party boats up onto a shallow bank and zigs past without incident on his way up the Delaware River toward anchorage. That's because, only a few months ago, a seasoned captain tried a similar risky maneuver at this "place between the eights" and ran a very large simulated tanker aground near top speed.

## **CAUSE & EFFECT ANALYZED**

In the debriefing following both sessions, the men were asked the same question. What made you decide to accept the risk of going that way rather than following the consensus course in deeper water? The gathering of drifting party boats was a key variable, noticed too late. But, neither had a defensible answer.

The next question Reimer asked strikes at the heart of the

program. With five qualified officers on the bridge who had shared a consensus plan for safe, low-risk passage up the Delaware to the anchorage, why didn't anyone raise a question or an objection when the young captain, confronted with the party boats, took a different, high-risk course?

STAR Center simulations can improve the ability of these licensed maritime professionals to interpret charts, plan approaches and avoid groundings. These are deck officers of US flag carriers, and they ought to know what they are doing. In fact they do. What Reimer and the STAR Center are retained to do for the US fleet officers is teach them to work as a team while on the bridge (or in the engine room) with the goal of safer and more efficient passage.

"It is the job of every officer on the bridge to be aware of the conditions around the vessel and below in the engine room. We strive to stimulate conversations, collaboration and discussion so the obvious is not overlooked or poor decisions go unchallenged," Reimer explains, continuing, "The Bridge Resource Management simulation requires that they plan each stage of their sailing. So there is no reason a vessel should encounter any difficulty underway except a failure to properly use the equipment that is available and a failure to properly discuss the options and conditions while underway," the 20-year veteran explains.

Citing a case where two ships collided while under the direction of a harbor pilot, in low visibility "without any substantive navigation assistance or input from the vessel's bridge watch team" and noting the crew had recently completed a bridge resources management course – not at STAR Center – the Coast Guard underlined the importance of the key STCW courses for credentialed bridge officers: "The vessel's operating company had policy and procedures in place requiring crews to utilize BRM, yet communications between the crew and the pilot were lacking," the safety alert noted.

### **STCW, SIMULATION & STAR**

STCW – Standards of Training, Certification and Watch-keeping – were required by the Coast Guard after new management regulations were mandated by the International Maritime Organization (IMO) in 1995. STCW were amended in 2010 and all professional mariner certifications must be STCW 2010 Compliant by January 1, 2017, with the exception of U.S. mariners working exclusively on inland waters or domestic waters which are exempt from the STCW requirements.

All management level Officers, whether deck or engine room, who already hold a USCG license, but have not taken the training to obtain an STCW 2010 Compliant Certificate must complete the five day leadership and management course to retain their certification.

Engineers must also complete a five-day engine room resource management course. And management level engine of-

ficers must also successfully complete a five-day management of electrical systems and electronic controls course. As with the bridge officers, at STAR Center engine room officers are exposed to virtual reality simulations with holodeck-like engine rooms where they work as a team to confront typical and unusual propulsion situations and resolve them.

"It is widely quoted that nearly 80 percent of transport accidents are due to human error. It is the human element on board ship that can either provide the skills that may prevent a disaster, or the frailty or plain lack of competence that can cause one. And, while the capability, complexity and sheer power of technology seems to be accelerating exponentially, the human element remains a basic component with all its strengths and all its weaknesses. That is why the international maritime community has now evolved from an approach, which traditionally seeks technical solutions to safety-related problems and is focusing instead on the role of human factors in maritime safety, the web site [www.stcw.org](http://www.stcw.org) explains.

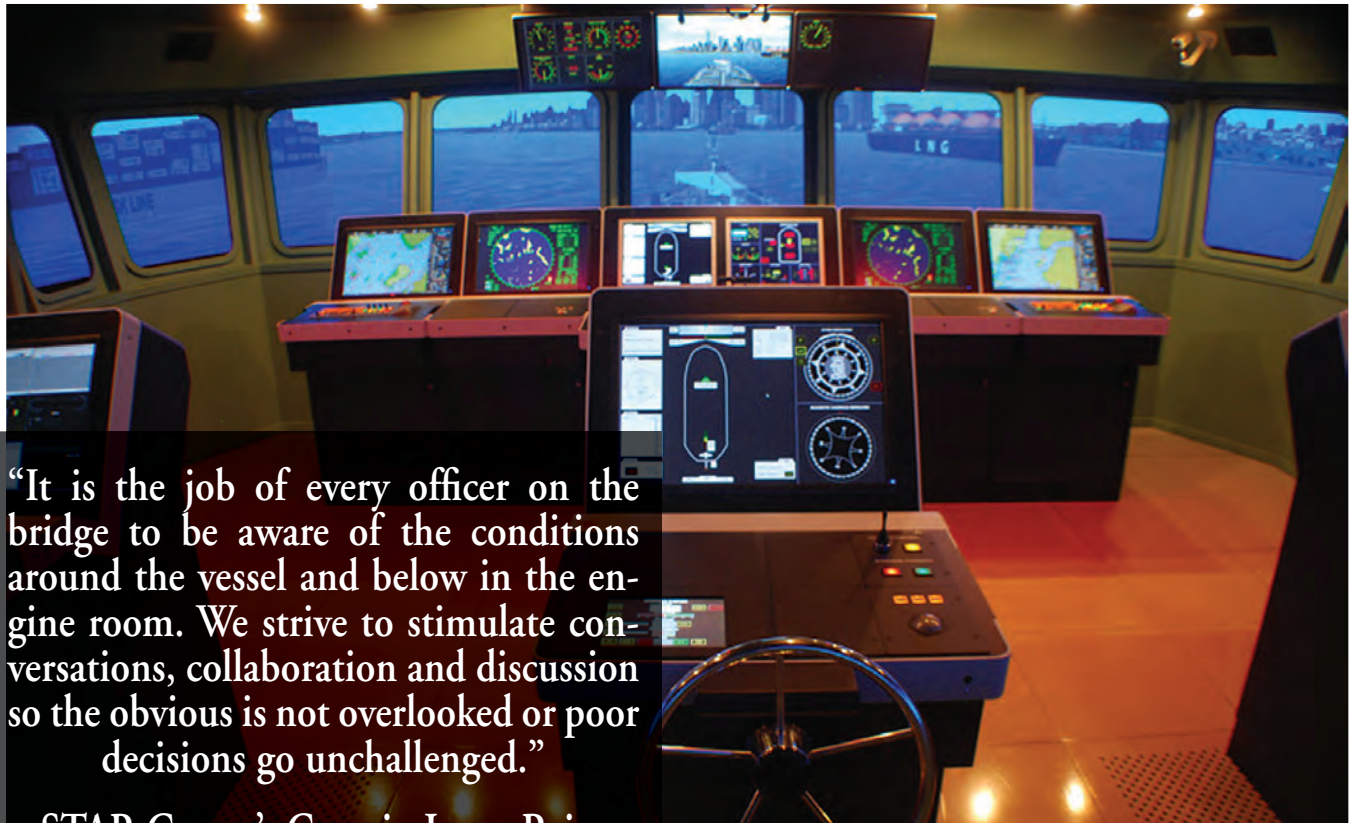
The role of STAR Center in this gap closing process is a continuation of its role as the Simulation, Training, Assessment & Research Center – the primary training provider for members of the American Maritime Officers union (AMO).

### **STAR TODAY**

As Graeme Holman, head of operations at STAR Center explained, major operators of US Flag vessels – from Maersk to Crowley, from TOTE to the American Steamship Company are contracted companies with AMO, who in turn offer Simulation, Training, Assessment and & Research free of charge to the officers who sail on board the union AMO-contracted ships. "They are at sea as much as 180 days a year and they come here for the courses on their vacations. So we try to make it as nice as possible," Holman, a British Navy retiree, says.

That includes a converted tropical motel adjacent to the training center with two swimming pools and a gym. It includes three square meals from an elaborate galley each day and the other benefits in spending a week or so just south of Fort Lauderdale in Dania Beach, Florida. And, while STAR Center and the AMO are concerned with arranging the training to issue 6,000 gap certificates to 3,500 bridge and engineering officers by Jan. 1, 2017, that is just part of the program.

For example, in conjunction with TOTE and the US Coast Guard, STAR Center has completed for certification the first LNG Simulator Training to match the configuration of the newly launched Isla Bella, built for TOTE by General Dynamics NASSCO the world's first liquefied natural gas (LNG) powered containership. Set to sail in the Jones Act trade between Jaxport and Puerto Rico, the Isla Bella is part of a two-ship contract signed in December 2012 with TOTE. The 764-foot-long Marlin class containerships will be the largest dry cargo ships of any kind in the world powered by LNG.



“It is the job of every officer on the bridge to be aware of the conditions around the vessel and below in the engine room. We strive to stimulate conversations, collaboration and discussion so the obvious is not overlooked or poor decisions go unchallenged.”

– STAR Center’s Captain Larry Reimer

Their bridge and engineering crews are being trained exclusively at STAR Center.

Whether employing a first-of-its kind 360 degree simulator or intense classroom instruction, the veteran staff – averaging 20 years at STAR and another 20 at sea – offers almost any kind of practical training possible from basic safety to programmable logic controllers, from advanced bridge resource management to a STCW deck officer refresher for Great Lakes vessels.

STAR Center will admit any licensed officer who speaks English as a commercial customer regardless of affiliation on a space-available basis, Holman said. “But our principle job is to provide the services that are specified in the AMO Plan to its members and contracted companies. Right now we are trying to fill our school at 100 percent every month we are open to accomplish the Gap closing mission,” Holman explains and adds, “The summer months are the best time to apply and help us ease the inevitable last minute rush.”

The Center for Advance Maritime Officers Training and Simulation, Training Assessment & Research Center (STAR) are not-for-profit entities established under the auspices of the American Maritime Officers Safety and Education Plan. Those wishing to participate who are not party to the AMO Safety and Education Plan pay fees for classes and board. And

a new program to assist young men and women who are not part of the Maritime Academy system is being offered to high school graduates who will commit to three years and nine phases of free training and apprenticeship to become AMO member third assistant engineers.

“This TECH program is our newest outreach, said “Philip F. Shullo, MNI Captain, US Navy (Ret), Director of Training / Managing Director of STAR Center. “There is a critical need for maritime personnel but especially for seagoing marine engineers. It is a great opportunity with excellent training and small compensation during the process.” More information about The Engineering Candidate Hawsepipe (TECH) Program is available on the STAR Center web site at:

[www.STAR-center.com/techprogram/techprogram.html](http://www.STAR-center.com/techprogram/techprogram.html).



**Rick Eyerdam** is a Miami-based, national award-winning journalist and editor. He is a former editor of Florida Shipper Magazine and has served as an adjunct professor of communications at Florida International University. Eyerdam graduated from Florida State University with a double major in English Literature and Government. His articles have appeared in myriad maritime publications.



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## USCG Approved STCW Ice Navigation:

# Are you Ready?

*The Manila Amendments to the Polar Code underscores the obvious need for competence in ice as increasingly accessible Arctic waters see more traffic.*

By Dr. Orson Smith and Captain Michael Terminel

The International Maritime Organization announced refinements to the Manila Amendments to the Polar Code in February 2015. This now will give better guidance to the requirements for STCW training of ships officers navigating in Polar Waters. Separately, it is also no coincidence that the Alaska Vocational Technical Education Center (AVTEC), Alaska Institute of Technology in Seward, Alaska, presented the first Ice Navigation course approved by the US Coast Guard in November 2014.

The curriculum for the 10-day short course was developed by a team of senior Alaskan mariners and a University of Alaska Anchorage Arctic engineer, with a view toward implementation of IMO Polar Code requirements. The course is compliant with current IMO STCW guidelines for ships operating in ice-covered waters, emphasizing Arctic operations associated with offshore oil and gas development.

### KNOWLEDGE BUILT ON KONGSBERG SIMULATION

Any mariner completing the Ice Navigation (ALAVCT-738) course will satisfy the knowledge, understanding, and the proficiency for the ice condition, voyage planning and navigating ice requirement of Section A-11/2, Table A-11/2 and Section A-11/3, Table A-11/3 of the STCW Code as amended 2010, and task 1.1.A.4 of NVIC 10-14 and 1.1.A.3 of NVIC 11-14. As changes are made to the Polar Code, AVTEC's courses will also evolve with minor refinements to meet any new requirements to conform to the 2015 IMO Ice Navigation training guidelines.

AVTEC's course makes extensive use of simulation using the Center's Kongsberg Polaris Class A and two Class B simulator bridges. Simulations begin with bridge familiarization and basics of observing and reporting ice conditions.

**Image above: Niklas Ranta checks distances and ice concentration during a close quarter maneuvering exercise in AVTEC's full mission simulator in Seward Alaska.**

Participants apply ECDIS and ARPA tools to supplement life-like Arctic visualizations in the Det Norske Veritas (DNV)-certified simulator bridges. Complex simulation scenarios challenge participants with exercises in route finding, pilot transfer, anchoring, convoys, and emergencies in ice. Each exercise in the simulator involves at least 45 minutes of intensive mission evolution, followed by debriefing discussions among course participants and instructors.

The three interactive simulator bridges at AVTEC realistically portray hydrodynamics of ship interaction with a solid ice edge and with broken ice, reduced stability from superstructure icing, interactions between multiple ships in ice, and towing in ice.

Each participant must have a turn at “the con,” at the helm, and as navigator, using all the sensors, displays, radio communications, and other bridge resources of a modern well equipped ice-going ship. Simulator experience provides course participants with confidence to deal with extraordinary ice navigation challenges without the expense and risks of real-world experience at sea extreme conditions, such as extreme cold, high winds, high waves, darkness, fog, and snow.

## SIMULATION & AVTEC

AVTEC ship simulators have been instrumental in training mariners for over a decade. Maritime professionals from Alaska and throughout the United States have utilized AVTEC simulators and other facilities for advance training including

“Any mariner completing the Ice Navigation (ALAVCT-738) course will satisfy the knowledge, understanding, and the proficiency for the ice condition, voyage planning and navigating ice requirement of Section A-11/2, Table A-11/2 and Section A-11/3, Table A-11/3 of the STCW Code as amended 2010, and task 1.1.A.4 of NVIC 10-14 and 1.1.A.3 of NVIC 11-14.”



**Captain Michael Terminel at the helm and Niklas Ranta at a recent practice session while navigating in Ice in AVTEC’s DNV certified full mission simulator.**

pilot groups and watch-keeping crew from cruise ships, tankers, commercial fishing vessels, ferries, and US Coast Guard ships. Kongsberg Vice President of Sales and Acting General Manager of the Americas Clayton Burry extended congratulations to AVTEC on having completed its first STCW 95 approved Ice Navigation Course for professional mariners. He said, “AVTEC’s innovation in the development of new programs tailored for operations in the harsh environments of the

“Participants apply ECDIS and ARPA tools to supplement life-like Arctic visualizations in the Det Norske Veritas (DNV)-certified simulator bridges. Complex simulation scenarios challenge participants with exercises in route finding, pilot transfer, anchoring, convoys, and emergencies in ice.”

Alaskan coast, Northwest Pacific and Arctic waters are commendable,” adding “Kongsberg is proud to have shared this remarkable voyage with AVTEC. From the US Coast Guard-approved ice navigation course endorsed in May of 2013, where AVTEC was recognized as having the first approved training course as outlined in Subpart C of Part 11, Title 46, Code of federal Regulations governing ice Navigation (ALA-VTC-738), this has provided a valuable learning experience for all.”

Classroom training in the course begins with principles of ice physics as a basis to understand ice formation, behavior, and decay, including ship superstructure (sea spray) icing. Characteristics of lake, river, sea, and glacier ice are thoroughly reviewed, including international standards of observation, classification, and reporting. Polar weather and regional ice climatology are also reviewed. Selected historical ice reports are interpreted by participants in the classroom, and then subsequently applied in simulator exercises that demonstrate the effects of winds and currents on ice behavior. Participants are also led to consider steps to prepare ships and crew for duty in ice and Arctic winter conditions, as well as issues associated with protected Arctic wildlife and accidents at sea, such as instrumentation and mechanical break-down and prevention of and responses to oil spills.

According to Dr. Lawson Brigham, former Coast Guard icebreaker commander and Professor of Geography & Arctic Policy at the University of Alaska Fairbanks, the importance of the AVTEC Ice Navigation course to the maritime community is significant. He said, “The human dimension has been the most important element of the IMO Polar Code discussions for more than 20 years. Expertise and competence in the pilothouses of ships sailing in polar waters have leading, instrumental roles in the implementation of a mandatory Polar Code and in enhancing Arctic marine safety and environmental protection. The AVTEC class is the first US Coast Guard-approved Ice Navigation course in the US and it goes a long way to closing a critical gap in polar navigation training.”

## EVOLVING RULES AND CURRICULUM

The first presentation of the AVTEC Ice Navigation course naturally has led to refinements in the order, depth, and delivery mode of various topics addressed. Future offerings of the course will continue to emphasize simulator application of principles and practices introduced in the classroom. The course targets watchkeeping ships’ crewmembers, so the course will also continue to rely on interaction of the senior mariners attending to provide context for readings and classroom presentations.

Topics will be adjusted to remain compliant with IMO STCW and Polar Code requirements as these rules develop further. AVTEC will offer the Ice Navigation course several times each year, but can also accommodate industry needs for a special schedule.

**Captain Michael Terminel** holds a current USCG Unlimited Master and First Class Pilot licenses. He has served on multiple Ice Class vessels making over 30 expeditions to Antarctica and multiple voyages to the Alaskan Arctic. He is an adjunct Instructor at AVTEC and currently sails as Master on Sub Sea Construction vessels globally. Dr. Orson Smith is a Professor Emeritus of Civil Engineering at the University of Alaska Anchorage, a Diplomat of Port Engineering in the Academy of Coastal, Ocean, Port, and Navigation Engineers, and a licensed Professional Engineer in Alaska.

# Maritime Professional Development in India



*Changing priorities and enabling transitions.*

**By Unudurti R.P. Sudhakar**

It is a stated objective of the Indian government to substantially increase India's share in global seafarers. With the opening up of pre-sea training to private sector participation nearly twenty years ago, a number of institutes came into existence across the country. Nearly one year ago, then Directorate General of Shipping, Gautam Chatterjee, said, "Currently, Indian seafarers account only for 6.7 per cent in the world maritime domain and our aim is to produce 9 percent of seafarers by 2015."

To that end, and in recent years, the Indian Maritime Administration (known as the Directorate General of Shipping)

has been taking on an increasingly active role on two fronts: Enhancing the quality of maritime training and facilitating employment of Indian seafarers.

Today, India's 138 training institutes produce nearly 3,500 potential seafarers every year. For them, finding employment in a cyclical industry amidst stiff competition is a major challenge – especially at the entry level. Last year, the Directorate introduced a comprehensive inspection program (known as CIP) to benchmark India's maritime training institutions – focusing initially on pre-sea training. The inspection and grading are carried out by International Association of Clas-

**Image above: (L to R) M.V. Ramamurthy, President (Shipping), Reliance Industries Limited; Capt. Sunil Thapar, Director, Shipping Corporation of India; Dr. Sujata Naik-Tolani, Chairperson of Tolani Shipping Co. Ltd., Ms. Neera Saggi IAS, Capt. Milind Patankar, CEO, Transworld Bulkcarriers (India); and Dr. B.K. Saxena, Principal, Tolani Maritime Institute.**

sification Societies (IACS) member organizations. In terms of the number of CIPs handled, the Indian Register of Shipping (IRS) is at the forefront of this nationwide exercise.

Thus far, the process has produced encouraging results. Most training institutes are appreciative of the benefits that come from benchmarking themselves with respect to best practices. For the trainees, increased accountability and transparency have become evident. Beginning with the current year, the CIP regime has been extended to post-sea training as well.

### Changing Priorities

In an expert panel discussion organized by IRClass Academy in Mumbai in March this year, panelists identified several key factors that are unique to maritime professional development in India. The panel agreed that the key drivers that led to the choice of seagoing profession in an earlier era included assured employment, well-defined career progression, high salaries and the opportunity to see the world. The panel discussion helped in clarifying several issues relating to employment, retention and ‘second’ career ashore, particularly in respect of the Indian officers serving at sea.

Today, however, the picture is totally different. Youngsters do not have to go to sea to earn handsome salaries or to see the world. For example, India’s growing IT and service industries have opened up new vistas of employment opportunities for today’s younger generation. Employment terms often include traveling abroad on work assignments, paid international holidays and other benefits.

Nevertheless, with a population of 1.2 billion people and nearly half of those under 21 years of age, and with unemploy-

ment continuing to be a huge challenge, there will always be a several thousands, if not millions of aspirants, who would be interested to go to sea. This move away from the seagoing career track is therefore not expected to impact the industry way it did in developed countries such as the United States or United Kingdom. India’s contribution to seafaring will therefore remain strategic and steady.

### Push and Pull

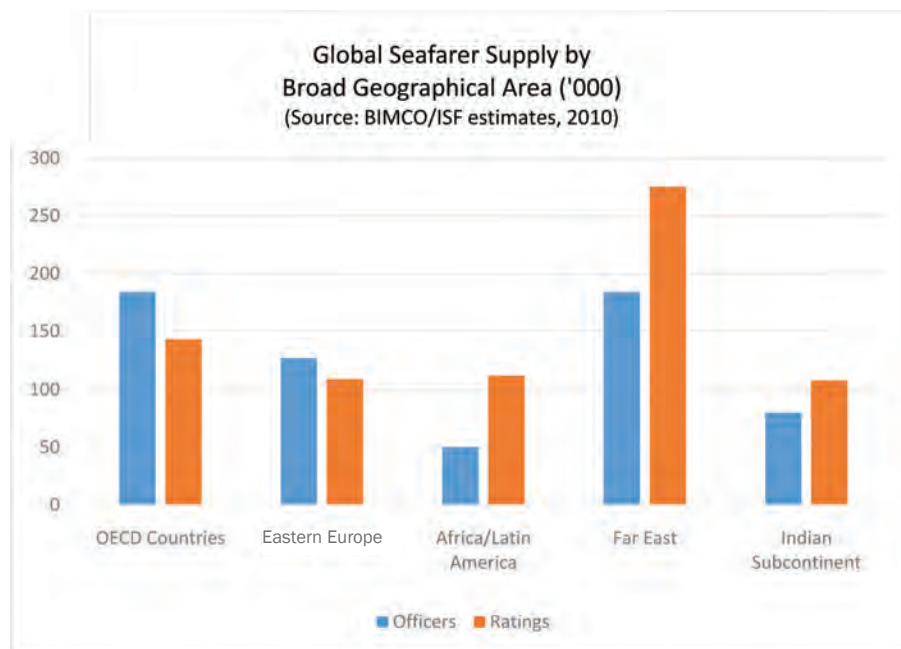
Some of the serving seafarers who took part in the panel discussion of March 2015 attributed the trend of Indians moving away from the seagoing role early on to a number of ‘pull’ factors. These included increasingly high salaries ashore and the need to start building a ‘second’ career ashore sooner rather than later and family commitments. The improved educational background of present-day Indian seafarers also gives rise to a newer and wider range of options for pursuing higher education – especially in management studies. The ‘push’ factors included increasingly short port stays, piracy, the massive increase in complex international and local regulations coupled with the risk of being jailed and finally, the ever-growing headache of paperwork at sea.

The end result is that Master Mariners and Chief Engineers are lost to the shipping industry just when they have attained the highest professional qualifications. They become job seekers in a variety of industries for occupations for which they have not been oriented and often settle for lower wages. This transition can be highly stressful.

### Enabling Transition

Indian officers have been able to find success ashore in globally diverse locations such as Singapore, Middle East, Europe, the United States, but within India, the scale and scope of opportunities has been limited. Indian seafarers looking for shore-based employment are therefore well advised to seek global opportunities by attaining industry-recognized, international qualifications.

Preparations for finding a shore job need to begin well in advance – certainly by the time one reaches the rank of Chief Officer or Second Engineer. Beyond this, it has been found that the willingness to “go back to classroom” to unlearn and re-learn are critical success factors. Clarity about priorities is very important in making the right choice within the wide range of options avail-





**Deepak Shetty, Directorate General of Shipping, welcomed by C. Sriramamurthy, COO of Indian Register of Shipping, Dr. Sujata Naik-Tolani, Chairperson of Tolani Shipping Co. Ltd., who chaired the Panel.**

able ashore, as opposed to vaguely looking for a ‘shore job’.

Career counseling, managing personal finances, preparing for changes that occur when the transition is made – including changes in income levels, counseling for working in diverse teams in non-marine environment, acquiring commercial knowledge and basic understanding of financial management and computer skills are included in the preparations.

### **The Way Forward**

By actively supporting preparations and planning for career transition by seafarers, forward-looking shipping companies can demonstrate that they care for them. Some of these skills could directly benefit the shipowners and help to meet some of their requirement of managerial talent ashore. This approach will also enhance the brand image of the shipping company, improve recruitment quality and retention.

Also to assist the transition, flexible e-learning opportunities and need-based designing of courses, internships across countries and exchange programs will ultimately speed up learning and maximize benefits. Mixing of students from different nationalities and cultures is in itself a great learning environment. Shipping, after all, has always been a global industry.

### **IRClass Academy**

By virtue of its close liaison with all segments of the maritime sector, its active role in IACS and involvement in providing technical support to the Flag State, IRS is uniquely positioned in India to take the lead in matters of professional development. Both trends identified in the panel discussion – the changing priorities of the Indian seafaring officers and the pressing need for facilitating their transition to future shoreside

roles – have led IRS to fine-tune the Academy’s focus areas.

Looking further and beyond its active role in implementing and enhancing standards for pre-sea and post-sea maritime training, IRS anticipates the need for promoting continual professional development among maritime personnel. Another segment that did not receive adequate attention comprises those seeking to move into the maritime sector laterally – without the seafaring background. The Academy will cater to this group as well.

Without having to re-invent the wheel, the Academy intends to build on existing competencies and capabilities – both within IRS and outside – in India and abroad. Partnering with industry and collaborating with Indian and international academic and research bodies and multi-disciplinary approach lie at the core of the approach adapted by IRS. In terms of immediate business advantages, Academy’s work is also expected to deepen client engagements across all maritime sectors.

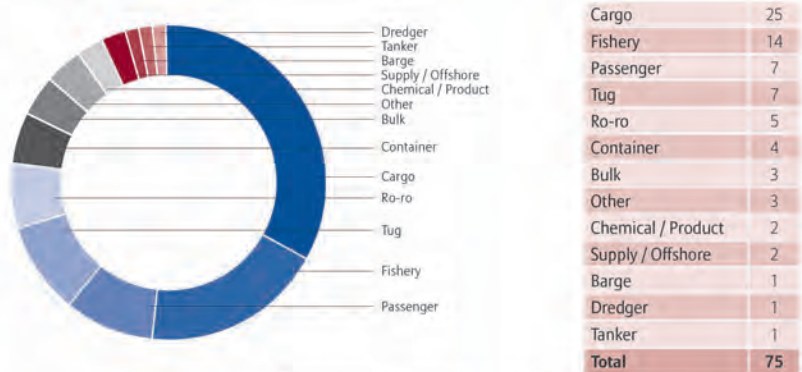


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# Safety on the High Seas – Losses decline, new threats emerge, the human element worries

## Total Losses by type of vessel

January 1, 2014 - December 31, 2014



Source: Allianz Global Corporate & Specialty (AGCS).  
AGCS Analysis of Lloyd's List Intelligence Casualty Statistics

According to Allianz Global Corporate & Specialty SE's (AGCS) third annual *Safety and Shipping Review 2015* which analyzes shipping losses of over 100 gross tons, shipping losses again declined in 2014, making it the safest year in shipping for 10 years. Nevertheless, it is the human element that has emerged as one of the biggest concerns

in terms of shipping safety going forward. Purely by the Numbers, 2014 was an improved year over 2013 in terms of maritime safety.

The Allianz report asserts that shipping losses have declined by 50% since 2005, driven in part by a robust regulatory environment. And, while that may be true, many emerging human issues

keep insurers up at night. For example, *passenger ship safety and crew levels* remain in the spotlight, especially in regards to recent casualties such as Sewol and Norman Atlantic. Significant concerns over the gap in training and emergency preparedness on passenger ships remain, three full years after the Costa Concordia disaster. Beyond this, the trend for smaller crews means seafarers are being asked to do more with less.

The impact of *increasing competition* is the top risk identified by the marine sector in 2015. That's because vessel construction is not always the only weak point. Levels of crew experience, training and emergency preparedness can also be inadequate. *Minimum manning levels* are reducing the ability to train people on-board, providing invaluable insight. With crews being mandated to meet often unachievable hours of rest – and taking on secondary and tertiary duties – improved training alone is not the panacea.

The shipping industry has welcomed the recent arrival of *the Polar Code*, which aims to curb risks from increased

**207,000** – Number of migrants crossing the Mediterranean in 2014, driven by the civil war in Syria.

**2,773** – Number of shipping incidents (casualties) globally (including total losses) during 2014.

**600** – Approximate number of vessels diverted to rescue people (estimated by IMO) in 2014.

**490** – Number of shipping losses in the East Mediterranean & Black Sea region, the global hotspot.

**245** – Number of global piracy attacks in 2014; down for the 4th year in a row.

**127** – The ten year average of annual total losses in shipping.

**110** – Number of losses in December – the worst month in the Northern Hemisphere over past decade.

**75** – Number of large ships lost worldwide in 2014, down by a third year-on-year.

**55** – Number of reported shipping incidents in Arctic Circle waters during 2014, including one total loss.

**49** – Number of 2014 total losses caused by foundering (65% of losses; the number one causation).

**29** – Average age of vessels lost in 2014.

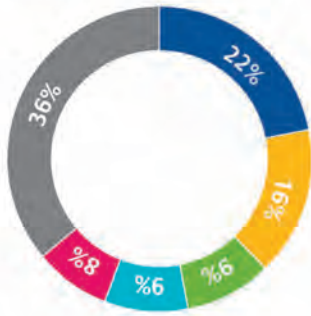
**7** – Number of passenger ships lost during 2014, accounting for almost 10% of total losses.

**7** – The number of total losses in the Northern Hemisphere for every similar event in the Southern Hemisphere.

**1** – Ship grounding: the top cause of loss by value - 50% of all marine claims in excess of €1m.

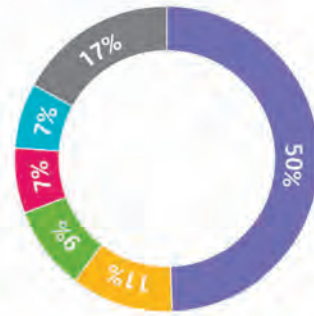


## Top Causes of Loss: Marine Claims (€1m +)



### No. of Claims

Machine damage/breakdown	22%
Fire	16%
Hull damage	9%
Collision	9%
Storm	8%
Other	36%



### By value

Grounding	50%
Fire	11%
Hull damage	9%
Storm	7%
Collision	7%
Other	17%

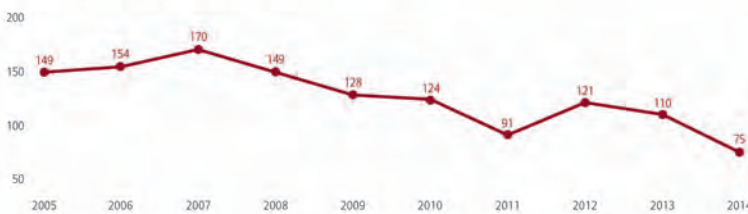
Source: Allianz Global Corporate & Specialty. Data based on accident years 2009-2013

## Total Losses by Top 10 Regions: 2005-2014 and 2014



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

## Total Losses by Year a declining trend



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS  
Graphic: Allianz Global Corporate Specialty (AGCS)

Read the Full Report at:

<http://www.agcs.allianz.com/assets/PDFs/Reports/Shipping-Review-2015.pdf>

traffic in the Arctic and Antarctica. While the code addresses many safety issues, questions remain, particularly around crew training, vessel suitability and potential clean-up. And incidents in Arctic waters are up markedly in the last decade. The *overreliance on electronic navigation* is still a real concern, says Allianz. Training standards around systems such as Electronic Chart Display and Information Systems (ECDIS) are mixed and technology advances are not always being filtered back to the training environment.

*Global piracy attacks* are down for a fourth year in a row, but attacks in South East Asian waters are up year-on-year, as are incidents in the Indian subcontinent, with Bangladesh a new hotspot. Different piracy models continue to thrive, leaving seafarers at risk. *Crew negligence* is often a driver behind three of the top five causes of loss (grounding; hull damage; and collision). Collectively, these account for over 60% of the value of claims over €1m (\$1.36m).

While *healthy competition* has driven research and development into increasing ship sizes, intensified competition is a double-edged sword. The other side of this intensified competition is that companies that cannot afford larger ships to take advantage of economies of scale have to find ways to make themselves economically viable. *Cutting crew wages* and *reducing the size of the crew* and has a direct impact on the potential for severe losses. Intensified competition is not only driving the major players into major infrastructure investment, it's also putting tremendous pressure on the mid- and lower-tier players to find ways to stay economically viable. All of that adds up to real concerns about *mariner safety, training standards and other human issues*.

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