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December 2012

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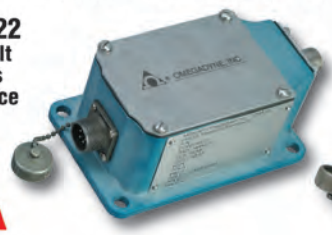

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For more Great Ships turn to p. 30

GREAT SHIPS OF 2012

ON THE COVER

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Pictured on the cover is CMA CGM Marco Polo, at 16000 TEU the largest containership in the world. Great Ships coverage starts on page 30.

(Photo Credit: CMA CGM)

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** Euroconsult Report, March 2012 and NSR, May 2012*

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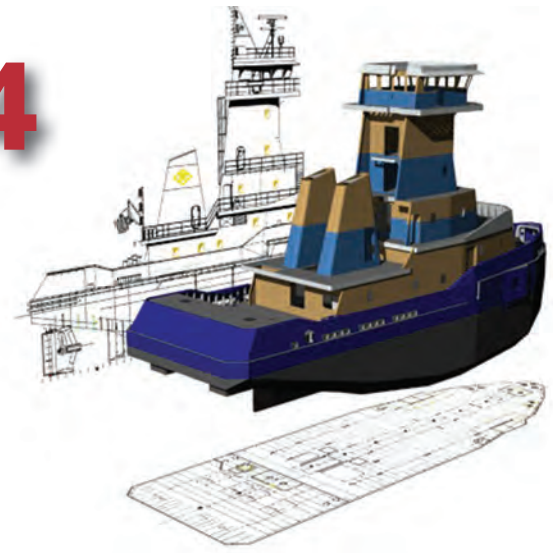

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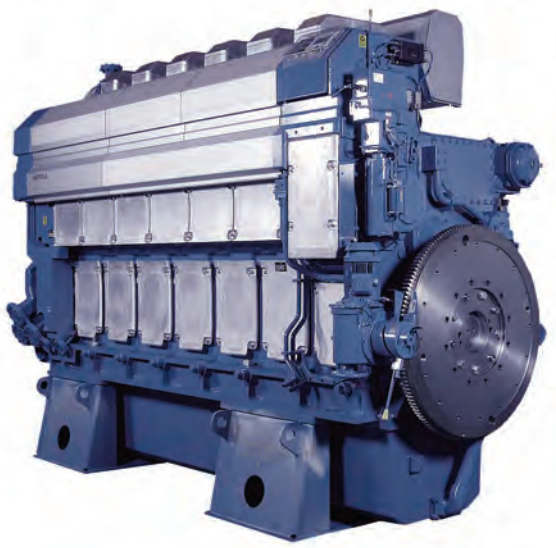

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The year-end editions of all publications we produce are perennially my favorites, and not simply because they signal time off over the holidays for food, drink, family and friends. The year-end editions to me remain a symbolic and real time of reflection on the past year's events, but even more importantly an overview of the market with some insights of trends to come. I find this particularly important today, in the 24/7 life and news cycle where there rarely is true downtime, and the tether between office and employee becomes ever stronger with the advent of technology.

Despite common perception, good news and opportunities abound in today's maritime market. Vessel owners generally tend to be a 'glass half empty' lot, as they are constantly challenged to invest in fleet and personnel to meet emerging international, national and sometime local rules. While it would be my distinct pleasure to be the one reporting a moratorium from costly new mandates, I'm afraid it's not going to happen; ever. Increasingly stringent mandates, particularly in respect to the environmental signature of a fleet and the health, welfare, training and education of its seafarers will become ever more onerous. How can this possibly fall under the "Good New" category, you ask? Look at the case of MV Cellus, a small specialty German freighter owned by R. Braren of Kollmer, Germany, and built in 1998 by Peters Schiffbau to an exceptionally high technical spec with the aim of reducing emissions, among other environmental initiatives. Our German-based correspondent Dipl.-Ing. Peter Pospiech reports on this innovative ship – which incidentally is the first ship ever to be conferred the Blue Angel eco label – starting on page 30. (If you have never heard of the "Blue Angel" eco label, you are in good company, as my first knowledge of it was when Peter proposed the story.)

The offshore energy industry continues to be the light burning bright in terms of business prospects, as globally the hunt to discover and recover oil and gas kicks into high gear. According to IMA's 48th Floating Production System report, which is featured on page 8, the number of floater projects now in the planning stage is 12% greater than a year ago, 64% higher than five years ago. In another show of optimism, five speculative production floater orders have been placed in the last 12 months. The locales are well known – the Gulf of Mexico, Brazil, the North Sea, and offshore West Africa – but the emerging technologies to help maximize production on sites thought to be expiring is developing at breakneck speed, promising vibrant opportunities in this sector for some time to come. The vast potential does not come without challenges, as a rigorous regulatory environment continues in the Gulf of Mexico and political issues, led by local content laws, are working to slow outsider's penetration in Brazil.

While this is our traditional Great Ships edition, focused primarily on new vessels with the latest technologies, we also are pleased to feature in this edition an article on a darker side of the industry, the Shipbreaking industry. Specifically, Mumbai-based correspondent Joseph Fonseca brings to light some of the positives coming from a well managed operation which has an eye on safety. Specifically, the new IMO convention on Ship Recycling and the EU Proposal for Regulation of Ship Recycling has the ship recyclers in Alang, India, on high alert to the possible ramifications, including complete closure of the operations.

Maritime Global News

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USNS Montford Point Floated from NASSCO Dock

General Dynamics NASSCO completed the complex float out operation for the first **Mobile Landing Platform (MLP) ship, USNS Montford Point.** Construction of the USNS Montford Point is progressing ahead of schedule, with the ship currently at 91% complete. The ship will now undergo final outfitting and testing pier side before completing sea trials. USNS Montford Point is scheduled to be christened in March 2013 and delivered to the U.S. Navy in May 2013. Fabrication of the second MLP, the USNS John Glenn, began in April 2012. Following a keel laying ceremony in December, this second MLP ship will be erected in the same building dock as the USNS Montford Point.
The MLP is a new class and type of auxiliary support ship, as part of the U.S. Navy's Maritime Prepositioning Force of the Future (MPF-F) program. The ship will serve as a transfer station or floating pier at sea, improving the U.S. military's ability to deliver equipment and cargo from ship to shore when land bases do not exist. It will provide capability for large scale logistics movements such as the transfer of vehicles and equipment from sea to shore.

IHC Merwede Delivers DCI DREDGE XIX

On November 15, 2012, the delivery of the 5,500 cu. m. trailing suction hopper dredger, **DCI DREDGE XIX**, took place at Waalhaven in Rotterdam. It was received by the Dredging Corporation of India (DCI) Manager Mr YSR Murthy three weeks ahead of the contractual delivery date. IHC Merwede's contract with DCI is for the design, engineering and delivery of the vessel. The company was selected due to its efficiency and reliability in delivering previous orders on time. DCI DREDGE XIX is the first vessel from a series of three which also includes the DCI DREDGE XX and DCI DREDGE XXI. IHC Merwede has previously delivered a total of 10 vessels to DCI. The vessel will be deployed (with others) for the maintenance dredging project on the Hooghly River, which is a tributary of the Ganges River in West Bengal. The DCI DREDGE XIX is specially designed for this task, taking into account the Hooghly River's soil properties, strong current and shallow depth. DCI's dredging vessels will have the capability of delivering high productivity, reliability and efficiency as well as low power consumption and operational costs.

Monthly Change Secondhand Vessel Values *by Year & Size*

VesselsValue.com provides data driven ship valuations for tankers, bulkers and containerships. These graphs show how vessel value depends on age for the major types. Vessels are assumed to have typical size and specification for age and high built quality at a top tier shipyard.

VesselsValue.com

02 December 2012 — VV Mini Matrix - Monthly Change

Built	Tankers					Bulkers				Containers			
	Vlcc	Suez	Afra	LR1	MR	Cape	Pmax	Supra / Hmax	Handy	Post Pmax	Pmax	Handy	Fmax
2012	+1.5% 310k	-2.0% 160k	-7.9% 110k	-3.4% 75k	+2.8% 50k	-4.0% 180k	+2.2% 80k	-1.2% 60k	-1.0% 30k	-2.2% 7,000	-2.1% 4,250	-0.5% 1,400	+2.0% 750
2007	+0.0% 310k	-3.0% 160k	-7.2% 110k	-2.6% 75k	+4.9% 50k	-5.4% 180k	+0.6% 75k	+0.5% 55k	-0.7% 30k	-2.5% 7,000	-2.6% 4,250	-1.3% 1,400	-0.8% 750
2002	-2.7% 305k	-5.2% 155k	-3.3% 105k	+0.0% 70k	+0.0% 45k	-3.8% 175k	-0.8% 75k	+1.5% 50k	-1.8% 30k	-2.4% 6,500	-3.0% 4,000	-1.1% 1,400	-6.9% 750
1997	-6.8% 300k	-7.4% 145k	-3.5% 105k	+3.1% 65k	-7.1% 45k	+0.8% 170k	-1.1% 75k	+2.1% 48k	-1.2% 30k	-2.7% 5,500	-3.4% 4,000	-2.0% 1,400	-9.3% 750
1992	-5.7% 285k	-5.6% 145k	-6.0% 100k	-4.9% 65k	-15.8% 40k	-6.3% 150k	+0.0% 70k	+3.1% 45k	-1.7% 30k	-5.8% 4,500	-5.2% 3,750	-3.2% 1,400	-5.9% 750
1987	-6.3% 250k	-6.0% 130k	-6.3% 95k	-6.6% 65k	-4.7% 40k	-6.5% 140k	-5.6% 65k	+2.3% 42k	-2.4% 30k	N/A —	-5.0% 3,750	-3.1% 1,400	+0.0% 750

Bollinger Delivers Fourth FRC

Bollinger Shipyards, Inc. delivered the Robert Yered, the fourth Fast Response Cutter (FRC) to the United States Coast Guard. The 154 ft. patrol craft is the fourth vessel in the Coast Guard's Sentinel-class FRC program. To build the FRC, Bollinger Shipyards used a proven, in-service parent craft design based on the Damen Stan Patrol Boat 4708. It has a flank speed of 28 knots, state of the art command, control, communications and computer technology, and a stern launch system for the vessels 26 foot cutter boat. The FRC has been described as an operational "game changer." The Coast Guard took delivery November 17, 2012 in Key West, Florida and is scheduled to commission the vessel in Miami, Florida in late February, 2013.

Each FRC is named for an enlisted Coast Guard hero who distinguished him or herself in the line of duty. This vessel is named after Coast Guard Hero, Engineman First Class Robert J. Yered for gallantry in action while engaged in military operations involving conflict with an armed hostile force in the Republic of Vietnam. The President of the United States presented Robert J. Yered the Silver Star.

Type 45 Destroyer on Sea Trials

Duncan, the sixth and final Type 45 destroyer built by BAE Systems, set sail from the company's Scotstoun shipyard on the Clyde to embark on her second stage sea trials off the west coast of Scotland.
Jennifer Osbaldestin, Type 45 Program Director at BAE Systems, said this "marks a significant achievement in what has been a highly successful Type 45 program as the final ship embarks on her sea trials. The team has worked tirelessly to put DUNCAN to sea to demonstrate her outstanding capabilities and there is a real sense of pride at reaching this milestone. Following sea trials, Duncan will return to the Clyde for final integration and testing, before setting sail for her home port of Portsmouth. Working alongside the Royal Navy at Portsmouth Naval Base, BAE Systems also provides in-service support to the Type 45 destroyers, coordinating all aspects of repair, maintenance and support to the fleet.

Floating Production Orderbook

Picking Up Steam

Progression of the floating production orderbook, September 1996 to November 2012.

IMA has just completed an in-depth analysis of the floating production sector. The 175 page report ***Floating Production Systems: Assessment of the Outlook for FPSOs, Semis, TLPs, Spars, FLNGs, FSRUs and FSOs*** is the 48th in a series of IMA reports on the deepwater production sector that began in 1996. Some highlights from the new report are below.

Recent Order Pace Consistent With Our Five Year Forecast – In March we forecast orders for 128 to 192 production floaters over the next five years – an average of 26 to 38 production floaters annually. We also expected the ordering pace to be at the lower end of this range in the early portion of the forecast period – then accelerate as the growing number deepwater drill rigs generate an increasing number of deepwater finds. The order intake over the past year supports our March forecast.

Return of Speculative Orders – Five speculative production floater orders have been placed over the past twelve months, reflecting optimism about the future market. Four FSRUs contracted within the past year did not have lease contracts at the time the order was placed. Subsequently, lease contracts have been agreed for two of the units. Two FSRUs remain without contracted employment after delivery. Also a speculative FLNG contract was recently placed based on conversion of an existing LNG tanker.

73 Floating Production Units Now On Order – The order backlog consists of 44 FPSOs, 7 production semis, 4 TLPs, 4 spars, 4 FLNGs and 10 FSRUs. In the backlog are 43 units utilizing purpose-built hulls and 30 units based on converted tanker hulls. Of the production floaters being built, 44 are owned by field operators, 29 are being supplied by leasing contractors. Brazil continues to dominate orders for production floaters. 26 units are being built for use offshore Brazil – 36% of the order backlog.

235 Floating Production Projects Being Planned – In terms of water depth, 27 percent of these projects are in ultra-deepwater, 15 percent are in water depth of 1000 to 1500 meters and 58 percent in less than 1000 meters. About 25 percent of the projects are in the bidding or final design stage, with major hardware contracts likely to be awarded within the next 12 to 18 months. Another 171 floater projects are in the planning or study phase.

Number of Planned Projects Has Been Growing – The number of floater projects now in the planning stage is 12 percent greater than a year ago, 64 percent higher than five years ago. Last year there were 210 floating production projects in the planning stage. Five years ago 143 projects were being planned. This increase reflects the bullish market fundamentals in the deepwater sector and the growing number of deepwater rigs available to look for oil and gas.

Deepwater Production Constraints Being Removed – According to Jim McCaul, head of IMA, "shortage of deepwater drill equipment has been a major bottleneck limiting deepwater development. This constraint is being removed. A large number of deepwater drill units have recently entered service and more than 95 drillships or semisubmersible drill rigs are on order. Delivery of these new units will increase deepwater drilling capability by 30 percent over the next several years – which will stimulate requirements for floating production project starts over the second half of this decade."

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Shipyard Boom (yes, a shipyard boom)

Singapore Yards Capitalize on FPSOs

Traditional shipyards in Singapore are benefitting from booming oil and gas business, as work orders flow in for Floating Production Storage and Offloading (FPSO) and Floating Storage and Offloading (FSO) conversions, that's according to a new report by GBI Research.

The new report — ***Floating Production Storage and Offloading (FPSO) and Floating Storage and Offloading (FSO) Industry to 2017***— cites Singapore as the location of around 70% of conversions for the FPSO industry globally, with traditional shipyards such as Keppel, Sembawang, Jurong, and ST Marine fully equipped and responding to substantial demand for FPSO conversions, in addition to the regular ship repair work orders.

In July 23, 2012, Keppel shipyard won three conversion contracts worth $82m from Petro Vietnam Technical Services (PTSC) Asia-Pacific Pte Limited, Perenco Group, and BC Petroleum. PTSC have contracted the shipyard to convert a tanker into a FPSO unit, to be deployed in the Thang Long and Dong Do oil fields in the Cuu Long Basin offshore of Vietnam, with a scheduled completion date of late 2013. The contract with Perenco involves the conversion of a tanker into an FSO unit to be deployed in the Lucina field offshore of Gabon in 2013, and the contract with BC Petroleum involves the conversion of a tanker into an Early Production Vessel (EPV) to be deployed in the Balai Cluster oil fields in offshore Malaysia. Keppel is already engaged in six FPSO and FSO contracts, and these new projects will work to further improve the yard's impressive reputation.

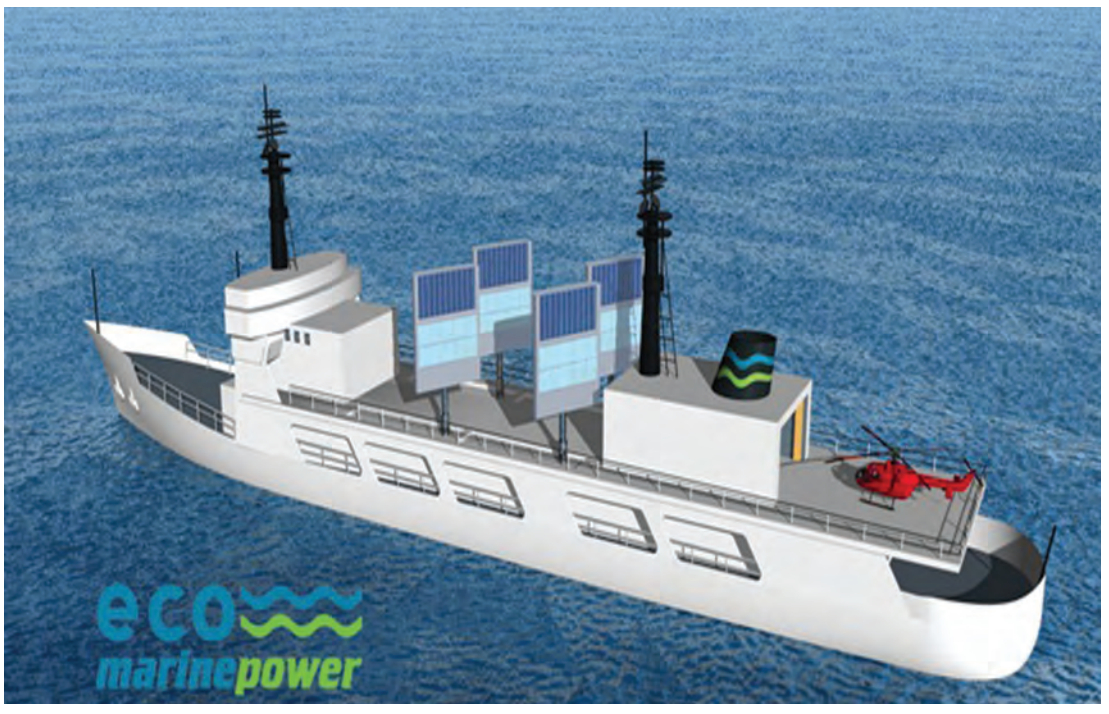
Conversion of a single hulled tanker into a FPSO unit costs around 10% of the cost of building a brand new unit, as costs and time needed for engineering, construction, outfitting and commissioning are a great deal reduced, materials and basic structural design already being present. The 'fast-track conversion' is very popular, taking under a year to complete, enabling firms to bring high-priority offshore reserves to production in previously unheard of timescales.

However, FPSOs and FSOs deteriorate more rapidly than fixed platform structures, and their technical complexity require regular maintenance procedures to ensure smooth-running operations. Over 35 FPSOs worldwide are approaching the middle or end of their design life, and the limited numbers of onboard personnel able to perform maintenance operations affects the upkeep of these aging vessels. Cost effective integrity programs are therefore urgently needed in order to increase the functional life of these assets.

Energy Efficiency for Military Ops

Eco Marine Power Co. Ltd. (EMP) released details of its modified version of the Aquarius MRE System for use on naval and coast guard ships. This modified system will use EMP's patent pending EnergySail technology to form an array of devices able to harness renewable energy on these types of ships.

http://www.ecomarinepower.com/en/energysail



Fast Alum Crew Boats to Zamil

Grandweld Shipyards delivered the Zamil 101, the first of three fast aluminum crew boats to Zamil Offshore. The vessel was part of a contract, which was signed in November 2011, to build and deliver three sister crew boats. The 33.5m fast crew boat is powered by three high speed diesel engines driving three fixed pitch propellers to produce a speed of 27 knots. The vessel is designed and built according to the classification rules and requirements of Bureau Veritas for Aluminum vessels.

The vessel will be used to transport offshore personnel and cargo, and will be operating offshore Saudi Arabia. The second vessel is scheduled for delivery in December 2012 and third vessel in January 2013.

In addition to the two 33.5m sister vessels to be delivered to Zamil offshore, Grandweld is expecting to deliver a series of diverse offshore vessels to major clients such as Kuwait Oil Tanker Company (KOTC), National Marine Dredging Company (NMDC), Bourbon, Fujairah National Group (FNG) among others. Vessels under construction include Seismic Support vessels, Anchor Handling Tug Supply Vessels with DP2 capability, Service Boats, Crew Boats and many more.

Grandweld Delivers for KOTC

Grandweld delivered the first of two 21.3 Aluminum Fast Service Boats to Kuwait Oil Tanker Company. The contract was signed in November 2011 to design and deliver two 21.3 Aluminum service boats. The vessel is powered by twin Hamilton waterjet installation to ensure high speed and maneuvering capabilities, and is designed to reach a speed in excess of 31 knots at 100%MCR. It incorporates seating capacity for 20 offshore personnel, and a deck cargo carrying capacity up to four Tons. The vessel is also equipped with the latest technology of navigation and communication equipments.

The high speed crew boat will be utilized by KOTC Marine Agency Branch to safely transport passengers and cargo to and from tankers calling Kuwaiti Oil Terminals. The second vessel is scheduled for delivery in December 2012.

Knud E. Hansen: Double End Ferry Design

In mid-November, Hvide Sande Skibs- & Baadbyggeri delivered a 50m ferry to Swedish domestic ferry company Ven-Trafiken. The vessels, which name is Uraniborg, will be operating between Landskrona in Sweden and the Swedish island Hven in the Øresund. Knud E. Hansen A/S has been responsible for the Basic Design of the new vessels for the Danish shipyard Hvide Sande Skibe- & Baadbyggeri, including: Class drawings, general design of hull, stability and outfitting, machinery systems arrangement and other documentation.

The vessel has been designed as a double-end passenger ferry and will be carrying trucks, cars and bicycles. The main deck is arranged for easy access for pedestrians and bicycles, and the vessel can carry up to 394 passengers and up to 14 cars or 2 trailers and 7 cars.

The vessel has also two engine rooms, one located in each end. The two high efficiency azimuth thrusters, one at each end of the vessel, have contra rotating double screw fixed pitch propeller directly driven by a high speed diesel engine.

HII: 10th Virginia Class Sub Launched

Huntington Ingalls Industries said that the Virginia-class submarine Minnesota (SSN 783) was launched into the James River Nov. 3 at the company's Newport News Shipbuilding (NNS) division. The 10th Virginia-class submarine, at about 92 percent complete Minnesota is on track to complete in 63 months. Construction began in February 2008, and Minnesota was christened Oct. 27.

RIMPAC World's Largest International Maritime Exercise

Capt. Edward Lundquist, U.S. Navy (Ret.) talks with Vice Admiral Jerry Beaman, the commander of the U.S. THIRD Fleet, about the 2012 "Rim of the Pacific" (RIMPAC) multi-national fleet exercise.

How has the Rim of the Pacific or "RIMPAC" exercised evolved to the current involvement of more than 20 nations?

Our naval heritage and our tradition really began in the War of 1812. In February of 1813, the frigate USS Essex was the very first Navy ship to sail into the Pacific. Our young nation giving notice that we had as much right to the seas as anyone else. Today we are still all about protecting the sea lanes of commerce and communication, and helping to ensure the stability and security of the world's oceans. And nowhere is that purpose better displayed than at RIMPAC, and in particular, RIMPAC 2012.

It started in 1971, it was 3 countries – the United States, Canada, and Australia – we have now grown to 22 countries. The next largest was 2010 which had 14 countries, 32 ships and submarines. We grew over 50% in the last two years: we went from 14 nations to 22 and from 32 ships and submarines to 46. And this was, in fact, the 23rd RIMPAC exercise. It's the world's largest international maritime exercise and it happens on our home field every two years. It's that consistency and persistence of conducting this exercise that sends a strong message of our commitment to our friends and allies in the Pacific.

Besides being bigger, how was RIMPAC 2012 different than the 2010?

Compared to previous RIMPACs, you might think that RIMPAC 2012 was more of the same. It was 'more,' but it was definitely not 'the same.' In addition to growing just the number of participants, we had Russia participate for the first time ever. We had New Zealand return to the fight after 28 years of absence. We had one new observer nation, Brunei. During the schedule of events phase, we conducted over 1,150 events in the 12 days of what we call the "schedule of events"—or SOE—phase, which was really the 2nd phase,

RIMPAC 2012 was 18 months in preparation, 6 weeks in execution. For the first time ever we had non-US senior leaders commanding functional components. My deputy commander was a Royal Canadian Navy 2-star rear admiral. My vice commander was a 2-star Japanese Maritime Self-Defense Force rear admiral. My maritime component commander was a commodore from the Royal Australian Navy. My air component commander was a brigadier general from the Royal Canadian Air Force. And then my land component commander was, in fact, a brigadier general from the United States Marine Corps. So, for the first time we had a leadership team that was not all US, with new nations participating, and enhanced interoperability –we had CENTRIX on every capable platform.

[Combined Enterprise Regional Information Exchange System—or CENTRIX—is a global architecture that allows U.S. forces to share information and conduct operational planning with allies.]

We had six submarines, 40 surface combatants that took part, and one might argue that the most dangerous evolution that took part was the photo ex. We ended up with 38 ships – we had 40 –but two of them we pulled out early in the evolution of the photo-ex because they had some casualties that would not give us that risk mitigation measure that we wanted to ensure that it would be a safe evolution. So we ended up with 38 in the picture, with no swapping of paint, no man overboard drills. We flew over forty three hundred sorties between the 200 plus aircraft that were there. There were 6 submarines that took part. We had three diesel boats – Korea, Canada, and Australia.

We did three SINK-EXs. We put three hulks to the bottom. One was a little bit sooner than what we had thought. We proved that an old hulk will not withstand a series of 2,000-pound bombs going through its hull. So, she went down in a matter of seconds. The Canadians, with their submarine Victoria, fired a Mark 48 for the first time ever, that broke the target ship in half and put it on the bottom. And then, lastly, the Australians fired a Mark 48, on the ex-USNS Kilauea.

So these nations have to make a serious commitment of resources to participate in RIMPAC.

Every one of those countries made a huge investment in time, in money, resources, and people. As I mentioned earlier, it was 18 months in preparation. The first 12 days of RIMPAC is the 'harbor phase.' We had 37 ships in Pearl Harbor; and the two New Zealand ships along with USS Cromelin moored down at the Aloha Tower in Honolulu Harbor. The Harbor Phase included training being conducted during the day, along with athletic competitions, and 12 nights in a row of receptions hosted by a different country each night, with the last night hosted by the Russians.

The connectivity for the entire exercise was amazing. Imagine just trying to get 22 U.S. ships talking to each other. Now translate that to 22 different countries, with CENTRIX – both chat and bridge-to-bridge – and there was no one that ever lost connectivity.

With the three diesel subs, we were able to do SSN {nuclear powered attack submarines) versus SSK (conventionally powered hunter-killer subs) engagements. It allowed us to have one submarine for the blue force when we got into the tactical phase. So we had 12 days pier side in port, followed by the first 12 days underway, which is what we call Schedule of Events or SOE phase. These were scripted events for maritime interdiction, escort, ASW, air defense, and amphibious operations. Then we transitioned into the fleet integration phase where now we started to divide up our forces, and we did that for almost five days; and then we moved into what is referred to as the tactical phase or free play, which concluded the last five days of the exercise.

In RIMPAC you train to work together as a military force, but you also work together to respond to disasters and humanitarian relief situations.

As you go around the rim of the Pacific, it's not a matter of 'if,' it's a matter of 'when' either the next crisis or natural disaster is going to hit. That's what this exercise is actually about. For us to be able to form a coalition of 22 nations, all with a common goal, to learn the processes that are going to be required when that next crisis or natural disaster hits, you can't put a price on that. Admiral Fumiyuki Kitigawa was my vice commander. He's a flotilla commander with the Japanese Maritime Self Defense Force, and he got up in front of everybody and thanked them and told them that because of the experience that he had at past RIMPACs, when Operation Tomadachi (the response to the 2011 earthquake and tsunami) came down, they knew exactly what to expect and how to react with their coalition brethren. And so, for us to expand that to now 22 nations, you really can't put a price on it.

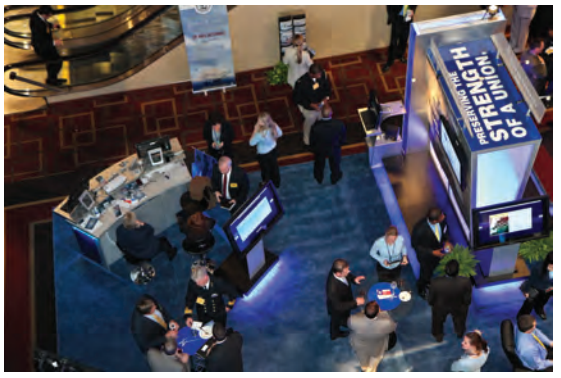
A major goal of RIMPAC 2012 was the Great Green Fleet demonstration. How did that go?

Secretary of the Navy Ray Mabus and the Chief of Naval Operations, Adm. Jonathan Greenert, came out to see NIMITZ, CHAFEE, PRINCETON, CHUNG HOON and the oiler USNS HENRY J KAISER take part in this demonstration. This demonstration proved the point that we can continue to steam and fly on a biofuel mix – so we can fly aircraft and steam our ships with no degradation of performance or lasting effects to or impacts to the fuel tanks on the ships. We've been testing this for three years now. And so from a pure demonstration, it was a huge success. We had an Australian helicopter land on the deck, and we pumped it full of this biofuel mix. So, one of our international partners also actually took part. But the main message in this whole demonstration was to signify to the American people and to the rest of the world that, once again, the U.S. Navy is out in front, leading technology. What we've done has shown that it works, we can burn it, and we don't lose a thing in terms of performance. Now we've proven the concept. So now it's up to industry to make it an affordable alternative.

(U.S. Navy photo by Mass Communication Specialist 2nd Class Robert Winn/Released)

Vice Adm. Gerald R. Beaman, commander of the U.S. 3rd Fleet, and Chilean Capt. Luis Sanchez, Sea Combat Commander of CTG-170.1, share sea stories while aboard the aircraft carrier USS Nimitz (CVN 68) to observe the transfer of biofuel during the Great Green Fleet demonstration portion of the Rim of the Pacific (RIMPAC) 2012 exercise.

Surface Warriors to Meet at Annual Symposium



The Surface Navy Association (SNA) National Symposium will be held January 15-17, 2013, at the Hyatt Regency Hotel, Crystal City, VA. The association was incorporated in 1985 to promote greater coordination and communication among those in the military, business and academic communities who share a common interest in Naval Surface Warfare and to support the activities of Surface Naval Forces. SNA provides for its members support, programs and activities which enable professional growth, personal satisfaction and camaraderie.

"This symposium brings together military, government and industry to highlight our Surface Navy Warriors currently serving, those that have served, and those that will serve in the future," says SNA President Vice Adm. Ron Route, USN (Ret.). "Each year the symposium gets bigger and better. With the impending budget decisions and wide-ranging impacts, this is an important time to hear from the highest levels of Navy, Coast Guard and Marine Corps leadership."

Speakers at the 2013 symposium include The Honorable Raymond E. Mabus, Jr., Secretary of the Navy (Invited); Adm. Robert J. Papp, Jr., USC, Commandant, U.S. Coast Guard; Adm. Mark E. Ferguson, III, USN, Vice Chief of Naval Operations; Adm. William E. Gortney, USN, Commander, US Fleet Forces Command; Vice Adm. Tom Copeman, USN, Commander, Naval Surface Forces/Commander, Naval Surface Force, U.S. Pacific Fleet; Vice Adm. Kevin M. McCoy, USN; Commander, Naval Sea Systems Command; Rear Adm. Thomas S. Rowden, USN, Director, Surface Warfare Division, N96, OPNAV; Maj. Gen Timothy C. Hanifen, USMC, Director, Expeditionary Warfare Division, N95, OPNAV; Rear Adm. David M. Thomas Jr., USN, Commander, Naval Surface Force Atlantic; as well as other speakers and panelists.

The latest agenda can be seen at **http://www.navysna.org/2013Symposium/Index.htm**.

Register at **http://www.navysna.org/2013Symposium/Registration/20RegistrationIndex13.htm**.

Pre-Registration Closes at 1200 on January 9, 2013.

Arctic Animals Manifesto

In the years that I have been authoring this column, I have seen and commented on numerous developments of interest. None have been as unexpected, though, as the below document which inadvertently came to my attention. Rumors have swirled recently of unrest in the Arctic, but few suspected that it had reached this level. I submit the document unedited for the careful consideration of my long-suffering readers.

(Source: NOAA Photo Library, Photographer: Mr. Ardo X. Meyer, NOAA (ret.))

Manifesto

Those of you fellow Arctic animals who have been paying attention could not have helped but notice that human beings are increasingly entering our environs without our permission and with little or no concern for our well-being. I refer not to the small population of native humans (calling themselves various names), but to those humans that normally reside in the temperate or equatorial climates (outsiders). We have a long-established relationship with the native humans, based on mutual respect and the understanding that the harsh but fragile Arctic environment is our common concern.

Outsiders, though, lack that mutual respect and understanding. They are so accustomed to molding and dominating their environment that they blithely assume the same can be accomplished in the Arctic. Their naiveté places us and our environment at unnecessary risk. It is incumbent upon all Arctic animals to exert maximum effort to bring these incursions by outsiders to an end, at least until such time as they have acquired the level of awareness exhibited by native humans.

Outsiders possess technology far in advance of our own. It would therefore be foolish to directly oppose them. Fortunately, outsiders are easily dissuaded and are even easier to mislead. We Arctic animals must therefore engage in a concerted effort of misinformation.

Most outsides are focused on monetary gain. They are not coming to the Arctic to experience the unmatched landscapes or learn about the complex ecosystem. Rather, they are coming to exploit the wealth that has remained hidden from view for countless eons. They seek energy resources – oil, natural gas, and coal. They seek mineral deposits – gold, silver, zinc, copper, iron, nickel, and rare earths. We are concerned lest the outsiders, in their drive to accumulate monetary wealth, inadvertently cause permanent harm to our homes and our environment.

One of our biggest assets is the smugness of the outsiders. They assume that, because they largely dominate the temperate regions, they can do likewise in the Arctic. Equipment and techniques that work well in other regions often prove of little moment in our domain. The Arctic environment holds many surprises, often unpleasant, for the neophyte outsider.

Outsiders also assume that they are superior to us. While they have many advantages, they are not omnipotent. They are also not accustomed to operating in our environment. As some would say, we have the home field advantage. We are also wise in ways that outsiders cannot comprehend. Because they are arrogant, outsiders are somewhat easy to outwit.

Outsiders have tried to bring floating rigs into the Arctic in efforts to locate and exploit offshore oil and gas deposits. These rigs are huge but fragile. I propose that whales push ice floes at these rigs, forcing them to discontinue operations and move to avoid contact. Other creatures could work to foul their cooling systems, forcing expensive and time-consuming repairs. Marine mammals and large fish could haul nets, lines, kelp, and other material into the rigs' delicate and expensive dynamic positioning (DP) equipment. At this point it is useful to note that we animals perfected dynamic positioning eons ago, but the outsiders give us no credit. Birds could carpet-bomb the rigs and support vessels, turning them into virtual guano islands.

Before the outsiders commence use of their floating rigs, they conduct what they consider sophisticated surveys of the seafloor and the seabed. This is generally done by slowly dragging long cables

behind specialized ships. Sonic signals are generated. The cables receive the echoes as the signals reflect off the seabed and its various constituents. I propose that whales and walruses swim just below the long cables. As the sonic signals are generated, the whales and walruses should emit their own sounds – songs, clicks, belches, and farts – that will mask the seabed echoes and provide erroneous information. This could well lead the outsiders to explore the wrong areas and then to conclude that there are few exploitable resources.

Outsiders are rightly concerned about the welfare of threatened and endangered species. They don't, though, know exactly which such species inhabit the Arctic and where. Therefore, it is incumbent upon you threatened and endangered animals (you know who you are) to leave some evidence of your presence (feathers, fur, eggs, feces, etc.) so that the outsiders can start designating critical habitats. Many of you who are not in that category have friends in other areas who are threatened or endangered, such as piping plovers, leatherback turtles, whooping cranes, and the spotted owl. Invite them up to the Arctic for a short visit or have them send some evidence (see above) that can be distributed in select locations. It will drive the outsiders absolutely bonkers.

Many outsiders recognize the harm they have done over many years to marine mammals, particularly whales and seals. For that reason, they exert special effort to avoid injury to this group of animals. We can turn that to our advantage. Our indigenous whales, particularly the bowhead, beluga, and narwhal, should congregate in the vicinity of outsider activity in Arctic waters. Invite your friends from warmer climes to join you. Host a swim-in! Most outsiders will quickly move elsewhere.

Migratory birds also receive special protections from many (but not all) outsiders. These birds (and all birds in the Arctic are migratory) should build nests in the vicinity of outsider activity. Even if you have no plans to occupy the nest, build it as close as possible to the activity. Outsiders will never suspect that you have ulterior motives (see my previous comments on smugness). They will identify the nest and undertake remedial action.

Cruise ships full of outsiders have begun sightseeing journeys through Arctic waters. This will be the first and probably only trip to the Arctic for many of these individuals and provides us with an excellent opportunity to shape public opinion. These outsiders will go gaga over baby animals, particularly baby polar bears, baby seals, and baby whales. Mothers of these babies should station their offspring at strategic intervals along the route of the cruise ship and the babies should be encouraged to look up at the outsiders with sad and wistful eyes. When these outsiders return home they will become vocal advocates for leaving the Arctic in a pristine state.

The entire Arctic animal community is counting on each of us take action to deter and deflect outsiders from further incursions. Do your part and encourage your friends and neighbors to get involved. This is an all-hands evolution.

Signed: The Arctic Fox

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Strategic Seaports

Their importance to the nation in a time of need

The U.S. Department of Defense (DOD), in conjunction with the U.S. Department of Transportation's (DOT) Maritime Administration (MARAD), has designated particular ports around the United States as "strategic seaports." Strategic seaports are designated because of their ability to support major force and material deployments in times of war and national emergency, based on their proximity to deploying military units and their transportation links close to those units, and varying other capabilities the DOD has deemed important, including the importance of having strategic ports on all four of the nation's coasts (Atlantic, Gulf, Pacific, and Alaska).

Currently, there are 22 strategic seaports in total; 17 are commercial ports and five are owned by the military. The current list of 22 strategic seaports includes the Ports of Anchorage, AK; San Diego, CA; Long Beach, CA; Hueneme, CA; Oakland, CA; Concord, CA; Jasonville, FL; Savannah, GA; Morehead City, NC; Wilmington, NC; Sunny Point, NC; Port of Port Elizabeth, NJ; Philadelphia, PA; Charleston, SC; Beaumont, TX; Port of Port Arthur, TX; Corpus Christi, TX; Tacoma, WA; Indian Island, WA; Norfolk, VA; Newport News, VA; and Guam.

This article describes how strategic ports are designated by the DOD and MARAD, what needs to be done to ensure that they can continue to carry out their strategic missions while still maintaining their day-to-day commercial missions, and a brief overview of recent Congressional interest in strategic ports.

How Ports are Designated and Examples of their Use by DOD

Strategic seaports are designated as "strategic" because they are significant transportation hubs that are important to the readiness and cargo throughput capacity of the DOD. One of the major responsibilities of strategic seaports is to be prepared to make the port and its facilities available within short notice for the deployment of military forces and supplies in support of DOD operations. MARAD administers the Strategic Port Program and is charged with facilitating the movement of deploying military forces through strategic ports while minimizing commercial disruptions. Within DOD, it is the Surface Deployment & Distribution Command (SDDC), under the purview of the U.S. Transportation Command (USTRANSCOM), that has jurisdiction over the program.

Strategic seaports need to be able to make their facilities available to the military with as little as 48 hours' notice, and for long periods of time, if necessary. Since the inception of the program, strategic seaports have been used to help deploy troops and materiel. As an example, between 2005 and 2010, the Port of Anchorage has supported over 20 military deployments including Stryker Brigade deployments to Iraq and Afghanistan. During that same time period, over 18,000 pieces of military equipment passed through the Port's facilities. Another example is the Port of Philadelphia, which was one of the four busiest ports serving the Iraq war. During the war, the Port of Philadelphia handled heavy military equipment and weapons headed to the Middle East, including helicopters and fuel tank trucks.

The military is a significantly large cargo shipper, even in peace time. The responsibility that strategic seaports have to the military has the potential to put additional pressure on their infrastructure, facilities and operations, especially as U.S. port cargo traffic continues to increase. Furthermore, as noted in a recent America Society of Civil Engineers (ASCE) report ("Failure to Act – The Economic Impact of Current Investment Trends in Airports, Inland Waterways, and Marine Ports Infrastructure"), our nation's airports, inland waterways, and marine ports infrastructure investment is not keeping up with the needs of our nation's waterways and seaports. Total public port investment needs are expected to exceed $30 billion by 2020, but current investment levels by the ports will amount to only $18 billion over that period, leaving a serious gap.

MARAD's Role in Strategic Port Management and Infrastructure Funding Options

One of the roles of MARAD is to promote U.S. ports and support port infrastructure development. Unfortunately, however, U.S. ports, including strategic seaports, do not have a dedicated source of federal funding for infrastructure and intermodal improvements unlike most other modes of transportation. There was hope that this might change when, in 2009, Congress codified MARAD's port oversight role by creating the "Port Infrastructure Development Program" (Section 3512 of Pub.L.111-84). The law directed the Secretary of Transportation, acting through the Maritime Administrator, to establish a port infrastructure development program for the improvement of port facilities. The law also established a "Port Infrastructure Development Fund" within MARAD's purview to receive federal, non-federal, and private funds for port infrastructure. Unfortunately, Congress has not appropriated any funds for this Program and the authority has been languishing.

MARAD and DOT have recently used the "Transportation Investment Generating Economic Recovery" (TIGER) program, a discretionary grant program, to support some infrastructure at ports. Ports, however, have had to compete for limited funds with numerous other transportation projects of national or regional significance and have not fared as well in the competition. The TIGER Program has not been funded for FY2013 as the U.S. Government remains under a Continuing Resolution until March 27, 2013.

The recent two-year reauthorization of the surface transportation reauthorization bill, otherwise known as "MAP 21", called for the establishment of a new freight mobility program, including the development of a National Freight Strategic Plan. However, DOT does not expect the Plan will be fully developed for another five years! MAP 21 also authorizes ports to derive funds, in certain circumstances, from federal Surface Transportation Program (STP) formula funds—authorized at $20 billion under MAP 21—allocated to states.

However, without a specific allocation for ports, they will once again have trouble competing at the state level with traditional highway projects.

DOT is also investigating whether its "Transportation Infrastructure Finance and Innovation Act" (TIFIA) loan program may be available to finance port infrastructure. TIFIA was reauthorized by MAP-21 at $1.7B over two years.

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The military is a significantly large cargo shipper, even in peace time. The responsibility that strategic seaports have to the military has the potential to put additional pressure on their infrastructure, facilities and operations, especially as U.S. port cargo traffic continues to increase.

Congressional Interest in Strategic Ports and Roundtable Discussion

Capitol Hill has been engaged on the issue of strategic ports and port infrastructure funding in the last few years. As mentioned above, Congress created a "Port Infrastructure Improvement Program" in the Fiscal Year (FY) 2010 National Defense Authorization Act (NDAA); however, that program has yet to be funded. In addition, Congress mandated studies from the SDDC about the status of our nation's strategic port infrastructure, including identifying any needed upgrades or issues that should be addressed. Language was included in the FY12 NDAA that requires a broader examination of strategic ports, including a requirement to identify potential funding sources for needed port infrastructure improvements. This updated report is yet to be released by the SDDC.

On October 18, 2012, the Congressional Ports Caucus, co-chaired by Congressman Ted Poe (R-TX) and Congresswoman Janice Hahn (D-CA), whose districts include strategic ports, hosted a Roundtable with the American Association of Port Authorities (AAPA) on Capitol Hill to educate Members of Congress and Congressional staff on the importance of strategic ports. The Roundtable provided an opportunity for face-to-face dialogue between representatives of strategic ports and the agencies that support them, including DOT, DOD, DHS, and the Army Corps of Engineers. Outcomes of the Roundtable include a heightened appreciation of the importance of strategic ports, the challenges they face balancing their commercial and military cargo commitments, and an agreement to work together on a new financing solution for funding infrastructure at strategic ports.

Next Steps & Conclusions

While Congress has a host of issues to address it before the end of the year and into next year, including the so-called "fiscal cliff", we should not lose sight of the importance of funding the infrastructure needed to maintain and improve our strategic ports. The DOD is counting on our ports to be ready whenever they need to move personnel and materiel to the next hot spot. Our strategic ports have met their half of the bargain—being available to DOD when the military and the nation call on them. The other half must be met by helping our ports meet their critical infrastructure improvement and modernization needs.

How to Catch a Pirate

In recent years, piracy has emerged as a significant threat to global maritime interests. The International Maritime Bureau reports 223 acts of piracy in the year 2012, as of 30th August. While the incidence of Somali piracy has reduced, disproportionate increases have been recorded in other parts of the world, such as Nigeria, the Gulf of Guinea, Togo and South East Asia. Piracy is a growing industry.

A host of laws have been formulated to tackle the problem. The UN Convention on the Law of the Sea (UNCLOS) has established the legal definition of piracy in international law. UNCLOS does not, however, provide for investigatory or prosecutorial procedures or guidelines for international co-operation. It accords universal jurisdiction for piracy; any state is authorised to prosecute the crime of piracy committed on the high seas. The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988 obliges contracting governments to either extradite or prosecute alleged offenders. The 1979 International Convention against the Taking of Hostages requires contracting states to criminalise the taking of hostages. The United Nations Office on Drugs and Crime has published model laws on mutual assistance in criminal matters, witness protection, extradition and money-laundering and financing of terrorism that focus on the substantive obligations arising from international conventions. States may use the model laws as a starting point while drafting their own laws on the subject.

Universal jurisdiction does not apply when crimes are committed in territorial waters. It does not allow authorities to pursue pirates to their sanctuaries within territorial limits or on land. In order to prosecute piracy offences domestically, a state needs to criminalise the offence. Model legislation helps domestic legal systems to reform their substantive law and to prosecute in a manner consistent with international law.

Reports state that hundreds of Somali pirates are currently incarcerated in other countries, awaiting trial. Many of these countries have not yet criminalized piracy and the pirates are charged with general crimes such as armed robbery and attempt to murder. Often, the pirates are quietly released on the high seas to reduce congestion in local jails and the burden on the legal system.

Efforts to bring pirates to justice in domestic courts have foundered due to various legal and practical challenges. Not all countries mete out the same punishment. Kuwait and the Republic of Korea, among others, have imposed the death penalty. Countries that impose less severe sentences are reluctant to extradite pirates to these countries for trial. Other factors that affect domestic trials are a lack of clarity with respect to the steps that capturing ships must take so as not to breach the pirates' human rights and difficulties in preserving and transporting evidence. Countries such as Denmark have sought to address some of these problems by issuing guidelines to naval vessels on collection of evidence and communication between authorities in order to support a prosecution for piracy.

Overseeing a prosecution can be costly and logistically challenging and this has contributed to a general reluctance to prosecute. In 2010, the EU's Atalanta anti-piracy force stormed a ship that was hijacked by Somali pirates. As the crew of the ship included two Germans, the pirates were extradited to Germany for trial. A regional court in Hamburg commenced a highly publicized trial of the pirates in November 2010. A battery of lawyers, expert witnesses and Somali language interpreters are trying to extract information from the defendants regarding the shadowy figures behind them – the individuals who oversee this form of organized crime. Reports state that the cost of the trial is EUR35,000 for each day that the court is in session and although more than 100 days of court-time have elapsed, the court has not yet managed to elicit any useful information. It appears that the defendants are mere foot soldiers from the skiffs as opposed to the kingpins who finance, arm and run the pirate network. The foot soldiers are not privy to information of any value regarding the networks. Germans are asking whether the defendants will live in Somalia or Germany after serving their prison terms – there is an understandable reluctance to face the potential asylum claims, since if granted, the pirates will live in Germany at public expense.

The Financial Action Task Force has examined the money flows connected with organized piracy for ransom. It is estimated that of the $238 million in ransom money reportedly paid to Somali pirates in 2010, approximately $95 million was pumped into the international financial system. This has exposed the financial system to the risks and vulnerabilities associated with money-laundering and financing of terrorism. Much has been said of links between Somali pirates, the al-Qaida affiliated al-Shabaab terrorist organization and other terrorist groups operating in the Horn of Africa. Reports indicate that the formal financial system and banks in particular have played a prominent role in the movement of funds. There is a need to detect, investigate and prosecute this kind of money-laundering so that the ring-leaders and financiers of acts of piracy are held accountable. This requires a high degree of international co-operation between the countries involved, involving law enforcement agencies, financial investigators and the judiciary. In many cases, there has been a complete failure to co-operate internationally that has resulted in the trail going cold. In a few cases, the ransom money has been successfully traced due to the co-operation of investigating law enforcement agencies. However, bringing the perpetrators to book requires information of evidentiary value to the judicial system of the prosecuting country and more often than not, the available information does not pass muster and the offenders escape scot free.

The recent reduction in the incidence of Somali piracy has been on account of the concerted effort of the international navies that patrol the seas and the increased use of armed security personnel aboard ships transiting through the region. This has brought down the success rate of pirate attacks. However, piracy cannot be eradicated solely by a maritime-focused effort. The socio-economic reality is that the average Somali has an annual income of $200. With few other sources of income, piracy has become embedded in Somali society to the point that it is a significant driver of local economies. Since there is little chance of those engaged in piracy being caught and punished, there is no effective deterrent. Government institutions, law enforcement and judicial structures are fragmented or non-existent. It is almost impossible to track the movement of ransom payments in Somalia and when detected, to successfully prosecute cases of piracy. The UN and the international community have done much to rebuild the collapsed Somali governance infrastructure. Efforts to build capacity in Somalia include setting up and training a domestic police force, building court rooms and prisons, training and equipping prosecutors and the judiciary and providing legal resources. It is hoped that Somali pirates will eventually be successfully prosecuted and serve their sentences in Somalia.

There are lessons to be learned from Somalia. A long-term solution to piracy will require capacity-building at the domestic level and adding value to local economies. Since increasing the number of pirate prosecutions is a key part of counter-piracy efforts, a future prosecution strategy should include providing support to those states that have criminalized piracy and that demonstrate a willingness to prosecute pirates. International and domestic anti money-laundering laws must be strengthened and countries must co-operate to bring the financiers and ring-leaders of piracy to justice. Currently, the overlap between the various regimes is itself a major barrier to effective policy co-ordination. Working on these issues will make the global anti-piracy regime more comprehensive and focused.

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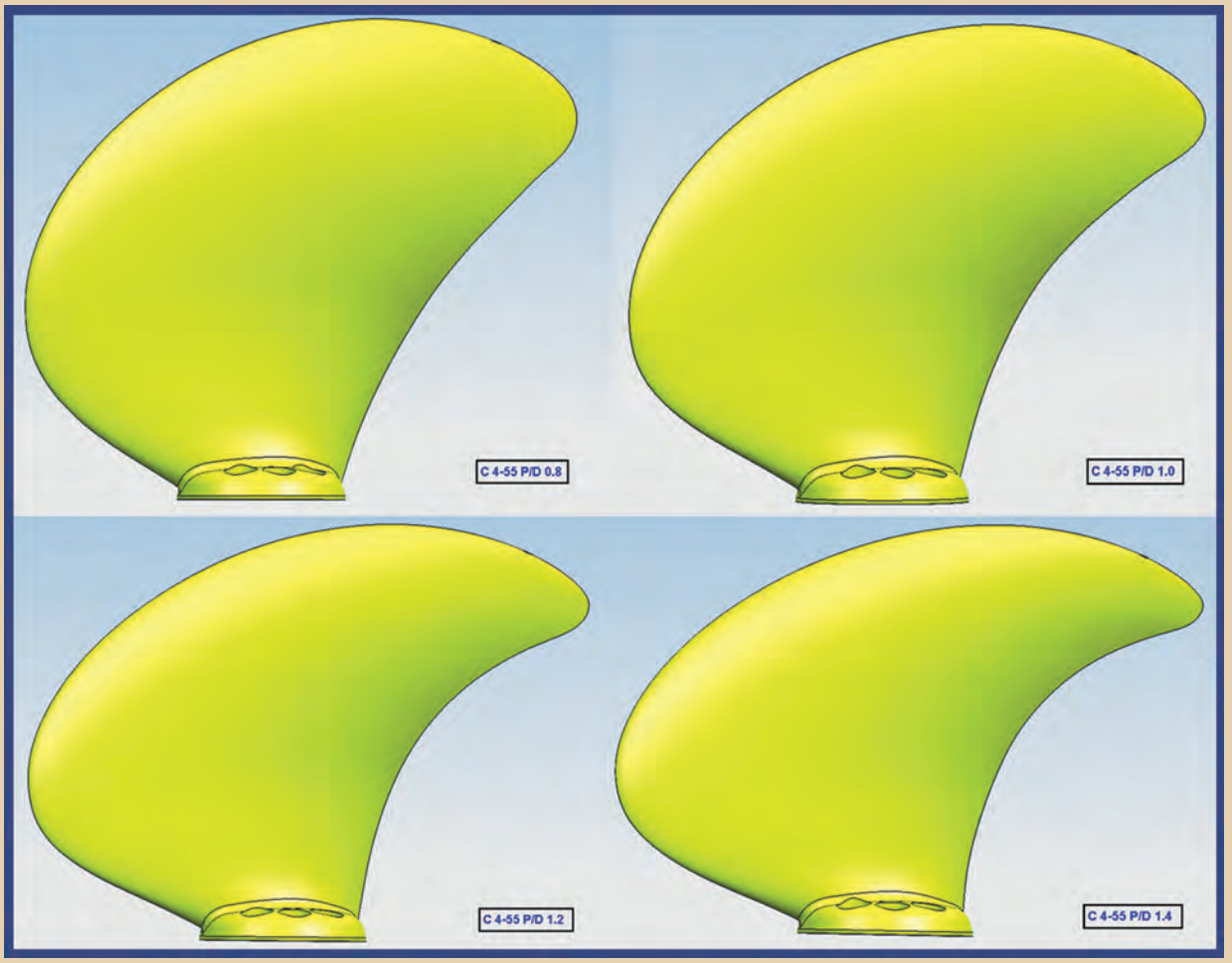
MARIN CD Propeller Series

The open water characteristics for a large systematic series of Controllable Pitch Propellers (CPP) were recently measured at MARIN, including ducted propellers. Around the world people involved in ship and propeller design have been working with the open water thrust and torque characteristics of the WAGENINGEN B-series for fixed pitch propellers. However, increasingly today CPP are being used both in open configuration and in nozzles. Such CPP can operate over a wide range of speeds and they are installed on navy vessels, merchant ships, tugs and offshore supply vessels but also on offshore units with DP capabilities.

To support the design, selection and use of CPP and to enable the modeling of the thrust and torque characteristics of these propulsors in DP simulations for example, MARIN has developed a newly designed, systematic CPP and ducted CPP series. Thrust, torque and blade spindle torque in open water conditions are measured at model scale in all positive and negative inflow conditions. As each propeller with a specific design pitch can be operated over a range of operational pitch, an extensive test program has to be conducted.



Quasi-steady Technique

To enable an efficient measurement procedure, a new so- called quasi-steady open water test technique has been developed and verified. With this new method forward speed and rpm are varied over the measurement run and in this way the complete open water characteristics in all quadrants are derived from a limited number of runs. MARIN's numerical milling machine is used to build alloy models because lightweight propeller models are required when using this approach. To measure the blade spindle torque a dedicated test hub is used where one of the blades is fitted to a torque sensor. The research work is carried out in a Joint Industry Project so that the actual series could be selected and designed following input from several leading propeller designers and manufacturers and the costs and results can be shared. So far, 22 companies are participating and this has led to the extension of the series to 31 propellers in 46 configurations. Each propeller with a specific design pitch is then tested over the complete range of operational pitch settings.

Measurements have been conducted in MARIN's Deepwater Basin and two series have already been completed and the analysed data delivered to participants.

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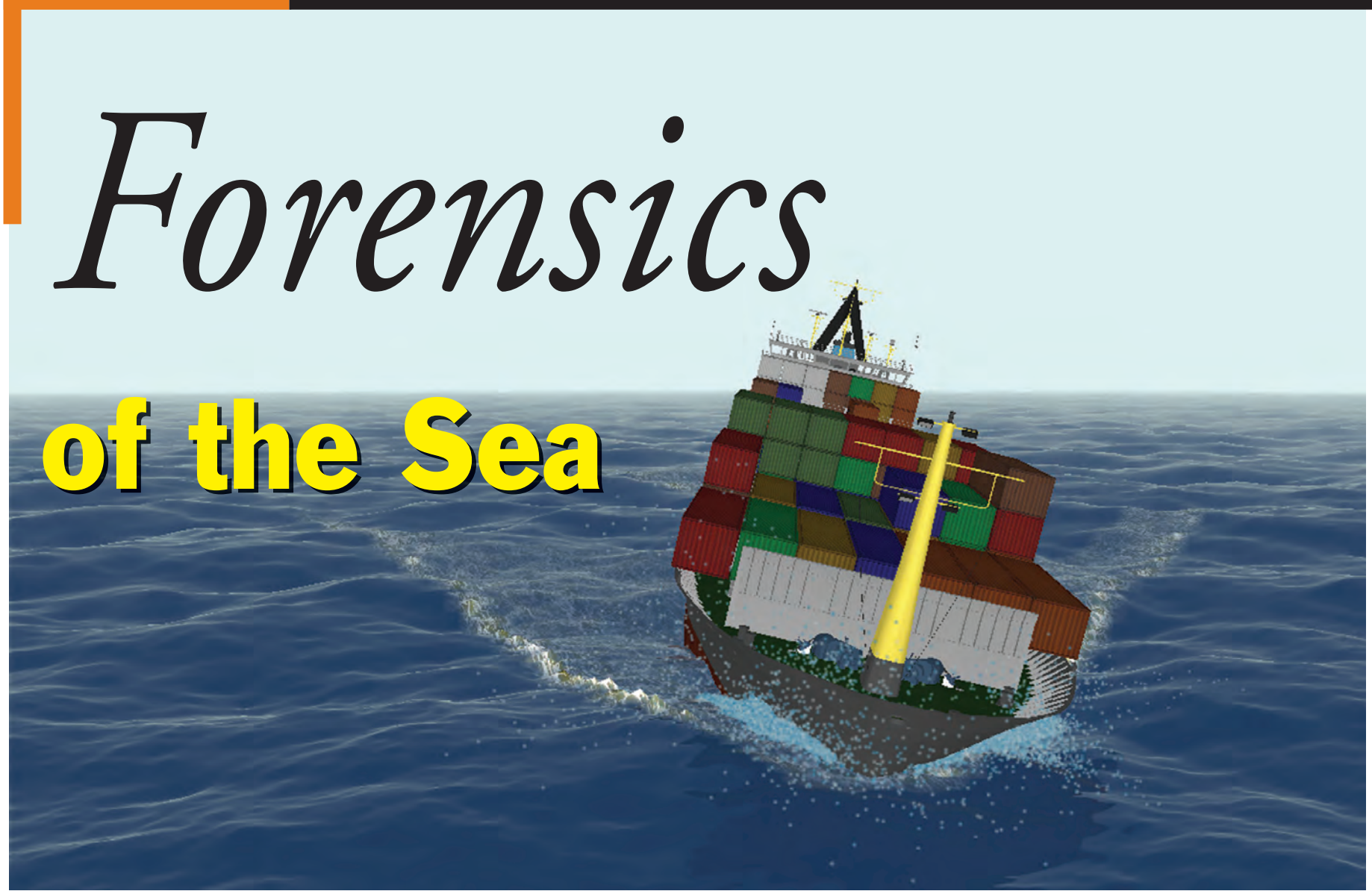
Forensics of the Sea



By Jeroen De Haas, MD, BMT De Beer & Han Wensink, MD, BMT ARGOSS

The sheer magnitude of insurance claims year on year within the shipping industry is striking. The complexities that now come with these claims is placing increasing pressure on surveyors to employ ever more sophisticated techniques in their quest to determine the reasons behind an incident and ascertain where the liability falls.

Jeroen De Haas, Managing Director of BMT De Beer, and Han Wensink, Managing Director of BMT ARGOSS, subsidiaries of BMT Group, explain the complexities behind marine investigations. Particularly highlighting how modern methods such as simulation techniques can allow accurate reconstruction of incidents with the ability to reduce risk and uncertainty. Both Jeroen and Han will also highlight the importance of understanding the metocean (wind, wave and current) conditions at the time of the incident. Weather and sea states have always been the dominating factors of incidents occurring or revealing a weakness in a system on board a ship. This hasn't changed but the availability of accurate data on such conditions has and must now be seen as an important aspect when presenting a case in court.

Without shipping, global trade, the bulk transport of raw materials and the import/export of affordable food and manufactured goods would simply not be possible. Despite the fact that ships have never been so technically advanced, carried so much cargo, or been as environmentally-friendly as they are today, accidents still happen, which in turn leads to many claims being made.

Although complex, the common reasons for these accidents occurring can include a lack of knowledge of the stringent requirements associated with cargo transportation and human error. Over the last three years in particular, where the maritime logistics supply chain has had to cope with the economic crisis and look at ways of reducing costs, there has also been a more worrying trend towards cutting corners in some areas of transportation. Lashing and securing of cargo is one such area where in the past, the approach was to invest in marine surveyors to monitor and certify the lashing and securing. The decision to reduce or avoid the costs for such expert intervention only serves to exacerbate the issue and increase the number of claims. On the other hand, the use of accurate weather forecast information can be deployed to reduce lashings in a responsible way, avoiding the costs of unnecessary "over lashing" of the cargo.

Carrying out marine investigations after an incident is no mean feat and can be extremely complex and time-consuming. Firstly, the investigators must try and provide a reconstruction of what happened. Courts always have to rely on witness statements which, by its very nature are always going to be somewhat subjective. Therefore, it's important for courts and arbitrators to obtain an expert opinion on the cause of the incident, based on certainties rather than assumptions. This is vital to arrive at an objective and well-founded conclusion or arbitration award.

The forensic investigators must secure the necessary evidence in order to prove what they think has happened, did indeed occur. Technology can play an integral role within this phase so that robust and reliable evidence can be sourced. However, shipping is a very traditional market and there is an inherent hesitancy towards change. It is for this reason that the majority of investigations are still to this day, carried out using very basic methods such as notebooks and cameras,

despite more sophisticated technologies being available.

Most importantly, it is the job of the surveyor to demonstrate to a court or arbitration panel that the evidence they are presenting is the most reliable and robust available. Although London in particular has very qualified marine arbitrators and courts, the industry is witnessing a geographical shift change where many cases are now being presented to a judge who has little or no experience of being at sea. This lack of marine knowledge can often hinder a case, especially if the evidence being presented is technically complex, subjective, or insubstantial due to the use of basic assessment techniques.

Harnessing sophisticated technologies such as simulation and 3D animation within complex marine investigations can be the difference between winning and losing a case. Ultimately, technology can help to minimize the level of uncertainty and provide more robust evidence to courts and arbitration panels. So what are these technologies and how much of an impact can they have?

Although laboratory testing has been around for many years, the advanced quality and the level of testing is most certainly noteworthy. For example, if we are looking to detect possible chemical contaminants for a particular case, 10 years ago we would be able to measure in parts per million. Today, through cutting edge technology and equipment we are able to measure in parts per billion, therefore the level of accuracy when determining possible contaminants is far greater. The ability to evaluate ship motions by carrying out computer modelling or tank testing is also of significant advantage, providing additional assurances that the conclusions reached are indeed correct and accurate.

Determining the actual ship behavior at the time of the collision or incident through innovative simulation techniques can provide the courts with a real appreciation of the conditions the ship experienced. By using the vessel's recordings, AIS data (Automatic Identification Systems) and environmental data (wind, current, sea state etc.), this information can be directly plugged into a model which simulates how the vessel was behaving, leading up to the time of the accident or incident. This can provide the court or arbitration panel with a much clearer and accurate picture of what actually happened.

Couple this with high quality metocean information which is backed up by satellite observation and surveyors would be able to provide much more reliable and robust evidence. A ship owner can exonerate its liability if it can prove that the weather at the time of the incident is deemed excessive and extraordinary. Never in history have insurers or owners really succeeded in providing such information unless they were armed with weather statements from other ships in the area at the time of the incident, who also experienced similar problems.

In a recent case where BMT provided surveying support, a ship lost its hatch covers in extremely heavy weather and as a result, the cargo got wet and the ship almost sunk. By providing detailed wave data that demonstrated the waves were in the region of 30 metres at the time of the accident, the insurance company succeeded in proving that this incident occurred due to extreme weather conditions and the ship owner was able to exonerate itself from liability. Cases similar to this have resulted in a considerable step change in marine surveying and insurance as this type of evidence has never been available before.

Furthermore, technology such as 3D animation can use the predictions determined by the simulation model to create a cartoon reproduction to visually appreciate the conditions and course of events at the time of the incident. This can be particularly effective for a judge who may not have any marine experience. Trying to explain to a judge, who has no knowledge of a ship, how the ship exactly behaved at the time of the incident, would be near impossible to do on a piece of paper. 3D animation therefore, is an extremely effective way of presenting the case.

By using these sophisticated technologies, BMT is putting itself at the forefront of marine surveying. Although shipping has always been described as a traditional market, the new generation of younger people coming into the industry and their enthusiasm for new technology will certainly help to drive such modern methods forward. However, as we see less and less ex-mariners handling the cases and more who are trying to solve these cases based on a legal merit alone, we must try to educate the industry in recognizing that technological insight can be the difference between winning and losing a case.

(Photo credit: Paul Daly)

The *Virtual* World

Can Be More Real Than Real World for Survival Training

By Andrew Safer

Citizens are sometimes left wondering how they can comply with the letter of the law. According to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), in order to receive certification, seafarers must be able to demonstrate that they possess critical safety skills that would be required in shipboard emergencies, such as firefighting and lifeboat launching. As an example of such an emergency, Captain Anthony Patterson, President and CEO of Virtual Marine Technology (VMT) of St. John's, Newfoundland, cites the MSC Napoli—a container ship that had to be evacuated in the English Channel in 2007 due to hull damage. "The convention is clear," he says. "You have to demonstrate your competence to do this job using real equipment. This is an impossibility, the way it's normally done, because the risk of injury is too great to train using real equipment." Capt. Patterson was speaking in St. John's in late October at Ocean Innovation's Extreme Survival conference, co-sponsored by the Marine Institute of Memorial University of Newfoundland and the International Association for Safety and Survival Training.

When the Manila Amendments to STCW came into effect in January 2012—the standard for lifeboat training, which had specified the use of real equipment, was expanded to include simulation-based training. As Director of the Centre for Marine Simulation at the Marine Institute, Capt. Patterson was on the project team with Memorial University's Faculty of Engineering and Applied Science that developed a lifeboat simulator and petitioned the International Maritime Organization in 2008 to consider lifeboat simulation as a viable training option. (VMT was spun out of that project team.) "We asked, 'Is this a good way for preparing lifeboat coxswains for the real thing, and they said yes," Capt. Patterson reports. The new STCW standard was developed in 2010 and came into force this year.

Pointing to Chapter 6 of STCW, Capt. Patterson notes that every five years seafarers are obligated to provide evidence to the regulator that they have maintained proficiency in safety skills (refresher training). "How are they going to maintain competency operating in rough seas with helicopters, or extinguishing a fire?" he asks, adding that the responsibility placed on companies in Chapter 1 is also difficult to fulfill using standard training methods. The ship owner is required to ensure that all crew members know how to operate safety equipment and perform emergency procedures before they are assigned duties (familiarization training). "If there's an incident and the members can't operate the equipment," he says, "you as a company are behind the 8-ball. The industry is saying, 'There's no way we can afford this.' Simulation is one of the ways."

Capt. Patterson sees simulation filling the gap in emergency training because "you can only go so far in your training using real equipment before you run into risk issues, and you have to dilute your training, so you don't cross the line. The virtual world doesn't have that restriction." He adds that since there are no physical safety issues, the operator can allow the system to go into failure mode as a result of a decision that's been made. "You can let it go to its logical conclusion even if that means an accident," he says, "because people will learn from it." Having this latitude to push the envelope in a simulated environment "makes virtual worlds, in some contexts, more real

LEFT

VMT personnel operating the instructor control station with freefall simulator in the background. By creating challenging weather conditions, introducing complex vessel traffic, and inserting equipment faults, instructors are able to prepare trainees to respond to scenarios that would otherwise be too difficult to replicate in the real world.

than what you could achieve using real equipment." An example of this he cites is the training conducted by Wismar University and the Maritime Simulation Centre Warnemuende in Germany on shipboard fire management for RO/RO passenger ferries. "By flipping into a virtual world," says Capt. Patterson, "seafarers learn to manage an escalating fire. Students say the training is fantastic, and we need more of it."

Another example is the world's first freefall lifeboat training facility—co-developed by VMT and Memorial University—that has been operational at the Marine Institute's Offshore Safety and Survival Centre since September. This type of lifeboat is launched into the water from a downward sloping slipway, as compared to the davit-type lifeboat which is launched from a freestanding deck-mounted structure. Due to the high capital and operating costs a training facility would incur to provide real-life freefall training—plus the human risks involved in using real equipment—this type of training is not available at many facilities. "Imagine the difficulties, the cost, and the risk of dropping the boat during a training," says Capt. Patterson. Trainees operating the freefall lifeboat simulator experience roll, pitch, yaw, surge, sway, and heave, and practice the procedures for launching the lifeboat, performing once it's landed on the water, and during sail-away. Regarding the effectiveness of simulation-based training, he refers to a study sponsored by Transport Canada and conducted by the National Research Council in 2010 and 2011 that compared one group that was given traditional seafarer lifeboat training to another group that learned to drive lifeboats in an ice field in a simulator, never having driven a boat before. When the simulator-trained group drove lifeboats in a real ice field, their success rate was 89% compared to 72% for traditionally trained subjects. Capt. Patterson adds that a person receiving simulator training on the launch and sail away can run through the procedures 12 times in an hour, compared to three times with real equipment—substantially more hands-on training time.

The primary measure of success, Capt. Patterson reports, is the trainee's engagement with the training. "If they're not happy with it, you revert back to the main problem which is people resisting doing the mandated training because it's not challenging and boring." The National Research Council study reported a 38% increase in satisfaction with simulation-based training, compared to standard methods. Cost savings are a lower priority, he adds, even though the cost savings are substantial, citing an 80% reduction in cost compared to the use of real equipment. The latter scenario involves capital costs including a boat, a davit, a safety boat, and waterfront property, plus equipment installation, hiring additional instructors, and maintaining the boat and launching system. When training on a simulator in a specialized facility in a fixed location, he notes that the primary cost is travel, living expenses, and salary offsets, rather than tuition. To dramatically reduce these costs, Capt. Patterson suggests that training facilities begin to use mobile simulators to bring the training to the students. Rather than advocating for simulator training in place of on-board training, Capt. Patterson sees the two training modes as complementary, forming a blended solution.

Trainee inside VMT's freefall lifeboat simulator at the Offshore Safety and Survival Centre, Fisheries and Marine Institute of Memorial University.

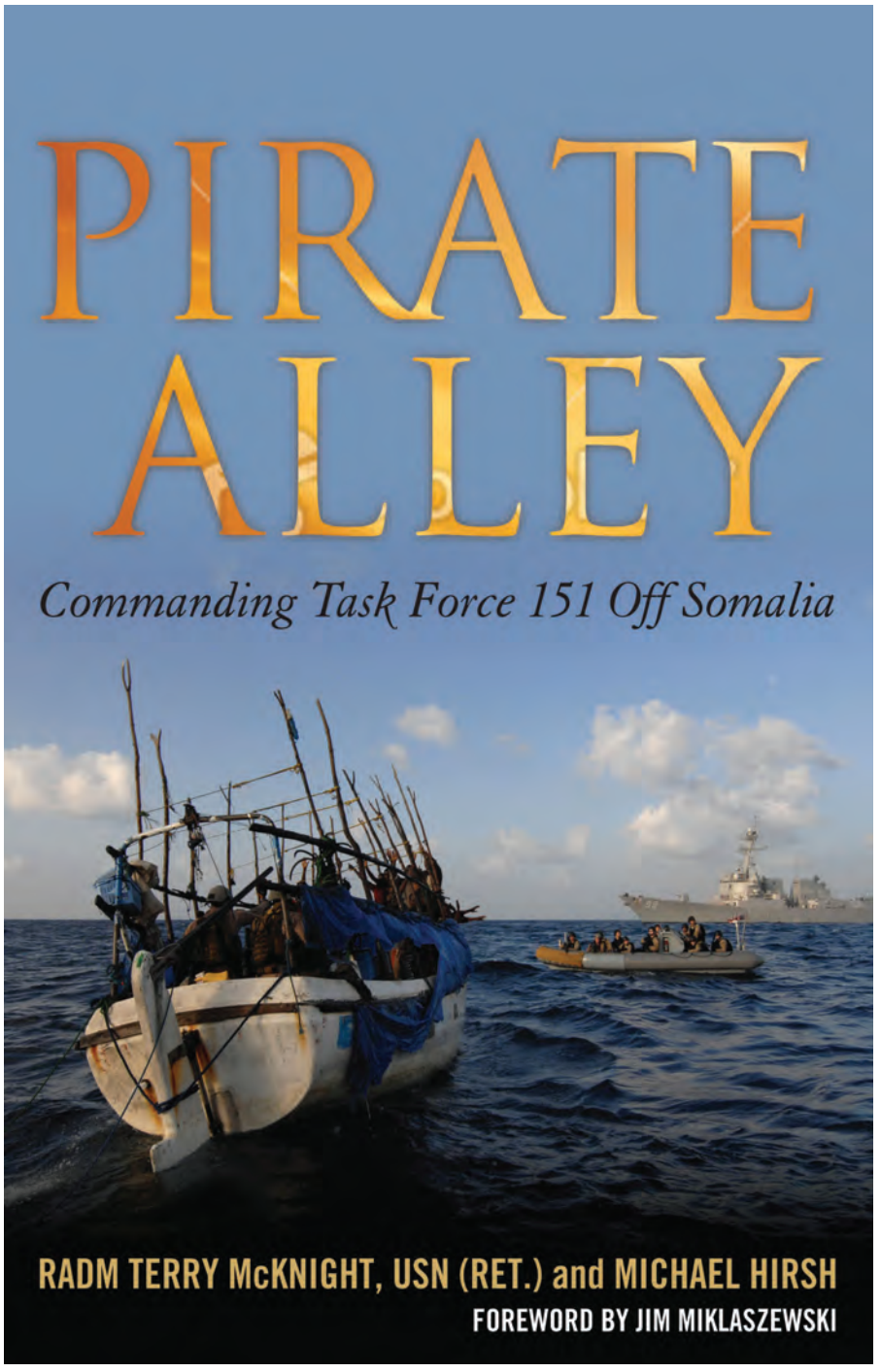
Pirate Alley

Book offers a commanding view of piracy at sea: Naval forces, high freeboard, speed, and armed guards contribute to reduced success by Somali pirates, but the problem will not go away

Reviewed by Edward Lundquist, USN (Ret.)

Even with a multi-national flotilla of warships, armed security guards on merchant ships, and phalanxes of lawyers making policy and negotiating ransoms, seemingly unsophisticated Somalis and their small, simple skiffs still attack ships on the high seas and hold seafarers, ships and cargos for ever-growing sums of money. These crimes have sparked an international naval response to protect ships, cargos and crew, particularly in the Gulf of Aden and Indian Ocean, known as "Pirate Alley."

Rear Adm. Terry McKnight, a retired naval officer, had a front row seat in the effort to deter and defend against piracy on the high seas. McKnight, who with Michael Hirsh wrote Pirate Alley – Commanding Task Force 151 Off Somalia, published by the Naval institute Press, knows about that naval response. He stood up Combined Task Force (CTF) 151 in January 2009, as part of the Combined Maritime Force, headquartered in Bahrain. He says the naval presence has made a difference. "It has been with us for many, many years. As long as ships go to sea . . . there will be piracy."



"I wanted to tell the story about piracy 'from the sea,'" McKnight says. "There has been tons written on the issue from some very smart people, but none of them had firsthand knowledge at sea. I also wanted to tell the story about our great service members who do some really special things at sea."

The subject of piracy, especially with regards to Somalia, is very complex. There can be no solution until a stable government exists that can enforce the law in Somalia. Until then, the pirate leaders can send out their "pirate action groups," or PAGs, from their bases ashore with impunity. McKnight also says that the public has some real misconceptions about piracy. "They amount to small numbers in the big world economy, so why should it matter to the average citizen?"

But it does, he says, because the free flow of ocean shipping is critical to our global economy.

When the situation began to get worldwide attention, CTF 151 was established. Today, there are several naval operations ongoing simultaneously, to include CTF 151, which McKnight commanded, under the guidance of the Combined Maritime Force, located at the U.S. Naval Central Command in Bahrain. Then there is the European Union's EU NAVFOR Operational Atalanta, protecting the World Food Program's shipments to Somalia. There is also a NATO Operation Ocean Shield task force, working with the NATO Shipping Centre in Northwoods, UK. There are independent deployers from countries like India, Russia and China, as well. They might not be part of a coalition, but McKnight says cooperation, information sharing and professionalism of all the participating navies was and remains excellent.

When CTF 151 was established, the task force was to protect merchant ships, and catch pirates. But there was no real plan to start out. They were, in a matter of speaking, making it up as they went along.

The big problem was made bigger by the distances involved. The Gulf of Aden is over 1.1 million square miles of ocean—three times the size of the Gulf of Mexico. The number of ships and aircraft assigned to the various counter-piracy naval operations changes regularly.

"With over 2,400 miles of coastline it would be hard to blockade the entire coast," he says. "You could consider attacking the pirate camps, but the pirates do not wear uniforms and you risk killing innocent civilians. . You could search all the dhows and skiffs leaving the shore, but there are not enough naval forces to do the job."

The naval forces couldn't be everywhere. If a reported attack was not far from a warship, they were generally successful in getting a helo or ship to the merchant within 30 minutes. "We used the 'golden rule,' if we could get a ship or helo over the merchant ship being attacked, we had a pretty good chance of preventing the ship from being ending up in a pirate camp!"

"Even the so-called 'thousand ship navy' would insufficient to cover the region," McKnight says. "It's like a dozen

Pirate Alley: Commanding Task Force 151 Off Somalia

by RADM Terry McKnight, USN (Ret.) and Michael Hirsh
Publication date: 15 October 2012
272 pp., 38 photos, 1 map. Hardcover
ISBN: 978-1-61251-134-4 /List price: $29.95
(eBook edition also available)

police cars patrolling the entire United States."

"Nobody was prepared to catch pirates. The MOU (memorandum of understanding) with Kenya (where they agreed to accept and prosecute those who violated international law by committing acts of piracy) was not signed until the end of Jan 2009 and procedures worked out with AFRICOM on how to get the captured pirates to Kenya.

While combatants with their speed and firepower (not to mention aircraft) were formidable pirate-chasers, among the most effective naval platforms for counter-piracy operations are the ships with lots of room inside to detain pirates if they were captured. The Danish Absalon-class of flexible support ship and Royal Fleet Auxiliary Fort Victoria, with their voluminous interior space, could be used to detain captured suspects until they knew where to send them.

McKnight said land-based maritime patrol aircraft, such as the P-3 Orions operating from Djibouti and the Seychelles, became a force multiplier. "I only wish we had more on-station time."

Even in the few short years since McKnight commanded CTF 151, the ability to fight pirates, as well as the tactics and capabilities of the pirates themselves, has evolved.

The shipping community has also responded. McKnight says the industry's collective "Best Management Practices" (BMP) work. It requires an investment in training and physical security, but ship owners and operators must make the commitment. What ship owners generally can't change is speed and free board—the distance from the water to the main deck. "Any ship transiting the area that has a low free board and speed restrictions below 18 knots needs to consider hiring a security team for extra protection."

Several years ago, the idea of private security companies protecting ships was frowned upon. Today many ships have armed guards aboard. "Private security teams are one of the major reasons the tide on piracy is turning. As of today, not a single ship that has hired a security team has been taken by the pirates. However, it comes at a cost. These teams are expensive. It cost approximately $50,000 for the transit through the Gulf of Aden. We are all are paying for that cost where we shop."

Still some countries will not allow these teams to embark and disembark with weapons, he says. "So that means some vessels must make a quick stop at another port to disembark. Most of the security firms are hiring former Special Forces members. They know how to shoot, but do they understand hostile intent or rules of engagement? If you hire a team – your insurance cost goes up. Again, the consumer ends up paying."

Also, he says, some merchants have decided to turn off AIS during their transit. AIS is the "automated information system" that functions much like IFF on planes. It sends out a signal with the name of the ship, location, course and speed and other information. This helps the good guys know where you are, and turning it off, he says is not recommended. "The pirates don't really have the ability to track merchant ships in the Gulf of Aden and AIS assists the naval force keep a "COP" (common operating picture) of all merchant vessels in the area."

In addition to sharing his own eyewitness observations, he calls upon others with first-hand knowledge of what was happening out there.

Capt. Mark Genung and his crew aboard USS Vella Gulf stood by the M/V Faina while it was held by Somali pirates. During the ordeal, the Faina's master died. When liberated, the first mate—who had become the master—expressed gratitude to the Vella Gulf crew. "Our liberation would not have been possible without your presence," said Viktor Nikolsky. "Our lives were spared because you were here to protect us."

McKnight credits the pirates with adapting their tactics and expanding their area of operations, making it difficult to find them and stop them altogether. And, he readily admits that the fact that the pirates operate from a place that is not governed by the rule of law makes it impossible to hold the government of Somali accountable to wipe out the pirate bases.

Remember the seafarers

We can recall the capture of the Maersk Alabama, a U.S.-flagged ship with an American crew, and the dramatic rescue of the ship's master by the U.S. Navy. But hundreds of other ships have been attacked with less successful outcomes. Even today, nine ships and more than 100 seafarers are being held by Somali pirates.

Prognosis for the Gulf of Aden: the numbers are down—for the time being—because of what the coalition forces have done and the merchant community has taken on some of the best practices. However, if the navies leave, he says, the pirates will be back.

Shipbreaking

Industry May Keep Tryst with Doomsday

By Joseph Fonseca, Mumbai

The new IMO convention on Ship Recycling and the EU Proposal for Regulation of Ship Recycling are being viewed with concern by ship recyclers in Alang, India. If these come into force it is possible this world's biggest grave yard for ships will have to close down.

Alang is considered natures' gift to the Indian ship recycling industry. Located in Gujarat, on the West coast of India, the shipyards in Alang recycle approximately half of all ships salvaged around the world. Having come into existence in June 1983, Alang, today encompasses over 180 ship yards stretching across 11 km of the coast line and is presently engaged in dismantling over 150 ships simultaneously. During 2011-12, Alang had achieved a record 415 ships' demolition. Though highly regulated the ship breaking industry has often been at the receiving end of environmentalists, international organizations and authorities. With the ship recycling convention of the International Maritime Organization (IMO) awaiting implementation and the European Union's proposal for Regulation on Ship Recycling likely to become mandatory in January 2015 the industry is bracing up for another bout of regulatory dictates which players in the field fear could well spell its doom.

The 'beaching' method of recycling in Alang is considered to be not only the most economical as well as the cleanest. What makes ship breaking a productive and attractive venture for India is that 99% of the demolished ship finds reuse according to a study carried out by Prof. (Dr.) Shyam R. Asolekar Center for Environmental Science and Engineering Indian Institute of Technology, Bombay. Among other products the industry generates around 4 million tonnes of steel alone. "It is not just the major components like main engine, gear boxes, auxiliary engines, fire pumps, etc., that fetch a good premium but even nuts and bolts, wires, cables, furniture and fixtures, kitchen utensils, et al," says Prof. Asolekar. "In fact just outside the Alang yard one can see over 800 shops spread for miles around doing roaring business mainly from material generated from these demolition yards."

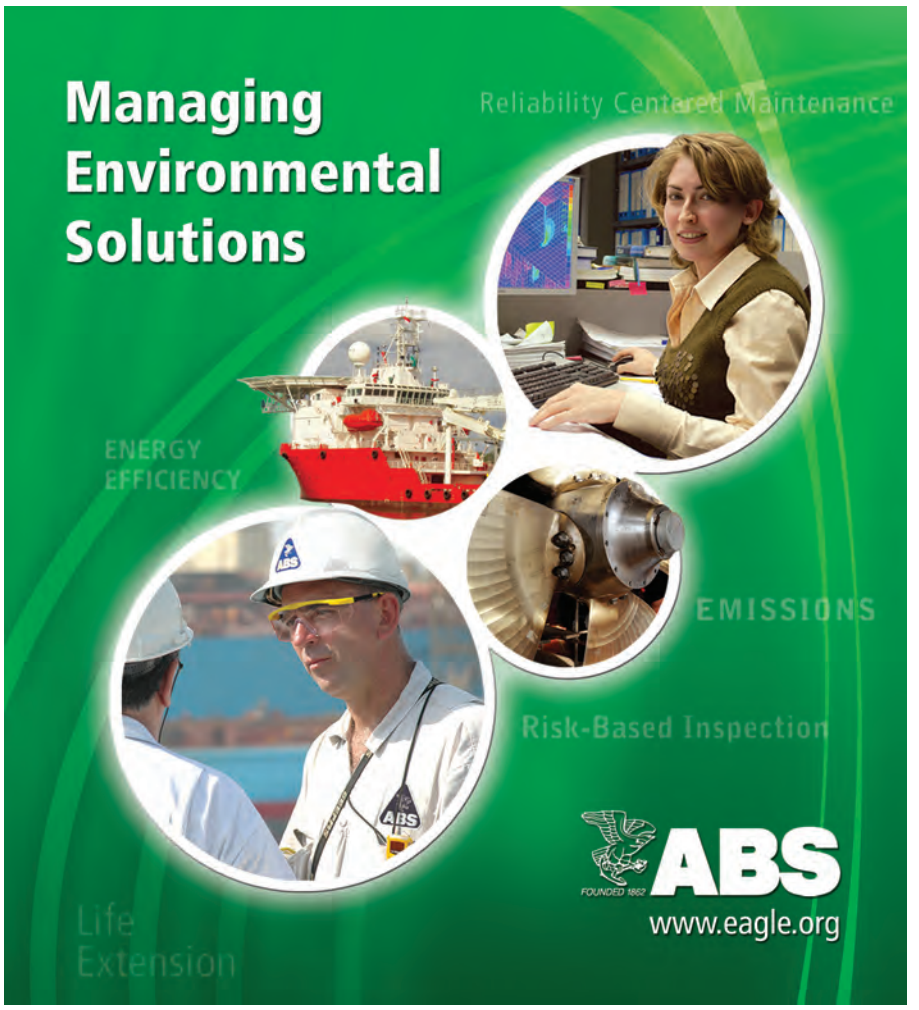
India had like some other South Asian countries become a favored destination in the early eighties because of the availability of cheap labor. But it is the high tidal range, firm seabed, gentle seaward slope that eventually gave Alang the edge over others thus making it the first major Indian ship breaking yard to have come

into existence. Ideally Alang can be said to have all the makings for the best ship recycling destination.

"This labor intensive industry provides direct employment to over 35,000 workers," asserts Ulhas S Kalghatgi, Chief Surveyor and Senior Vice President of the Indian Register of Shipping. "It provides spin-off to other industries, including re-rolling mills, suppliers of oxygen and liquefied petroleum gas, scrap processors and also to traders involved in selling second-hand products such as furniture and fittings etc. More than 90% of ship breaking in the world is taking place in India, Bangladesh, Pakistan, China and Turkey."

Safety and environmental concerns have tormented the industry since the past two decades following reports of workers' casualty and death. Following a spate of allegations by environmentalists and Greenpeace organizations, a 15-member delegation from IMO consisting of representatives from the World Bank and the European Commission visited the Alang ship-breaking yard from January 7-10, 2008, and inspected the safety and environmental safeguards at the facility.

Again another delegation numbering 20 members and headed by IMO implementation officer for marine environment division Nikos E. Mikelis visited Alang on



25th February 2009. It included members from Bank of International Settlement Convention Secretariat, International Labor Organization, World Bank and European Commission and belonged to countries like Greece, Japan, UK, France, Denmark, Norway, USA, Germany, Bulgaria and New Zealand.

As reported by the Gujarat Maritime Board the two teams expressed satisfaction after witnessing the class room training being imparted on various operations of ship recycling, on safety and waste management. The teams approved the techniques adhered to in the removal of asbestos containing material from ship's parts and pipes in negative pressure chamber. They also visited the asbestos handling unit, incinerator, analytical laboratory, medical clinic, modern workmen utility area and an adequate workman training facility within the yard.

They also inspected the area dedicated to waste management and the landfill sites for disposal of asbestos and glass wool waste and hazardous wastes. The delegates were informed about the legislative requirement of construction aspects of landfill and operational aspect under the frame work of Central Pollution Control Board Criteria. They approved of the dedicated landfill facilities for disposal of the wastes generated from Alang yard.

Prof. Asolekar informs that it is the training of the laborers engaged in various jobs of ship recycling on safety and waste management that has brought about a sea-change. Courses including basic safety, cutter-men training, fire-fighting, gas cutting welding, etc., resulted in raising the standards of occupational health and safety followed at the ship dismantling yards.

"Persistent efforts in putting workers through the training programs has helped in increased use of personal protective equipment by the laborers, implementation of protective and safety measures, and developing skill sets," Prof Asolekar states. "This has helped Alang achieve 'Zero Fatal Accidents' and is able to develop green environment in Alang to the extent that no deaths have occurred during the period from January 1, 2012 to August 31, 2012 (lowest accident rate of any major labor intensive industry).

Shashank Agrawal, Group Legal Advisor to Wirana Shipping Corporation (Cash Buyers based in Singapore) points out that ship recycling in India is heavily regulated. "There are more than 22 licensing bodies and every recycler has to comply with the various regulations. Around 100 yards are already certified under ISO 14001/9001 and OHSAS 18001. There are at least 55 yards with ISO 30000 certification.

The industry stakeholders have to comply with various legal requirements under the Factories Act, LPG Storage License, and GMB Notification 2003. Recyclers have to compulsorily provide for workers insurance, register landfill sites and obtain authorization from the Pollution Control Board. The overseeing governing bodies are the Gujarat Maritime Board, Gujarat Pollution Control Board, the Indian Customs and the statutory bodies for Atomic and Explosives.

The president of Ship Recycling Industries' Association (India), V.K. Gupta considers the occasional public outcry against recycling as an attempt to create

adverse publicity. “Just to sensationalize, an undue hue and cry about environment pollution is being made,” he claims.

He goes on to explain that the issues of PCB (Polychlorinated biphenyls), Asbestos and TBT (Tributyltin) paint are temporary phenomena, as their use is already banned. This is a transitory issue. For the disposal and treatment of hazardous wastes, a secured landfill site has been constructed at Alang. Asbestos which was used as insulation material is getting replaced by glass wool. So in future handling of glass wool will be a crucial issue.

P.S. Nagarsheth, President of the Iron Steel Scrap & Shipbreakers’ Association of India (ISSAI) strongly denounces the wrong impression being propagated by NGOs about ship recycling industry being hazardous. “20% of ship cutting is done on board the ship,” he maintains, remaining 80% at the yard similar to any other fabricating activity. During the entire process of breaking, the ship remains afloat and sea water does not enter the ship. So there is no seepage of oil. No tanker is permitted to be beached without the certificate for gas-free for hot work as directed by the Supreme Court. Secondly, no ship is permitted to be demolished without the removal of remaining bunker and while being dismantled the ship remains afloat and no water is permitted to enter the ship.”

Though it has not been smooth sailing for the industry the future appears bleak and they expect more turbulence once the International Convention on Ship Recycling known as Hong Kong Convention comes into force after India ratifies it. Industry experts say that the intention of IMO convention is not ‘green ship recycling’ as originally intended, but to pass the entire responsibility on to ship recyclers from the ship owners.

Adding fuel to fire the European Union has proposed their Regulations for Ship Recycling. Nagarsheth informs that EU has interpreted Basel Convention as ships meant for demolition to be hazardous waste. “The European Union (EU) has not been able to implement its own Regulation 1013/2006,” says Nagarsheth. “Ships were sold to cash buyers, registered in tax haven countries and then routed to ship recycling countries or sold under the pretext of trading purpose and then diverted to ship recycling countries. EU In its own admission stated: “*at present, most of the trade of ships for recycling is illegal considering the provisions of Regulation No. 1013/2006.*”

Ship recyclers impress upon the fact that instead of plugging the loopholes in their regulations to safeguard their ship owners/nationals, EU has proposed a new regulation for ship recyclers in countries outside the EU which is not at all acceptable ‘as they are to be implemented by countries other than those of EU’.

“The EU regulation requires ship recycler to be registered with EU, bypassing even the government where he operates from,” Nagarsheth describes. “It goes on to state that such registered ship recycler shall accept a ship flying the flag of a European member state only for recycling and restricts the recycling facility from importing ships from any other flag states. The contract under the regulation between the ship owner and ship recycler shall be effective until recycling is complete. In other words this allows the ship owner to interfere and control the recycling process which is done in a country outside the EU even though the ship owner’s financial involvement is zero.”

The proposed guidelines are an attempt to discourage the beaching method which is being followed at Alang fears Nagarsheth. The crucial issue that needs to be highlighted is the point of time a ‘ship under recycling’ ceases to be a carrier and is converts into ‘cargo’. Once a ship ceases to be a carrier, the ship breaking activity should come under nation’s own regulations based on ILO guidelines. “By accepting IMO Convention and EU guidelines, ship recycling in India will not be feasible,” says Nagarsheth.

Scrap and reusable material to be sold in the market

MV Cellus

It's not new, but is MV Cellus one of the cleanest ship in the world?

Quick question: When the words "Green Shipping" and "German Maritime" are put together, is the first thought in your mind modern cruise ships? If you answered yes, it would be understandable; but partially right, partially wrong. Recently Maritime Reporter & Engineering News German-based contributing editor Dipl.-Ing. Peter Pospiech climbed on board the MV CELLUS – a German freighter – to uncover some of the secrets that make it a clean operating ship, in fact so clean that it fulfills the stringent requirements of the Blue Angel Award, and warrants feature in Maritime Reporter & Engineering News' "Great Ships of 2012."

By Dipl.-Ing. Peter Pospiech, Germany

A simple German freighter is a bonafide trendsetter for clean ships operation, becoming the first seagoing ship to earn the "Blue Angel" eco-label, the oldest eco-labeling of Europe. The UN forwarded the eco-label into the hands of the German Ministry for the Environment, Nature Conservation and Nuclear Safety – for the award of environmental products and services.

When climbing aboard the MV Cellus the first thing that you see on the superstructure is a big sign – the "Blue Angel" mark – which is a sign that is most frequently seen on toilet paper or milk cartons, as the Blue Angel is most closely associated with and conferred upon consumer products.

MV Cellus loads cellulose at the Södra papermill in Karlshamn, Sweden.

"Technically high value ships have the best chances on the charter market." — shipowner Roerd Braren

But the MV Cellus, built by Peters Schiffbau, Wewelsfleth, Germany, and owned by R. Braren, of Kollmar, Germany, is a ship that stands out, and has earned its Blue Angel wings courtesy not of a single product or system, rather a collection of system and process from;

- its controlled waste and sanitation management, to
- its non-toxic underwater paint, to
- its scrubbed emissions, to
- its full complement of safety equipment, and not to mention
- its good human resource management.

"The decisive factor has been indeed the reduction of exhaust gas pollutants," said Chief Jürgen Beller, "more precisely: the limitation of sulfurous matter in the fuel as well as the reduction of nitrogen oxide and particulate emission."

On November 21, 2002, the most significant German "Blue Angel" eco-label was been awarded to the ship in the town of Kollmar, next to the river Elbe based, captain and shipping owner Rörd Braren.

In addition, in June of 2004 the ship owner was conferred what is essentially the "Environmental Oscar" by the EU Commission the "Clean Marine Award" for all three special cellulose freighters: Cellus, Timbus and Forester "for his pioneering feat at the practice of environmentally friendly technologies in ship operations."

Södra Cell, with approximately two million tons annually, is one of the world's leading manufacturers of paper pulp for the open market, has a strong environmental protection mandate. Södra prioritizes continued development of next-generation renewable, recyclable and biodegradable products. In addition, the company strives to ensure that the transportation it uses and employes is ecologically harmless.

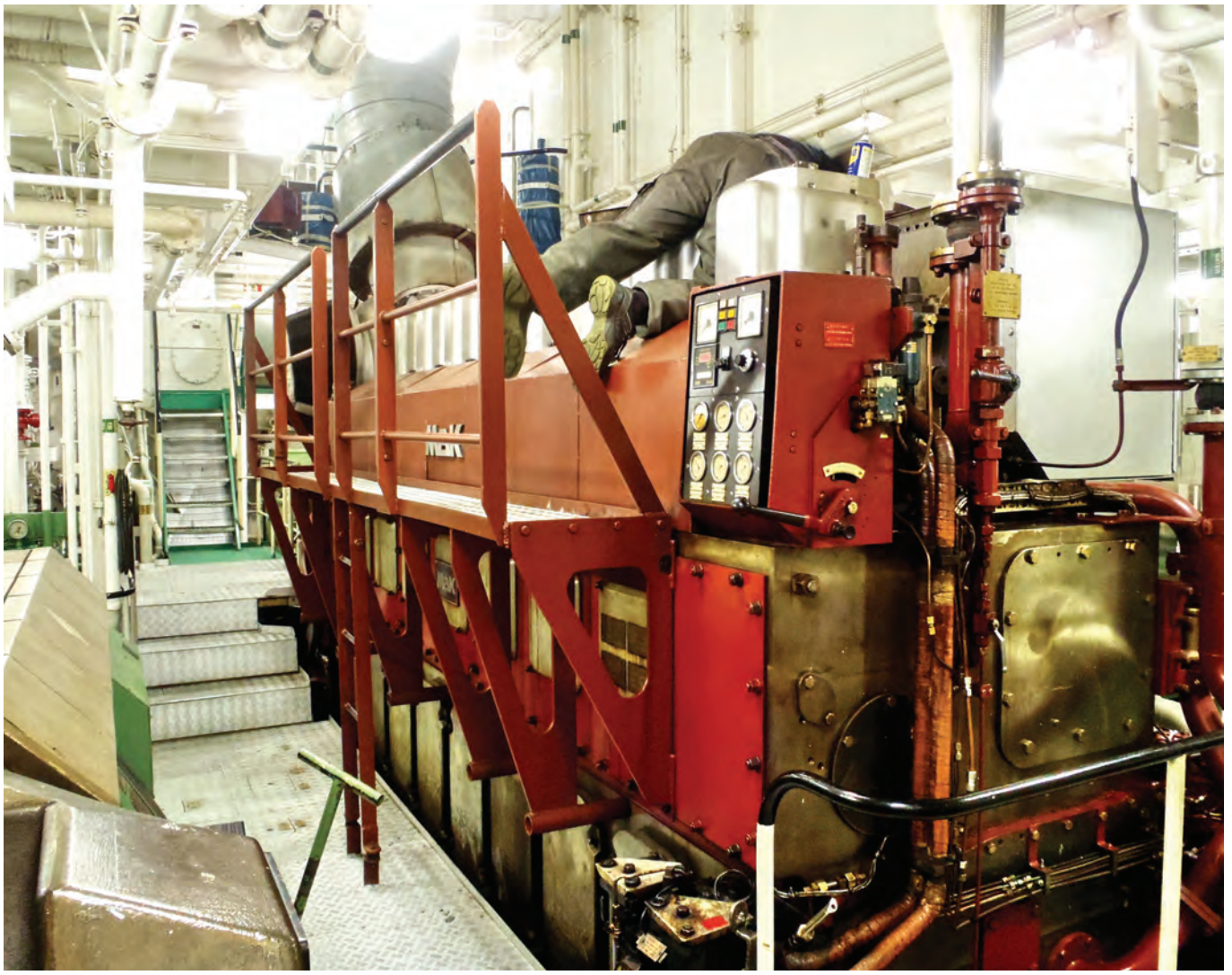
"We cannot make only promises, but have to implement them," said Jan Gyllen, CEO of Södra Shipping. Thus his proposal, to build a "clean ship" fell on fertile ground. In his business partner Rörd Braren and the Peters-Shipyard in Wewelsfleth he found competent and willing participants, and together they designed what is self-described as worldwide the first ship with the eco-label.

Words & Actions

While many shipowners, particularly when the Cellus was built in 1998, were more talk than action on environmental matters, this was not the case with this group. Besides ship safety, the subject of environmental protection is written in bold letters across the project, courtesy of a family of advanced environmental products and systems that, when installed, were more the realm of marketing fodder than actionable items for other shipowners.

Specifically, all ships are painted with an environmentally (non-toxic) marine paint; sewage water and waste are collected on board and are disposed of on shore; a cathodic corrosion protection on the ship hull of the CELLUS has been installed; and an impressed Current Cathodic Protection (ICCP) system uses the principle of shifting the natural potential of metals, protecting the ship durably and effectively against corrosion. The ICCP-system provides the ships with all-round protection, including the protection for the propulsion and rudder system.

However, the most important factor was the installation of a selective catalytic reduction system (SCR). "With the help of injected urea as reduction agent up to approximately 95% nitrous gases are changed chemically into non-toxic and harmless exhaust," said Chief Jürgen Beller. The defined dose of urea is sprayed through a nozzle into the stream of exhaust, where it is first subject to hydrolysis, and then causes the transformation of the nitrogen monoxide (NOx) into



Main engine, an 8-cylinder MaK inline engine delivers 3,840 kW @ 600 rpm.

nitrogen (N) and water (H2O) in the catalytic converter. Urea consumption, according to the shipping company, is about 7% from fuel consumption. But pre-condition for the application of SCR-systems is the use of low-sulfur fuel. Low-sulfur fuel is very important for most of the exhaust after treatment systems. All kinds of catalyst suffer from the impact of sulfur: premature aging, deterioration and contamination of the catalytic coating and also the ceramic support material. The ordinary oxidation catalysts maintain furthermore the sulfate formation; thus the exhaust will be enriched with toxic substances and the corrosion of the exhaust system accelerated.

Cellus' bunker capacity is about 340 tons of low-sulfur fuel, LS IFO 380 (sulfur content: 0.6 to 0.9%), which reduces the toxic substances in the exhaust. Cost per ton in October on the Rotterdam market: about $680 (in comparison: MGO LS with only 0.1% sulfur content: $958)

"Protection for human beings and the environment, even with our daily consumption of only 14 tons of fuel," Chief Beller summed up, "but it only makes sense if everybody participates. Much more needs to be done to get worldwide

Left:
Chief Jürgen Beller said: "We are equipped with SCR-catalysts; they reduce the NOx-emission by over 90%."

Right:
The urea-injection device for the main engine.

binding standards to create equal competition conditions between all shipping nations."

The emergence of ECAs across much of Europe and North America, with its stringent limits on sulfur in marine fuel and the resulting benefits to the environment, are a good step forward.

"If everybody would follow," said Capt. Seemann, "the polluting emissions could be reduced by approximately 40% in the area of the North- and Baltic Sea." That is a must inside the SECA's and will be controlled by the authorities from time to time. The German Ministry of Environment sees a long-term reduction of around 96% for SOx (compared to fuel with 2.7%) based on the revision of MARPOL ANNEX VI (2008), and around 83% for the particulate mass-fraction.

"Technically high-quality ships do have the best chances on the charter market. Also in the case of resale they realize higher proceeds," said the owner, Braren.

He and the Södra-Group together have worked to building, maintaining and operating technically advanced ships. And while the common notion is that higher specification ships can put an owner at a competitive disadvantage, Braren scoffs at the notion. "The contrary is the case: my certified ships are on long-term charter. Swedish ports have implemented a stepped system of port charges. For an eco-ship that brings up to $7,700 savings, and this for each port come in."

MV Cellus Main Particulars

Owner	R.Braren, Kollmar, Germany
Shipyard	Peters Schiffbau, Wewelsfleth, Germany
Certificate	+GL 100A5 E2 G, MC E2 AUT
Main engine	1 x MaK
Model/power/ speed	MaK 8M32, 3,840 kW @ 600rpm
Variable pitch propeller	Wärtsilä/Lips
Aux.-engine	1 x MAN, 6L16/24; 540kW@1.000rpm
Emergency genset	1 x Volvo TAMD 122A, 240kW@1.500rpm
Shaft generator	1 x Piller Group GmbH, Germany, 982 kVA
SCR catalysator for main and aux engine	1x Siemens Sinox
Hull Paint	Wilckens, non-toxic tin-free
Cathodic Corrosion Protection	Corrobesch Verfahrenstechnik GmbH, Germany
Heavy lift deck cranes	2 x NMF Neuenfelde, Germany
Oil & fuel separators	Westfalia GmbH, Germany
Fresh water generator	Alfa Laval
Urea Tank	1 Stainless Steel, capacity 50 t
Year of Build`	1998
Yard Number	453
Length	99.99 m
Breadth	17 m
Draft	7.27 m
DWT	6389
Speed	15 knots
Crew	12

The Blue Angel

Eco-Label with Brand Character

The Blue Angel (**http://www.blauer-engel.de**) touts itself as the first and oldest environment-related label for products and services in the world. Created in 1978 on the initiative of the Federal Minister of the Interior and approved by the Ministers of the Environment of the federal government and the federal states, it considers itself as a market-conform instrument of environmental policy designed to distinguish the positive environmental features of products and services on a voluntary basis.

The first Basic Award Criteria were adopted by the Environmental Label Jury in 1978. Today, about 11,700 products and services in circa 120 product categories carry the Blue Angel eco-label.

Most of them are consumer products. One of them is a seagoing freighter.

The aim of awarding the Blue Angel eco-label to environmentally sound ship operations is to help reduce the emissions and releases of pollutants into the marine environment caused by a seagoing vessel. To achieve this aim particularly high standards are imposed on the management of shipping companies and ships, on ship design and equipment, and especially on the measures for the reduction of emissions. The scope of this Blue Angel comprises the operation on ships sailing under the German or a foreign flag. Excluded are, among others, tank ships, fishing vessels as well as sport boats and navy ships.

Currently, 1158 suppliers have concluded a Contract on the Use of the Blue Angel. 22 percent of them are foreign suppliers. A total of about 11,500 products are Blue Angel eco-labeled.

Seven Viking

Offshore vessel Seven Viking is the result of the stringent technical requirements that characterize most sophisticated offshore vessels. What makes this Ulstein designed vessel outstanding is the focus that has been placed on ensuring that the crew can deliver peak operational performance from this complex and versatile asset no matter what task is set for it.

Seven Viking is a tailor-made solution for inspection, maintenance and repair (IMR), survey and light construction and is employed on long-term charter with Statoil in the North Sea. Its work scope also includes alongside scale treatment and pre-commissioning. This broad range of duties necessitated the inclusion of a complex equipment package, but, with Ulstein's approach to design, operational functionality has not had to be compromised as a result. Rather, the vessel closes an innovation gap in the offshore market through its success in providing the crew with a work environment that is as versatile as it is specialized.

At just 106.5m long and 24.5m wide, the vessel's equipment has had to be accommodated extremely efficiently and most is situated in a hangar space. All operational personnel are stationed in one area directly above the hangar to facilitate cooperation and communication. Panoramic windows provide visual access to operations and the area has a direct view of the customized module handling system and moonpool in the hangar space. This joint operation control room has stations for shift supervisor, module handling system control, ROV control, scale treatment control, third party control and survey control.

The ship has been developed to meet the highest working environment standards and has been designated comfort class COMF-V (3) by classification society DNV. Minimal noise levels are

Design: Ulstein • Owner: Eidesvik Seven (JV between Eidesvik & Subsea 7)

achieved by the use of electric winches for the vessel's three ROVs, the module handling system and other equipment. To minimize working at heights and manual handling, man-riding baskets and utility cranes are installed in the hangar area.

Ulstein has worked in close partnership with the vessel's owners Eidesvik Seven, a joint venture between Eidesvik and Subsea 7, to achieve the landmark design. "Ulstein helps owners think innovatively, to bring forward new, quality vessels ready for the future," says Tore Ulstein Deputy CEO Ulstein Group and Managing Director of Ulstein International. "Combining Ulstein's ingenuity and experience with the commercial drive of shipowners working for first-class clients, we have created a vessel that stands out in an industry characterized by sophisticated tonnage. Seven Viking will change the expectations of charterers in the IMR market."

While Eidesvik has focused on the vessel's maritime qualities in order to develop the best possible operational platform, co-owner Subsea 7 has worked specifically on the technical solutions of an operational nature, including freeboard, deck space, hangar, operational control room, workshops and offices. Ulstein brought all the requirements together and both designer and yard, Ulstein Verft, put a lot of additional effort into engineering and integration. In the most hectic production phase, almost 400 people were working on the vessel. The result is a prototype vessel with a big future, says Ulstein.

Seven Viking is designated ICE-C class and built specifically for operations in harsh and cold environments. It can accommodate 90 persons and can maintain a service speed of 16 knots fully mobilized for IMR operations.

Ulstein's X-BOW hull line design reduces hull motion in transit and gives increased stability. The bow shape ensures soft entry into waves, thus reducing speed loss, pitch and heave accelerations, as well as eliminating the slamming and vibration problems associated with conventional bow flare.

The increased stability has not meant a compromise in agility and Seven Viking can manoeuvre with ease even within the confined spaces between platforms that larger vessels would find difficult to access.

The ship is dynamic positioning class 2 (DP2) and can work on DP in 5m significant wave height. The ship's power system is divided in three, and includes three thrusters aft and three fore, as well as three auxiliary systems. The three-way main switchboard is the largest switchboard ever delivered from Ulstein Power & Control, and in the case of a single major failure, the vessel will still have two thirds of its thruster power available. A key feature of the vessel's electronics is the integrated automation system, ULSTEIN IAS, built on Ulstein's flexible modular architecture. This architecture features redundancy at all levels.

The 135 ton active heave compensated offshore crane on deck will mainly be used for lowering and lifting heavy equipment to and from the sea bottom. Two work ROVs and one observation ROV can be lowered from the ship's side. All ROV systems in enclosed in a ROV hangar and launched using A-frames. The two work class ROVs (Schilling HD) are rated to 3,000m and the observation ROV (SubAtlantic Mohican) is rated to 2,000m.

In the hangar, the module handling system has a cursor system for the controlled launch and recovery of modules up to 10m high and weighting up to 70 tons. These operations can be conducted in water depths up to 2,000m.

The vessel's skidding system has storage capacity for up to eight skidding pallets including four indoor storage positions.

Twist locks are integrated onto part of the 830m2 working deck for quicker mobilization and demobilization of standard containers.

The scale treatment pumping spread and special product tanks are integrated into the vessel and provide for a pumping capacity of 30-2,800 l/min @ 0-345 bar. Seven Viking's tank capacity includes 2072 cu. m. for fuel oil (MDO), 1,493 cu. m. for potable water, 3340 cu. m. for ballast/drill water, and 554 cu. m. for brine.

Several notable environmental initiatives have been taken when designing the vessel which carries the Clean Design notation. These include the diesel electric propulsion which reduces atmospheric emissions, and the ship's electrical winches which mean there will be no hydraulic oil leakage.

"The Seven Viking may be battling the North Sea for many months of the year but it certainly won't be harming it," says Ulstein. "Being considered an industry vanguard means being out front and consistently staying ahead of the pack. To Ulstein it means developing innovative and dependable solutions that solve unique and often complicated offshore demands - thus we have Seven Viking."

R/V Sikuliaq

The 3,800-ton Alaska Region Research Vessel (ARRV) R/V Sikuliaq was launched on Oct. 13, 2012, at Marinette Marine in Marinette, Wis. Sikuliaq (pronounced see-KOO-lee-ack) will be operated by the University of Alaska Fairbanks (UAF) School of Fisheries and Ocean Sciences for the National Science Foundation as part of the University-National Oceanographic Laboratory System (UNOLS) fleet. The 261-foot global class ice-capable research vessel R/V Sikuliaq was designed by Glosten Associates.

"R/V Sikuliaq is one of the most advanced research vessels in the world," said NSF Director Subra Suresh. "Its capabilities to operate in extreme ecosystems will serve the science and engineering research communities for decades to come, while providing opportunities for educators and students to learn first-hand about the Arctic environment."

Sikuliaq is an Inupiat word meaning "young sea ice." "The name 'Sikuliaq' reflects both our Alaska heritage as well as our focus on arctic research," said UAF Chancellor Brian Rogers.

According to Gary Smith of UAF, the Sikuliaq project director, the ship will be available for science operations beginning in 2014. UAF's Seward Marine Center in Seward, Alaska, will be her home port.

The vessel will be uniquely equipped for operating in ice-covered waters, with a reinforced double hull, two rotating thrusters, and scalloped propeller blades enabling it to break through first-year ice up to 2.5 feet thick.

The integrated 5,750 HP diesel-electric plant features AC propulsion motors and tractor style Z-drives.

“Sikuliaq’s electric propulsion system makes it exceptionally quiet,” Smith said, “so it’s an ideal platform for acoustics research and observing marine life.”

The ARRV was designed to be environmentally friendly from the keel up, and to “Incorporate commercially available ‘Green Ship’ technologies to the maximum extent practicable without significantly impacting the cost of construction or the vessel’s daily rate,” with “particular attention…placed on alternate fuels and propulsion."

It’s also the most accessible research ship, built to ADA standards, with elevators, automatic door openers, handicapped accessible passageways and heads.

According to the NSF, Sikuliaq will operate year round in the challenging waters of the Chukchi, Beaufort, and Bering Seas, as well as in the open Gulf of Alaska, coastal Southeast Alaska, and Prince William Sound, including operations in seasonal ice of up to 3.9 ft. thick. “R/V Sikuliaq will provide a sophisticated and significantly larger platform for scientists, graduate, and undergraduate students to participate in complex multidisciplinary research activities and will enable the training of the next generation of scientists with the latest equipment and

Builder: Marinette Marine • Design: Glosten Associates • Operator: University of Alaska - Fairbanks

technology. Broadband satellite communications capable of relaying data, including high definition video from tools such as remotely operated vehicles that explore under the ice and the ocean depths, will bring research into the K-12 classroom and to the general public."

The ship is expected to conduct bottom mapping and coring studies. "This is very important," said Marc Willis, marine science technical director at Oregon State University and a member of the project office at Marinette. "There's not a lot that's been done up there."

The ARRV will also be outfitted with the latest technology for marine research, including a low underwater noise signature, advanced communications, acoustic sensors and advanced scientific equipment handling systems. Willis said the ship will work in the high Arctic in the summer and the Bering Sea in winter. In the spring it can operate along the ice edge to study the abundant variety marine life there. With inch-thick hull plates and a knife-edge bow for riding up and onto the ice, it will be the most ice-capable of the UNOLS fleet of 20 ships. Designed for—but not restricted to—polar regions, the ship can be deployed for ocean research missions anywhere on the oceans that scientists need it to go. "Sikuliaq will be equipped for the full range of oceanography study," said Willis. "It's a science friendly vessel."

Sikuliaq is the replacement for R/V Alpha Helix, which was 40 years of age at the time it was taken out of service in 2006 and the oldest ship in the National Academic Research Fleet.

Although managed and operated by UAF, missions are scheduled through UNOLS. "It's not a UAF facility," said Willis. It's a national resource."

The ship was built with funding provided by NSF through the American Recovery and Reinvestment Act. According to an NSF press release, NSF invested nearly $200 million into R/V Sikuliaq, which was the first and largest single award made using NSF's Recovery Act funds.

Builder: DSME • Type: Tanker

Almi Sky

Almi Sky was built for Almi Tankers S.A. by Daewoo Shipbuilding & Marine Engineering, designed as double skinned construction in way of cargo tanks and arranged with six pairs of cargo tanks and a pair of slop tanks. The vessel has a continuous upper deck with no forecastle, a raked stem with a bulbous bow, a transom with open water type stern frame, a semi-balanced rudder and a fixed pitch propeller directly driven by slow speed diesel engine. Environmental-friendly design is applied, such as Green Passport Notation, and ballast water treatment system, full double hull protection of oil tanks. **A Pre Swirl Stator is installed** at the stern frame in front of the propeller as energy saving device. One of very special features is main propulsion machinery. The main engine is installed with derating for low fuel consumption, however, all the auxiliary machinery including propeller and shaft have been designed to be operable at full nominal rating of main engine.

Type	157,000DWT Crude Oil Tanker
Shipyard	DSME
Owner	Almi Tankers S.A.
Length, o.a	274 m
Beam	48 m
Depth	23.7 m
Tonnage (dwt/grt)	157,430/84,216
Flag	Liberia
Classification	LR
Engines	B&W 6S70ME-C8.2 (Derated)
Propulsion	Slow speed diesel direct driven

CMA CGM Marco Polo

16,000 TEU Containership — the world's largest containership

CMA CGM Group said that the CMA CGM Marco Polo, the world's largest containership, began its first voyage on Wednesday, November 7, in Ningbo, China. The ship is a 16,000 TEU vessel, owned by CMA CGM, sailing under the UK flag. Built by DSME (Daewoo Shipbuilding and Marine Engineering) in South Korea, the ship displays exceptional dimensions at 396 x 54m, with a draft of 16m. CMA CGM Marco Polo is the first of a series of three 16,000 TEU vessels, will to be named after great explorers. The delivery of the two next vessels is expected in 2013.

Operated on the emblematic line of the Group, the French Asia Line (FAL 1), the CMA CGM Marco Polo will – starting November 7 and ending January 23 – call at: Ningbo, Shanghai, Xiamen, Hong Kong, Chiwan, Yantian, Port Kelang, Tanger, Southampton, Hamburg, Bremerhaven, Rotterdam , Zeebrugge, Le Havre, Malta, Khor Al Fakkan, Jebel Ali and Ningbo.

FAL1 is part of a global network of eight CMA CGM services connecting Asia to Europe Atlantic, the most thorough offer on the market, and which is based on 29 vessels of 11,400 to 16,000 TEUs.

"It is with great pride that the CMA CGM Group launches this new vessel, which is the largest in the world," said Nicolas Sartini, CMA CGM Group Senior Vice President Asia-Europe Lines. "This launching reinforces the Group's strategy, which began 20 years ago, with the opening of its own offices in China, and continues today with 34 services going from China to Europe, to North and South America, to Australia and Africa, i.e. one departure every 5 hours."

The CGM Marco Polo is equipped with the latest cutting-edge environmental technology. It has an electronically controlled engine allowing for significantly reduced consumption of fuel (-3 percent, on average) and of lube oil (-25 percent). A twisted leading edge rudder improves the hydrodynamics of the vessel by optimizing water flow and significantly reducing energy expenditure as well as CO2 emissions. A pre-swirl stator facilitates the alignment of water flow upstream from the propeller in order to improve productivity. These innovative features make it possible to reduce by between two and four per cent the consumption of energy and atmospheric emissions.

The CGM Marco Polo also features an exhaust gas bypass system which improves its energy efficiency, reducing fuel consumption by 1.5 percent at low speeds. An optimized hull design also results in significantly improved propulsion through the water, while a ballast water treatment system preserves environmental biodiversity by preventing the release of chemicals into the sea.

BV has carried out extensive calculations of the dynamic structural response of the vessel at sea, taking into account whipping and springing, resulting in the granting of its WhiSP2 notation.

CMA CGM Marco Polo Main Particulars

Owner	CMA CGM
Year of Construction	2012
Delivery date	November 2012
Vessel type	Cellular
Capacity	16,020 TEU
Service	French Asia Line (FAL)
Operator	CMA CGM
Constructor	DSME
Length	396m
Width	53.6m
Draft	16m
Reefer plugs	1,200 plugs
Engine	Wärtsilä 14RT Flex 96
Classification	Bureau Veritas

Builder: DSME • Owner: CMA CGM Group

Emerald Ace

World's First Hybrid Car Carrier

Mitsui O.S.K. Lines (MOL) announced the completion of the hybrid car carrier Emerald Ace at the Mitsubishi Heavy Industries, Ltd. (MHI) Kobe shipyard, an innovative ship which is designed to generate zero emissions while berthed.

Emerald Ace was built as world's first newly built hybrid car carrier, and is equipped with a hybrid electric power supply system that combines a 160kW solar generation system – a system jointly developed by MHI, Energy Company of Panasonic Group, and MOL - with lithium-ion batteries that can store some 2.2MWh of electricity. Conventional power generation systems use diesel-powered generators to supply onboard electricity while berthed. On the Emerald Ace, electricity is generated by the solar power generation system while the vessel is under way and stored in the lithium-ion batteries. The diesel-powered generator is completely shut down when the ship is in berth, and the batteries provide all the electricity it needs, resulting in zero emissions at the pier. The vessel's hybrid system represents a significant step forward in realizing ISHIN-I, the concept for the next-generation car carrier that MOL announced in September 2009. MOL continues to take a proactive stance in technological development with the aim of reducing the environmental burden of its vessels and operations.

Builder: MHI • Type: Hybrid Car Carrier

Length, o.a. (b.p.)	199.99 m (192)
Breadth	32.26 m
Depth	34.52 m
GT	60,154
Car Capacity	6400
Main engine	Mitsubish-UE 7UEC60LSII
Service speed	20.65 knots
Complement	32
Classification	Class NK

Polarcus Adira & Amani

(Photo credit Ulstein Group Per Eide)

Builder: Ulstein Verft • Owner: Polarcus

Polarcus Limited received its eighth 3D seismic vessel in June, when Polarcus Adira was delivered at Ulstein Verft in Norway. The vessel is the second of two 12-14 streamer Arctic 3D seismic vessels built at the yard, and is the eighth vessel in the Polarcus fleet of the Ulstein SX134 design, characterized by the sleek Ulstein X-bow hull design. Sistership Polarcus Amani was delivered by the yard at the end of March. Earlier vessels were built under license by Drydocks World Dubai LLC, and include Polarcus Nadia (2009), and Polarcus Naila (2010), 12 streamer vessels of type SX124, Polarcus Asima (2010) and Polarcus Alima (2011), 12 streamer vessels of type SX134, Polarcus Samur (2011) and the Russian flag vessel Vyacheslav Tikhonov (2011), 8 streamer vessels of type SX133. All vessels are designed by Ulstein Design and Solutions AS. Following a short shakedown Polarcus Adira commencd ops on charter for TGS-NOPEC Geophysical Company ASA (TGS).

Polarcus Limited operates a fleet of high performance 3D/4D seismic vessels. The hull of Polarcus Adira and Polarcus Amani were built at Kerch Shipyard Zaliv in Ukraine. As is the custom for the ships built by Ulstein Verft shipyard in Ulsteinvik. This was the seventh hull built at the yard.

The vessels are equipped with streamer winches, towing points and gun winches. The X-bow hull line design, combined with a redundant diesel-electric propulsion system, ensures good performance with regard to speed and fuel consumption. Polarcus Adira measures 92 x 21, with a depth to main deck is 9m, a design draft is 6.5m and maximum draft 7.5 m. The deadweight at maximum draught is 4,472dwt. Gross tonnage is 7709GT and net tonnage 2313NT.

The vessel is equipped with a helideck (D-value 22.2 m, 12t, UK-CAA CAP-437 suitable for Sikorsky S-61N / S-92) for added safety and to ensure an efficient crew change, and is built according to IMO code of safety for Special Purpose Ships (SPS), enabling it to operate worldwide. The vessel has two workboats, by Westplast, and a Norsafe MOB boat onboard and six life rafts each for 35 persons with dedicated davit.

The vessel has diesel-electric propulsion. The main propulsion system comprises two Wärtsilä 9L26 main diesel generators, each 2920ekW at 1000rpm, plus four Wärtsilä 9L20 1710ekW diesel generators, at 1000rpm. The generators are supplied by ABB. The total power is 12,680ekW. There are two propellers of controllable pitch type in nozzles, the shaft line of each driven by two variable speed electric motors through twin in-single out reduction gears type Scana Propulsion ACGTS 1000.

All diesel engines have selective catalyst reactor (SCR) units, supplied by H+H Umwelt, to reduce NOx emissions. NO2 emissions are reduced by some 90% to 98%, soot by 20% to 30% and hydrocarbon emissions by 80% to 90%. There are two ABB electric propulsion motors in parallel configuration on each side, each motor 0-2200ekW, 0-1000rpm. The two controllable pitch propellers in nozzles, supplied by Scana Propulsion, each absorb 4400kW at 160rpm and have a diameter of 3700mm. There is an Caterpillar emergency generator with a power of 240ekW.

The vessel runs on marine gas oil (MGO) with low sulphur content. The Fuel oil (MDO) capacity is 2030 cu.m. and fresh water capacity 1032 cu.m.. The vessel can also carry ballast water/tech. fresh water 2170 cu.m., lube oil 63 cu.m., and urea for the catalysts reactors 289 cu.m.

Towing pull in seismic operation is 82t. Bollard pull exceeds 125t. Polarcus Adira has a maximum speed of 17 knots, at 5.5m draft.

There is one 1200kW tunnel thruster forward equipped with a controllable pitch propeller and one 850 kW retractable azimuth thruster forward. There is one tunnel thruster aft, 830 kW, controllable pitch.

The vessel is equipped with a roll damping tank system. There are two fresh water generators, each producing 15 cu.m./24h. There are two fuel oil separators, self cleaning type and three lube oil separators. In addition there is one mobile hydraulic oil separator and a USCG approved bilge water separator. A ballast water treatment system is installed. Ulstein Power & Control has delivered the switchboards 690V, 400V and 230V, the emergency switchboard, and the communication and information system type Ulstein COM to the vessel.

The vessel has a Kongsberg Maritime Dynamic positioning system, DP2 type, and has two DGPS, and a radius reference system. There is preparations for Kongsberg's HiPAP 500 high precision acoustic positioning. The integrated automation system is supplied by Høglund Marine Automation. Polarcus Adira is an Arctic-ready vessel designed and built for operations in Arctic waters carrying the ICE-1A* and Winterized Basic notations from Det Norske Veritas, the classification company of these vessels. Polarcus Adira can operate in first-year ice of up to 1 metre thickness without the assistance of icebreaker. The hull is ice-reinforced

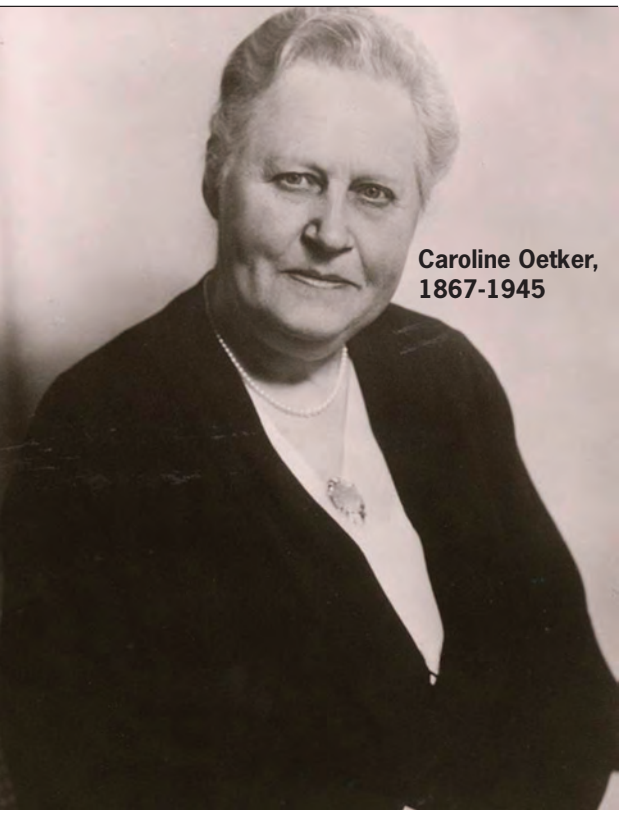
and the vessel has de-icing and ice-preventing systems at critical tanks, pipelines and systems, and the propellers, gears and thrusters are dimensioned for withstanding operations in ice. Escape corridors and rescue equipment are also protected against icing during Arctic operations. Polarcus Adira is built with a hotel compliment with permanent capacity for 60 persons in 32 single and 14 double cabins. There is a mess room which seats 43, day rooms, internet café, gym and sauna, as well as a hospital, offices and a conference room. There are three crew state cabins, one client state cabin, twenty-eight one-bed cabins, fourteen two-bed cabins. There are also rooms for dry provision, a cooler and freezer room, and laundries. There is a special helicopter reception room.

Classification is from Det Norske Veritas. The vessel is designed for environmental friendly operations. The vessel carries the Clean Design notation from DNV. A GREEN PASSPORT is issued. Low noise and vibration levels are recorded in the accommodation and on deck. Class notations are Det Norske Veritas • 1A1, E0, DYNPOS-AUTR, CLEAN DESIGN, COMF-V(3), ICE-1A*, WINTERIZED BASIC, NAUT-AW, HELDK, BWM-T, TMON, SPS. The vessel carries Bahamas flag.

Maersk Londrina

Type	Containership
Shipyard	DSME
Owner	A.P. Moller - Maersk A/S
Length, o.a.	299.9 m
Beam	45.2
Depth	24.2
Tonnage (dwt/grt)	94,121/89,505
TEU	8,700
Flag	Hong Kong
Classification	ABS
Engines	B&W 9S90ME-C8 (45,740 kW)
Propulsion	1 x FPP (Dia 9.0M)
Delivery due	September 27, 2012
Series vessels	7 Vessels

Maersk Londrina is a 8700 TEU containership built by Daewoo Shipbuilding & Marine Engineering Co., LTD (DSME) for A.P. Moller - Maersk A/S. According the shipbuilder, one of the biggest challenges during construction was to increase the height of the accommodation by 9m in order to achieve the carrying capacity of 8,700 TEU from 7,450 TEU for the previous vessels. In spite of the difficulties of this kind of big modification during construction, the conversion was successfully completed and satisfactory to the shipowner. As with most newbuilds, the vessel has the particular features of green ship design such as Waste Heat Recovery System, Ballast Water Treatment System focusing on environmental friendly and high efficiency products.
It is also equipped with Waste Heat Recovery System(WHRS) composed of steam turbine, power turbine and the relevant auxiliary machineries. This fuel saving device generates electric power by using exhaust gas energy from M/E without additional fuel supply. It will reduce CO2 emission by 8~10% compared to conventional type of container ships.
Finally, various energy saving systems such as load dependent operation of cooling sea water pumps, fans and etc. have been applied to the vessel in order to maximize energy efficiency.



Caroline Oetker, 1867-1945

Builder: Taizhou Catic Shipbuilding • Owner: A.O. Schiffahrt

Caroline Oetker & Ida Oetker

Two New Ships for A.O. Schiffahrt

Sponsor of the Caroline Oetker was Daniela Oetker, wife of Alexander Oetker, owner of A.O. Schiffahrt and son of Dr hc August Oetker, Chairman of the Advisory Board of Dr. August Oetker KG.

In May 2012, A.O. Schiffahrt celebrated the christening of the Kamsarmax bulk carrier Caroline Oetker at the yard of Taizhou Catic Shipbuilding, near Shanghai. The sister vessel Ida Oetker was due to be christened at the same location on June 26. Both ships have a capacity of 82,000 dwt, and measure 229 x 32 m. Sponsor of the Caroline Oetker was Daniela Oetker, wife of Alexander Oetker, owner of A.O. Schiffahrt and son of Dr hc August Oetker, Chairman of the Advisory Board of Dr. August Oetker KG. With the christening of the two vessels, A.O. Schiffahrt is uniquely combining present and past, since, on the one hand, the two bulk carriers are fitted with cutting-edge technology and, on the other, they recall important milestones of German shipping and historical figures from the Oetker company. Thus the Caroline Oetker is the second ship to bear this name. The first Caroline Oetker, a turbine tanker, was delivered to Hamburg Süd by Deutsche Werft AG in Hamburg on February 26, 1957 and was the largest vessel in the German merchant fleet at the time. Both ships take their name from Caroline Oetker, the wife of company founder Dr August Oetker.

With her commitment she made an important contribution to founding, preserving and expanding the global corporation Dr. August Oetker KG. The second ship, the Ida Oetker, is named after the wife of Richard Kaselowsky, who guided the fortunes of the Dr. Oetker company from the 1920s to the 1940s. Immediately after the christening the two vessels will be placed under long-term charter with Rudolf A. Oetker (RAO), which has been an integral part of the Hamburg Süd Group's tramp operations for 60 years.

Technical data

Length	229 m
Length, bpp	225.5 m
Width	32.26 m
Draft, max.	12.2 m
Capacity	82,000 dwt
Main engine	Wärtsila 5RT-Flex 58T
Speed	14.1 knots
Shipyard	Taizhou Catic Shipbuilding
Owner	A.O. Schiffahrt

MARITIME REPORTER AND ENGINEERING NEWS

2013 Editorial Calendar

January
Ad Close: Dec 21

Ship Repair & Conversion

MARKET:
U.S. Navy Vessel Technology

TECHNICAL:
Pumps, Valves & Pipes

PRODUCT:
Marine Propulsion Equipment

SPECIAL REPORT:
Offshore Vessel Design & Operation

BONUS DISTRIBUTION
ASNE DAY Feb 21-22 Arlington, VA

February
Ad Close: Jan 25

Cruise & Passenger Vessel

MARKET:
Satellite Communications

TECHNICAL:
Ballast Water Treatment

PRODUCT:
Marine Electronics & Navigation Buyer's Guide

SPECIAL REPORT:
Maritime Simulation

BONUS DISTRIBUTION:
Seatrade Mar 12-15 Miami, FL

March
Ad Close: Feb 22

Training & Education

MARKET:
U.S. Coast Guard Annual

TECHNICAL:
Software Solutions

PRODUCT:
Coatings & Corrosion Control

ROUNDTABLE:
From Fleet Management to Navigation & Remote Monitoring

BONUS DISTRIBUTION:
CMA Mar 18-20 Stamford, CT NACE Mar 17-21Orlando, FL
Workboats Exchange Apr 1-14 Amelia Island, FL
Sea-Air-Space Apr 8-10 MD

April
Ad Close: Mar 22

Offshore Energy Edition

MARKET:
Innovative Offshore Service Vessel Design & Outfitting

TECHNICAL:
Maritime Salvage & Recovery

PRODUCT:
Deck Machinery, Winches & Ropes

REGION:
Houston, Texas - Global Maritime & Offshore Hub

BONUS DISTRIBUTION:
OTC 2013 May 6-9 Houston, TX
Marine Money May 8 Houston, TX
CIMAC May 13-16 Shanghai, CN

May
Ad Close: Apr 26

Energy Production & Transportation

MARKET:
Specialty Workboats, Patrol, Escort Craft & RIBS

TECHNICAL:
Modern Marine Power

PRODUCT:
Fuels, Lubricants & Additives

REGIONAL FOCUS:
Scandanavia

BONUS DISTRIBUTION:
Norshipping June 4-7 Oslo, NO

June
Ad Close: May 24

Annual World Yearbook

MARKET: Training & Education- Leading Institutions

TECHNICAL:
Integrated Bridge-Navigation & Radar

PRODUCT:
Ship Repair- Tools & Techniques

ROUNDTABLE:
Coatings & Corrosion Control

THIRD ANNUAL MARITIME PHOTO CONTEST

BONUS DISTRIBUTION:
Marine Money June New York, NY
MegaRust June 25-27 Newport News, VA

July
Ad Close: Jun 21

Maritime Security Edition

MARKET:
Classification & Ship Registry

TECHNICAL:
Oil Spill Respons & Recovery

PRODUCT:
Marine HVAC, Insulation & Piping

August
Ad Close: July 26

Shipyard Edition

MARKET:
Maritime Communications- Condition-Based Monitoring & Maintenance

TECHNICAL:
Offshore Deepwater Exploration & Production

PRODUCT:
Maritime Tools - Welding & Cutting

THE ARCTIC: Challenges & Opportunities

BONUS DISTRIBUTION:
Offshore Europe Sept 3-6 Aberdeen, UK
NEVA Sept 24-27 St. Petersburg, RU

September
Ad Close: Aug 23

Workboat Annual

ROUNDTABLE:
Workboat Academy - Training & Education

TECHNICAL:
Offshore Service Vessels (OSVs)

PRODUCT:
Heavy Lifting- Deck Machinery & Cranes

SPECIAL REPORT:
Clean Water Technologies

BONUS DISTRIBUTION:
Int'l Workboat Oct 9-11 New Orleans, LA
OTC Brasil Oct 8-10 Rio de Janeiro

October
Ad Close: Sept 20

Marine Design & Construction

MARKET:
Marine Firefighting, Safety & Salvage

TECHNICAL:
The Electric Ship: Drives, Batteries, Transmission & Control

PRODUCT:
CAD/CAM & Software Solutions

REGION REPORT: The Netherlands

BONUS DISTRIBUTION:
SNAME Nov 6-8 Seattle, WA
Europort Nov 5-8 Rotterdam, NL

November
Ad Close: Oct 25

Marine Propulsion Annual

MARKET:
Offshore Deepwater - Structures & Systems

TECHNICAL: Training & Education

PRODUCT:
Marine Electronics - Navigation Products & Software Solutions

REGIONAL FOCUS:
Middle East Maritime Cluster

BONUS DISTRIBUTION:
MARINTEC China Dec 3-6 Shanghai, CN

December
Ad Close: Nov 22

Great Ships of 2013

MARKET:
U.S. Navy Fleet Supply & Support

TECHNICAL:
Port Infrastructure - Loading & Offloading Ships

PRODUCT:
Maritime Port & Harbor Security

S.A. Agulhas II

S. African Polar Research Vessel

Builder: STX Finland

Owner: South African Dept. of Evironmental Affairs

Type: Polar Research Vessel

The Polar Research Vessel S.A. Agulhas II has been built by STX Finland for the South African Department of Environmental Affairs (DEA). The ship is a modern and sophisticated research vessel, commissioned to the DEA in May 2012, built to replace the S.A. Agulhas after 33 years of service. The ship will support the South African National Antarctic Expedition (SANAE IV) base on the Antarctic continent, a base which conducts research in the fields of physical sciences, earth sciences and life sciences. It will provide support to the base by carrying supplies, personnel and researchers to the base as well as to Marion and Gough Islands where biological, environmental and climate change research takes place. The modified vessel will also allow for mobile research to be conducted as it consists of eight permanent and six containerized laboratories. In addition to climate change and scientific research, the vessel has a weather station that transmits continuous data back to South African Weather Services. Marine life observation, which is a key indicator of climate change around the world, will also be conducted on the ship through observation towers. In March 2012, S.A. Agulhas II underwent sea and ice trials before her maiden voyage to Cape Town in April. Both trials were commissioned in the North Bay of Bothnia, Finland over a five-day period where all aspects of the ship was tested. A seminar took place on the S.A. Agulhas II Full-scale Ice Measurement Project, which was held over three days from the September 10-12, 2012 at the picturesque Stias Wallenberg Conference Center at the South African Stellenbosch University campus. The consortium included, representatives from STX Finland, the Department of Environmental Affairs South Africa (DEA), DNV, Professors and students from the Universities of Aalto and Oula in Finland and Stellenbosch University South Africa; gathered to share results from the ice trials on the new S.A. Agulhas II held earlier in 2012

Professor Pentti Kujala, a professor in Marine Traffic Safety at the Aalto University in Finland, has been doing research in his field for 35 years on different vessels, however this is the first vessel that he can do measurements both in the Baltic Sea and in Antarctica. The aim of his study was to measure the ice loading on the hull and on the propulsion. “The ship is going in ice so we want to know what kind of load the ice is causing on the hull and the propulsion so we can develop our design methods in long term.”

The results were determined in the Baltic Sea in half a meter ice, which is quite thin. The measurement of ice loads of the ship’s hull and propulsion will be an ongoing study as the S.A. Agulhas II departs for the Antarctic in December where further measurements will be made by Professor Kujala and his research team.

The Stellenbosch University’s research aim was to create a scientific basis for the design of ice-going ships, in particular the relationship between operational conditions and ice load on the hull and human comfort in terms of vibration and sound. The contribution of the Sound and Vibration Research Group of the University of Stellenbosch was to aid in the assessment of occupant dynamic and acoustic comfort associated with these various ice load conditions in order to contribute to the development of occupant comfort metrics for ice- going vessels. The focus was rather to measure dynamic seat comfort in one location under a variety of ice-loading conditions, rather than the measurement of a variety of seats under different ice loading conditions. The results proved that most significant vibration was experienced when the ship was breaking out of channel in reverse, reversing straight in a freshly broken channel, cruising through level ice with ridges, cruising through rafted ice with ridges and when the ice level experience vibrations with magnitudes roughly ten times higher than those on the bridge. “The Captain was not uncomfortable at all in his seat,” said Doctor Annie Bekker, a Stellenbosch University Senior Lecturer and Researcher.

Classification society Det Norske Veritas (DNV) had its own objective of study on the ice trials: to test the dynamic response in shaft line reacted to ice-loads on propeller bladesk as well as the interior noise measurement onboard.

M/V Aiviq

Chouest Delivers Giant Icebreaker To Shell

(Photo Courtesy Shell)

The M/V Aiviq icebreaker, contracted by Shell Oil to support drilling in Alaska's Chukchi Sea, was ordered in July 2009 and completed by Edison Chouest Offshore in early 2012. The $200m Aiviq is the largest vessel ever built by Chouest, and will be among the most advanced and powerful, non-military icebreakers on the waters.

In order for a ship to be "ice class," the hull must be thick, and extra girders, beams and bulkheads are needed for structural integrity. The Aiviq is designed to American Bureau of Shipping A3 capabilities to operate in frigid, minus-40-degree Fahrenheit temperatures, and can slash through a meter of ice with 20 centimeters of snow at 5 knots. Crafted specially for harsh winter conditions, the ship can also work in Alaska the rest of the year.

The vessel is being built to International Maritime Organization's Polar Code 3, and measures 111.8 m long, with a 22-m beam and 22-m draft. "It has hybrid generators, noise-reduction equipment, and meets or exceeds the U.S. Environmental Protection Agency's Tier 4 emission standards," said Shell Oil spokesman Curtis Smith. Because the ship will be stationed far from medical facilities, is it outfitted with a hospital on board.

"Like other vessels in the Chouest fleet, we designed the Aiviq, built it and will operate it," said ECO spokesman Lonnie Thibodeaux. "We will crew the Aiviq, and personnel from Shell will be on the vessel too." The icebreaker can accommodate 65 staff in cruise-ship-like quarters.

While South Louisiana, which seldom sees snow, may be an unlikely place to produce icebreakers, Thibodeaux said "we built the Nanuq ice-class supply vessel for Shell in 2007 and have also built two icebreakers for the National Science Foundation." The Nanuq was outfitted with oil-spill-response capabilities well before the 2010 Macondo spill in the Gulf, he noted. Aiviq is designed to work in tandem with the Nanuq.

Aiviq is designed with the habits of marine animals in mind.

"We're being as proactive as possible in an effort to reduce our overall sound footprint," Smith said. "Insonification is a significant issue for stakeholders who rely on marine mammals for subsistence hunting." Man-made noises disrupt mammals communicating via the emission of sounds in water, often at great distances.

Builder: BAE Systems Southeast Shipyard • Owner: Mid Ocean Tanker Company

American Phoenix

BAE Systems joined with Mid Ocean Tanker Company (MOTC), Mid Ocean Marine and Alterna Captial Partners earlier this year to commission the American Phoenix, a U.S. Flag/Jones Act-qualified product-chemical tanker.

Measuring 616 x 105 ft. with a laden draft of 36 ft. and a cargo capacity of 49,000 dwt, American Phoenix is the largest vessel ever built and launched in the State of Alabama.

BAE Systems was contracted to complete construction of the American Phoenix and prepare it for use. The vessel is owned by MOTC, a joint venture between Mid Ocean Marine and private equity firm Alterna Capital Partners. The vessel will conduct trade initially in the Gulf of Mexico.

Operating management of the vessel will be performed by Seabulk Tankers, a division of Seacor Holdings, one of the most experienced operators in the U.S. Jones Act trades. The American Phoenix is the newest vessel to come from the BAE Systems Mobile shipyard, which has a rich history of ship construction and repair. The yard launched its first new construction vessel, the steam powered ship Banago, on September 19, 1918.

Alternative Marine Technologies, ABS, US Coatings, MMIF, F & S Superb Marine, LES, Diamond Scaffolding, Insulation Inc, Jamestown Metal and Machinery, L-3 Maritime Systems, R+S Stolze, MAK, International Paint, Sea Technology, Bisso Marine Company, 2/2 Houston Holloway, Universal Services, Offshore Inland, Resolve Engineering and Fire Protection Services all played a significant part in completing the American Phoenix.

Vessel Name .....M/T American Phoenix
Builder: .....BAE Systems
.....Southeast Shipyard
Owner:.....Mid Ocean Tanker Co.
O.N. 1233425
Type.....49,000 DWT Chemical Tanker
Owner .....Mid Ocean
.....Tanker Company, LLC
Builder .....BAE Systems
.....Southeast Shipyards
Hull Number 103
Construction Start 2008
Length .....187.8m LOA
Beam.....32.2m
Depth .....18.3m (molded @ side)

A Boon to Shipbuilding

Detailed Instructions and Sequencing of Tasks

By Andrew Safer

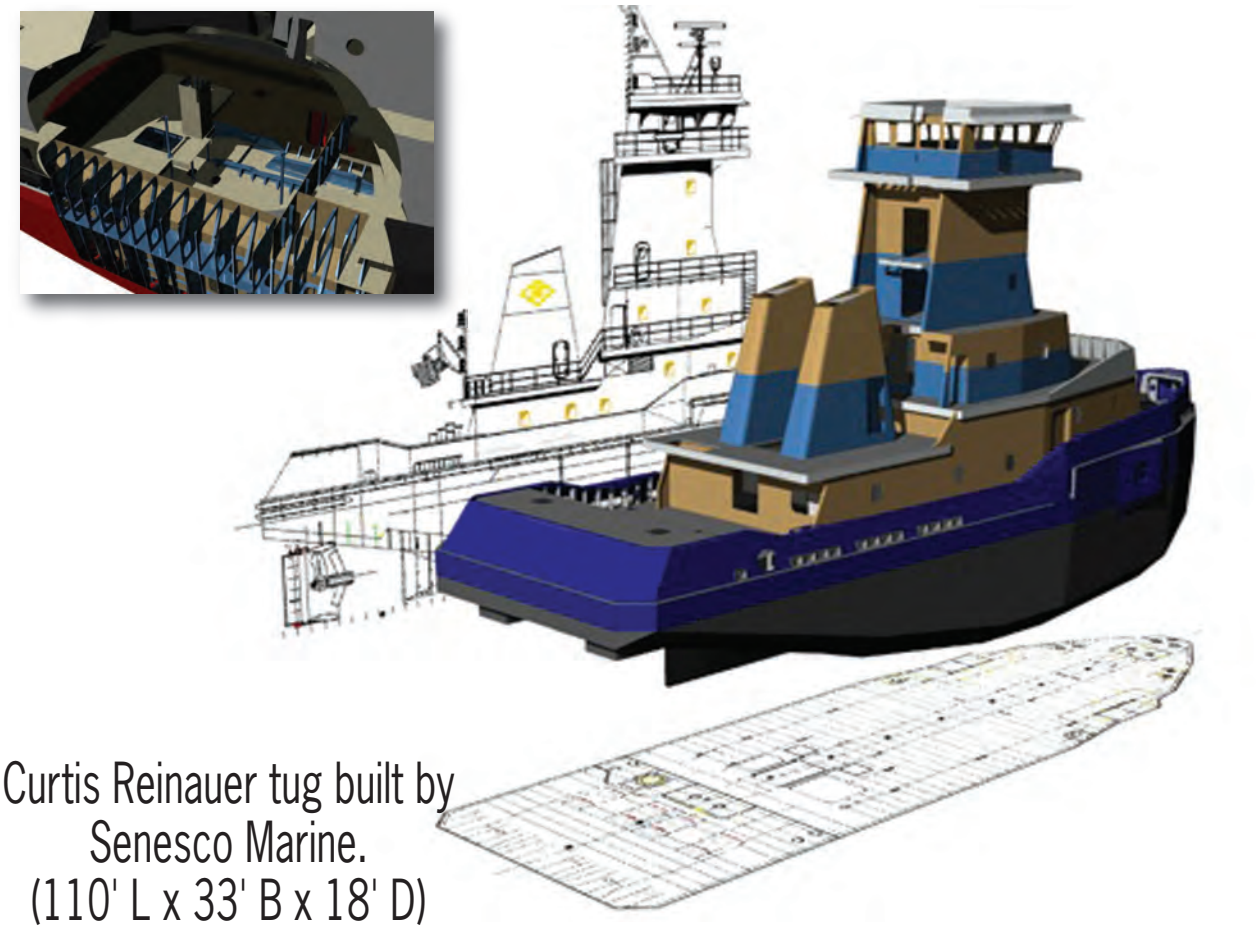
Having detailed instructions for each shipbuilding task and precise sequencing of the workflow is creating efficiencies and reducing rework at shipyards on the east and west coasts of the US.

The work packs that Senesco Marine's tradesmen are working from provide instructions—including checks and balances and dimensions—for each step of the process. "The person cutting the angles to go on panels has a cut sheet with instructions on how to cut every angle," explains Joe Bush, VP Operations at Senseco Marine in North Kingstown, Rhode Island. Senesco is a builder of double-hulled barges, tugboats, and other vessels. "The guy welding plates together has a set of dimensions that tells what all the parameters of the plate should be after welding," he adds, "and there are marks indicating where to lay those angles from the edge of the plate."

The 2D drawings they used previously "left some things open to interpretation," observes Bruce Kintner, Senesco's Engineering Manager, who adds they relied on experienced shipwrights. Now they have a 3D isometric view of every frame and panel, with additional views that include every part and bracket once it is added. "You don't have the ability to envision what a 3D panel is going to look like from a 2D drawing," Kintner notes. Five years ago, Senesco transitioned from a firm that created product models from a 2D lofting package and began working with Genoa Design International Ltd. of St. John's, Newfoundland. Genoa creates 3D product models using Ship Constructor. These models include every plate, bracket, bar, angle, and penetration in the entire build, says Kintner, who adds that due to the level of detail and precision in the instructions, experienced shipbuilders are no longer required in the ship construction process.

On the first two 100,000-barrel barges Senseco built for Reinauer Transportation of Staten Island (Reinauer acquired Senesco in 2006), Bush reports that using the 3D product model enabled a nearly 95 per cent reduction in rework. He adds that another plus from the new system is that it provides Senesco's qual-

(Continued on 49)



Curtis Reinauer tug built by Senesco Marine. (110' L x 33' B x 18' D)

Photo credit: Senesco Marine

Wrap Yourself in History

Crucial Sea Battle — Battle of Lake Erie — from War of 1812 Commemoration set for 2013

By Edward Lundquist

One of the most famous sea battles in U.S. naval history took place in September 1813, not upon the sea, but on the waters of Lake Erie, between what is now Ohio and Ontario, Canada. In the War of 1812 against Great Britain, the Battle of Lake Erie was a crucial and decisive victory for America and itsNavy, and the flotilla led by 27-year old Commodore Oliver Hazard Perry.

That battle was recently commemorated with events on Lake Erie. And next year—the 200th anniversary—will be even bigger.

While the actual bicentennial will be celebrated in 1813, a number of events occurred this year, according to Peter Huston of the Perry Group, which supports the commemorative events of the Battle of Lake Erie. The199th anniversary was celebrated in conjunction with the Coast Guard and Navy during Navy War of 1812 Week at the Port of Cleveland Docks 28-30 on Aug 27-Sept. 4; and Put-in-Bay, Ohio on Sept. 8th 2012.

On Sept. 8, 2012, a harbor illumination took place at Put-In-Bay at the monument, with dozens of red flares illuminating the pathway as the Toledo Symphony Orchestra concludes its performance.

This story begins at Presque Isle, now Erie, Pa., where six wooden ships of green timber were constructed in eight months, yet they were well designed and solidly built. On the day of the great battle, the U.S. fleet on Lake Erie included two ships of 260 tons, Niagara and Lawrence, and seven other ships for a total of 54 guns and 960 tons. The British fleet comprised of six vessels, led by Detroit and Queen Charlotte, totaling 826 tons and 63 guns. It isn't certain exactly where the battle was fought.

Perry had a major impact on all the battles fought on Lake Erie, and on the outcome of the war, but he will always be remembers for his battle flag, emblazoned with the epitaph "Don't Give Up the Ship," the dying words of Capt. James Lawrence aboard the USS Chesapeake earlier that year. Perry was aboard Chesapeake at that time, and Lawrence was his commanding officer. Perry's flagship was named for him.

He is also remembered for his message to General William Henry Harrison, his superior in what was then the country's Northwest Territories, immediately after the victory: "We have met the enemy and they are ours; two ships, two brigs, one schooner and one sloop."

During the battle, Perry's flagship, USS Lawrence, was pummeled by the British fleet. Perry took his battle flag—draped around his shoulders—and was rowed across to the brig Niagara where he continued the battle to its successful conclusion.

That flag—on display at the U.S. Naval Academy—still inspires. And a group of citizens known as the Perry Group are helping to keep history alive with a reenactment of that "transfer of command." In this event, to be conducted at the Port of Cleveland, the restored USS Niagara will join with active U.S. warship, USS DeWert (FFG 45), an Oliver Hazard Perry class frigate, where direct descendants of Commodore Perry—carrying a replica of the flag—will transfer by longboat from one ship to the other, ending with a commemoration of the event from the flight deck of DeWert. The Perry Group is underwriting the construction of the historically accurate 18'6" longboat of that era.

Rear Adm. Joe Horn, who is the commander of the Navy Air and Missile Defense Command at Dahlgren, Va., was a keynote speaker at the Put-In-Bay event said these observances are part of a series of events the Navy has undertaken in communities across the nation commemorating the War of 1812. "Yet few, if any, can match the strategic importance of the battle fought and won here. Some would say this was the center of gravity of the war."

Horn said Perry had joined the Navy at age 13, and by 28 was a combat veteran. "America victory rested on the shoulders of Oliver Hazard Perry."

"Perry's efforts—building and manning a fleet on the frontier of our nation was alone an accomplishment worthy of notoriety," said Horn. "His next task, however, to beat the world's strongest navy, was daunting. His battle orders—clear and concise: stay in a straight line to engage the enemy and fight your adversary in close action."

"Many tenants of naval warfare came into play that afternoon: linear battle, maneuverability, weather gauge, ordnance selection and ship design," said Horn.

Although some ships were badly damaged, no ships sunk that day. While Lake Erie is not deep, there is no apparent wreckage to mark the site. The USS Niagara was intentionally sunk in Misery Bay at Presque Isle in 1820 to "preserve her," and raised April 2, 1913 to be eventually restored (so much so that the present day Niagara is essentially an all new ship).

Control of the western end of Lake Erie was critical for access to a vast amount of territory. "The turning point of the war was the Battle of Lake Erie," saidDavid Zavagno, chairman of the Perry Group's battle of Lake Erie Bicentennial Committee.

"If Perry had lost, the war could have gone either way," added Huston.

The Perry's Victory and International Peace Memorial, located at Put-in-Bay on South Bass Island, a short boat ride from Port Clinton, Ohio, is operated by the National Park Service, with support from the Perry Group. It includes an interpretive center and the 352-foot monument, and is the place of interment for three American officers and three British officers killed in the Battle of Lake Erie.

Fittingly, Horn served previously as commanding officer of the guided missile cruiser USS Lake Erie (CG 70), named for the battle. The ship continues to have a close relationship with the communities on Lake Erie, and especially with Put-In-Bay.

"It is a unique, storied relationship. Allowing the USS Lake Erie crew members to participate just adds to the rich heritage commemorated at Put-in Bay," Horn said. "The National Park Service employees and the residents really roll out the red carpet for us. They are wonderful hosts with a deep sense of pride and admiration for military personnel. When the Navy comes to town, they treat us like VIPs."

Horn said he was deeply honored to be the guest speaker and address some 500 people at Put-in Bay. "To speak about the sacrifices, tenacity and bravery of Oliver Hazard Perry and his crew and then to talk about our Sailors serving today was a privilege I will remember for a long time."

There are plans for a number of unique events for the 200th commemoration of the Battle of Lake Erie. The Battle of Lake Erie Bicentennial Celebration will run from late August through September 10, 2013, will attract people to Put-in-Bay and other Lake Erie locations. The events will include a fleet of Tall Ships in an historic reenactment of the Battle of Lake Erie, a grand Parade of Sail and Port Festivals in waterfront cities in the U.S. and Canada. Visitors will be able to tour the Ships, enlist as Crew Members in the reenactment, or be part of the Bicentennial Fleet or Militia.

The U.S. Mint will print a special quarter in honor of the Park and the battle. "At Put-in Bay, they will christen a replica of the boat Perry used to transfer from the Lawrence to the Niagara during the Battle of Lake Erie," said Horn. "Add to all this the hospitality of the residents at Put-in Bay and you have the ingredients for a tremendous event."

For information about these events, visit the Perry Group website:
www.BattleofLakeErie-Bicentennial.com

A Boon to Shipbuilding

(Continued from 47)

ity control department with all of the lengths, breadths, and cross-dimensions of the project. Overall, he says using the current system "helped us move closer to being competitive with the bigger yards." Kintner adds that it has also helped reduce the amount of overtime that is required to stay on schedule.

Currently, Senseco is building three tugboats and a 100,000-barrel barge for Reinauer, and a 420-foot by 120-foot drydock for Caddell Drydock and Repair Co. of Staten Island.

Seattle-based US Fab, the new construction division of Vigor Industrial, began using 3D product models from Genoa Design in early 2012. Kevin Hein, US Fab's Director of Engineering, notes that the drawings are sequenced to reflect the intermediate work products and the order in which the work progresses through the vessel, such as the installation of a hanger bracket, a hanger, and then a pipe—if it can be installed early. Sometimes the sequencing is counterintuitive, such as waiting until later in the process to install the foundation that goes around a pipe. All the hotwork is normally done together, at an earlier stage, he explains). "In the more conventional approach, all of the pipe in the system is shown on the deck on a specific level," he notes, "and they tell you to go install it." Echoing Bush, he says that the work has traditionally relied on knowledgeable craftsmen, and that this is different at US Fab because the workforce is younger and less experienced than in the average shipyard.

The sequencing of tasks allows for welding in the downhand position, Hein adds, as opposed to having to weld overhead, resulting in three to five times greater efficiencies. The early definition of materials and their location also enables electrical subcontractors to install the hangers for the wireways before the steel has left the shop.

Hein notes there has been a reduction in rework since US Fab began using this system, and he cites interference checking as an additional benefit. During the design process, he explains, objects can be moved and left in the wrong spot and temporary installations can be created and then unintentionally left in the drawing, sometimes creating thousands of lines of interference. "Genoa uses software tools to the greatest extent they can," he says, "which automates the process of checking to see if a piece of pipe is interfering with another piece of pipe or 3D object. They've designed a process that minimizes interference, and then they use automation to wade through the remaining interference. This use of automation complements the use of talented and experienced designers who can then focus on other areas rather than some of the monotonous tasks."

US Fab is currently working with Genoa on a 362-foot ferry (83-foot beam) for the Washington State Department of Transportation (Washington State Ferry system) that is rated to carry 144 cars and 1,500 passengers.

The way Genoa Design's president, Leonard Pecore, describes their process, naval architects and marine engineering systems design technologists build the vessel in 3D ("the product model") on the computer. This contains geometric information, build strategy, tooling information, and vendor information. The company's key differentiator, he adds, is the application of Toyota's lean manufacturing principles to shipbuilding, internally as well as externally in the methodology that is passed along to clients. Efficiencies, he says, are evidenced in cost savings, higher quality, workflow, and reduction of waste. Analyzing the most efficient sequence for putting the ship together is key. They may use one less letter, for example, when numbering a part. "It saves two seconds each time the part is cut," Pecore says, "but if there are 5,000 of those parts, that's 10,000 seconds (2.75 hours)." From their St. John's office, Genoa creates product models of tankers, tugs, ferries, barges, towboats, offshore supply vessels, icebreakers, and military vessels.

20 Seconds to Comply ...

Fire Suppression: Performance without the Delay

By Kristin Øgaard

Alternatives to Carbon Dioxide fire suppression systems can provide the performance without the activation delay according to Kristin Øgaard of Norway's Autronica Fire and Security AS.

With the phase out for environmental reasons of fire suppression systems using Halon gas starting in 1994, the use of Carbon Dioxide (CO2) as a fire suppressant has become typical both on land and at sea. Today, CO2 fire suppression systems can be found in engine rooms and cargo areas on board, and whilst proving effective in extinguishing flames without causing significant residual damage to critical and expensive equipment, this method of fire fighting brings with it inherent complications.

Whilst in low quantities, CO2 can actually be beneficial to humans, in the quantities required to successfully suppress a fire, it can quite literally be as dangerous to life as the fire itself. In order to discharge CO2 into the atmosphere of an engine room or cargo area on board, the system and its operators have to be 100% certain that the area has been fully evacuated. Which means a delay of no less than 20 seconds has to occur before total flooding of the area with CO2 can occur.

In reality, at sea, the 20 second delay is usually much longer. From the point of detection and alarm, oil pumps and remote trips have to be manually shut down and vents and doors have to be closed. Personnel need to evacuate often confined and hazardous areas, possibly under duress and only when they are confirmed as evacuated with a manual head count can the Master or Chief Engineer grant permission to activate the system. CO2 is then released into the pilot system where a mandated delay, with an audible (CO2 powered) alarm that usually lasts for three minutes occurs. Only once this delay is complete will the stop valve in the CO2 suppression open to discharge CO2 into the protected space. [Source for above process: Gustafson 1998]. In some cases, the entire process has been known to take up to 20 minutes, which gives a serious fire plenty of time to take hold and cause local damage, or in extreme cases, vessel wide catastrophe.

Another issue caused by the nature of CO2 fire suppression systems on board, is that of accidents during repair and maintenance, especially with untrained personnel being allowed into the pump room, or signage in a language that engineers not familiar with the system may not understand. This has been the cause of several accidents and fatalities at sea, and is an inherent problem with the use of CO2 as a fire suppressant.

Alternative suppression

There are some circumstances where no alternative can provide as effective protection against fire as CO2 and for large cargo vessels and tankers, CO2 is still the best option for cargo hold protection. The possibility of using an alternative method is usually based on the size of area to be protected, but on many offshore vessels and some passenger vessels with smaller machinery and engine room spaces, the development of systems using alternative gasses and water mist total flooding systems is providing a suitable and safer alternative to CO2. Water based systems are divided into various types such as water mist, deluge, foam deluge and sprinkler systems. Among the gas based gaseous systems are NOVEC 1230, FM200 and Argonite.

Several large supply vessels have changed spec from CO2 to Novec 1230 – a much safer gaseous suppression system for use in machinery spaces, engine control rooms, switchboard rooms and cargo pump rooms – during building in the last three years. The benefits of Novec 1230 include that its release does not necessarily damage expensive equipment. For use in accommodation and public areas, high risk areas and engine rooms, water mist based fire suppression is becoming more typical, such as the Autronica developed FlexiFOG, which cruise operator Hurtigruten in Norway changed to from the originally specified CO2 system aboard the vessel 'M/S Nordlys' in February 2012. Also of note are three new fishing trawlers being built in Norway, where one is using Novec 1230 and the other two have chosen Flex-

iFOG, making them the two first trawlers in the world equipped with water mist total flooding suppression systems.

FlexiFOG low pressure water mist is mainly used to replace CO2 systems in machinery spaces. The fire suppression capability is equal as the system has to fulfil the test requirements set in the MSC Circulars.

However, the safety is better with water mist because it isn't hazardous to crew whilst it can be activated as soon as the fire is detected, without concern that there are personnel still left inside the protected space.

As a modern fire suppression system, water mist brings with it further benefits in terms of size and weight, so less space is required to install it. FlexiFOG system performance is optimised towards regulations with performance balanced against power consumption, size and weight. Power use is low by keeping pressure and flow at a reduced level. Recent developments have got the pressure down from 10.7 bar to 8 bar at the nozzle, reducing the requirement for emergency power even more when compared to high pressure systems.

Also, weight, size and space restrictions can be overcome by optimising the system design towards the vessel. As an example, Autronica was tasked with developing suppression for a number of small coast guard vessels. The spec called for 6% foam liquid, with total of 2 x 6000 litre tanks to be welded to the hull, with a total weight of 14 tons. Because the FlexiFoam system allows for customization in the same way as FlexiFOG, a proposal to change to 1% foam liquid based on 2 x 1000 liter LLD plastic tanks was made. The total weight was three tons, so the new suppression system design managed to save 11 tons per vessel and a huge amount of space.

Today it is just as critical to have focus on safety and work environment on board ships as it is in any other Industry, so having alternatives to CO2 fire suppression systems such as water mist and Novec 1230 gaseous system is a positive development for the industry. Ship-owners can now install safe fire suppression systems in all machinery spaces, which can be activated as soon as a fire is detected, rather than waiting for crew to evacuate the area.

And that will save lives and vessels.

MR DIGITAL

When you leave the page and head to the screen,
Maritime Reporter offers the most digital and online news offerings
Here are select stories from last month on MaritimeProfessional.com

PRESTIGE OIL SPILL

A major oil spill with significant consequences

On 13 November 2002, while carrying a cargo of 77,000 metric tons of heavy fuel oil from St. Petersburg, Russia and Ventspils, Latvia to Singapore, the Aframax tanker Prestige encountered heavy weather off the northwest coast of Spain. The tanker suffered structural failures and developed a substantial starboard list. A distress call to Spanish authorities resulted in the tanker being ordered to move further away from the Spanish coast. The majority of the crew was evacuated by helicopter and Spanish government officials came on board to enforce the order to move west. Meanwhile, the tanker suffered buckling of the main deck and loss of some hull plating. Oil leaked from the cargo tanks into the ocean. Everyone was finally evacuated from the Prestige, which broke in two and sank on 19 November. There is a wide variation in the estimates of oil spilled during the casualty and sinking, ranging from three to twenty million gallons. Much of that oil, though, came ashore on the coasts of Spain, Portugal, and (to a lesser extent) France. Government personnel and thousands of volunteers worked to clean up the shoreline. Commercial fishing and shellfish areas were heavily impacted, as were several nature preserves. After several years, it became apparent that much oil was still in the wreck of the Prestige on the ocean floor. Remotely operated vehicles (ROVs) were sent down to remove the recoverable oil and seal the hull to minimize discharges from oil that could not be recovered. In the aftermath, the European Union tightened its marine environmental protection regulations and pressed the International Maritime Organization (IMO) to take action. The phase-out dates for single-hull oil tankers were accelerated and restrictions were placed on the carriage of heavy fuel oil as cargo in single-hull tankers. In a major miscarriage of justice, the master of the Prestige was arrested and held in Spain for an inordinate period on charges of impeding the movement of the tanker during the crisis. The Kingdom of Spain brought suit against the American Bureau of Shipping for negligent classification of the tanker. The suit was eventually dismissed for lack of evidence. The criminal trial in Spain of the master and various others has only now commenced in Spain. The saga continues.

Posted by Dennis Bryant on MaritimeProfessional.com

GOVERNOR MOONBEAM

Maritime professionals are pretty impressed by the interest that California's governor, Gerry Brown, (aka. "Governor Moonbeam) is taking in the industry. First, he has stamped on a proposal to make the California Air Resources Board bankroll 90%of select cold ironing (shoreside power). The measure was **Senate Bill 234 and declared that ports pay for the costs immediately** and then get back the state's contribution in quarterly payments.

"Allowing only a 10% withholding does not afford the necessary insurance that the state's seaports have the commitment and resources necessary to see the project to completion," he wrote.

Instead, he is allowing the 80% of costs "provided the equipment owner expends their portion of match funding for each berth first and is in compliance with its contract." His next words are somewhat ambivalent. "In those situations where a small port of less than 10 berths may experience difficulties meeting these conditions, I further direct the board and those ports to work closely and cooperatively to develop a path forward to ensure project success." Some people have translated them as "Good luck with that, folks," but the general reaction has been positive.

Excerpted from a post by Martin Rushmere on MaritimeProfessional.com

CHINA BOOSTING OUTPUT ... AGAIN

China should be steeling itself for a fall, not boosting output

No one expects state run businesses to be efficient. But the steel industry in China is taking chronic mismanagement to impressive new levels. China's economy is slowing, yet incredibly, production this year has hit new heights, according to a great HSBC report titled **"China: Steel woes tell a different story. Too much production, too little return."** The report is too long to cover all aspects, but basically increasing production has seen steel prices falling to 1994 levels this year as record inventory piles up, along with liabilities of US$445 billion (that's not a typo) for the top 80 steel mills and industry-wide losses topping $3.3b. Instead of cutting back, and urgently, steel production is actually being ramped up. Local governments depend on the steel industry to increase growth, add jobs and generate tax revenue, and the steel companies have no problem accessing funding for expansion through the banks or bond market.But as damaging as it is to China, the effect of over-production is regarded as the "principal threat" to Latin American steel producing countries, HSBC says. Prices of iron ore are already at a three-year low, and considering that China accounts for 60 percent of the world's iron ore imports, shippers of ore such as BHP Billiton, Vale and Rio Tinto can only look on in dismay as their revenue vanishes. DNB analysts expect the daily earnings for capsizes to rise from their current $6,000 per day to $16,000 per day next year.

Excerpted from a post by Greg Knowler on MaritimeProfessional.com

CONTAINERSHIPS HIKE RATES

December GRIs must stick or lines will be off to a bleak start

Backed into an unprofitable corner, expect container lines to fight hard for the end-of-year freight rate hikes.

The general rates increases carriers hope to implement from December 15 are flooding in. Container lines on transpacific and Asia-Europe/Mediterranean trades have announced plans to hike rates and will be vigorously pursuing the proposed figures, generally around US$550-650 per TEU.

Weak market sentiment forced the carriers to postpone previous GRIs but shippers should expect them to stubbornly stick to the advertised increases this time. Financially, the shipping lines have little room left to manoeuvre.

Profitability this year has been unachievable as overcapacity and poor demand saw rates lingering at below break-even and a stubbornly high oil price pushed operating costs to record levels.

With the container shipping industry preparing to record another year of losses and trying to find certainty in a very uncertain 2013, wringing every last dollar out of every box has become its prime objective. Forget service levels and loyalty, improving profitability is priority number one.

The carrier drive to balance ship capacity and demand has seen a record amount of capacity being scrapped, surplus ships are being idled and deliveries are being deferred. Will it help? Not by much, unless business improves and forget everything you read about China's economy – improving liner balance sheets all depends on Europe and US consumers.

Another reason container lines are trying to bump up rates is to occupy a better position when annual contract rates on the transpacific are negotiated early next year. The carriers and their big customers will sit down and try to thrash out a mutually unacceptable compromise, the same procedure as every year.

Container lines are desperate to push up freight rates to discourage shippers from going to the spot market. They want to lock their customers into annual contracts signed at profit-generating levels.

What's good for the goose in this case, however, is not good for the gander. Shippers are happy to play in the spot market as long as rate levels remain low. With such volatility in rates - and such low levels being regularly reached - liner customers may be better off avoiding 12-month contracts.

The third reason lines want rates to rise has to do with Chinese New Year. The Year of the Snake begins in mid-February in 2013, which is later than usual and leaves more time for factories to produce exports, so the carriers want to have higher rates in place to capture any post-Christmas demand.

If there is any post-Christmas demand.

Posted on by Greg Knowler on MaritimeProfessional.com

KANPIE

Class NK celebrates its historic mark in style at the Four Seasons Hotel in New York City

Having Grossed 200 MT ClassNK focuses on the Indian sub-continent

Having reached a new milestone ClassNK is repositioning itself to expand its operations not only in India but the entire sub-continent

Not wanting to rest on his laurels after ClassNK having outstripped the 200 million gross tons figure by the end of August 2012, Noboru Ueda, Chairman and President of the society has already embarked on a staunch strategy. "We want to seize this opportunity to manifest our three basic goals for our society," he says. "We want to create a stable foundation in order to respond to changes in the market environment. Besides, we will maintain ClassNK's position as the world's leading classification society and expand our share of the classification market. We hope to undertake this by taking a more proactive approach to new opportunities".

He considers India a niche market where they already have a full-fledged operational office in Mumbai, two sub-offices and three survey offices in the rest of the country. The total Indian flag gross tonnage is nearing 12 million GT. "But when it comes to expansion ClassNK focus is not just India but the whole South East region including Sri Lanka, Bangladesh and other countries," he says. "We are planning to upgrade our Cochin office shortly.

We have a long relationship with ABG Shipyard in India. The scope and extent of ClassNK survey and inspection services is increasing. Not only are more ships being built there, but the shipyard is more and more appreciative of our high quality services. According to IHS Fairplay data, ClassNK is not only the leading classification society for bulk carriers with nearly three times as many bulk carriers on it register as the next International Association of Classification Societies (IACS) member society, but is also the leading class society in IACS for tankers and second for container carriers in terms of ship numbers.

In addition to newly built vessels, the large number of vessels transferred from other classification societies has propelled ClassNK's rapid growth in recent years, and ClassNK remains dedicated to continual improvement of its services to maintain the strong support and trust it has earned from the maritime industry.

In India the Society has entered into a few joint ventures. ClassNK has partnered IRS in several research and development projects. It has developed several technical software tools for in-house use as well as for the industry. Under this joint venture it has developed guides for the the master of the ship as well as the personnel on-board regarding the condition of the ship in real time, and how to manage the safety of the ship in case of grounding and other emergencies. Besides, it advises on how to mitigate the damage caused in an accident. It also indicates the current condition of the hull, so that repairs / renewals can be carried out in the most efficient manner

Recently ClassNK was the recipient of The Lloyd's List Middle East & Indian Subcontinent Awards. This was in acknowledgment of its operations in the Indian subcontinent including survey operations at shipyards for newly-built and existing ships, providing training to improve safety of seafarers, and recognizes ClassNK high quality of services.

With a total of 8036 ships of 206,927,557 gross tons as of end August 2012, ClassNK, the world's leading classification society, now has 121 survey offices throughout the world with a total of 18 located in the Middle East and Indian subcontinent.

Posted by Joseph Fonseca on Maritime Professional.com

Portable Buoy System
for Underwater Noise Measurements of Ships

Noise Control Engineering, Inc. (NCE) has created a portable system for measuring underwater radiated noise from vessels and offshore platforms. The system was developed using internal research and development funds as NCE sees an increasing need for underwater noise assessments given the planned construction of new Fisheries Research Vessels worldwide and a growth in awareness of underwater noise issues as they relate to the marine industry.

The system uses a floating buoy that supports measurement hydrophones and data acquisition electronics. NCE engineers connect with the buoy electronics remotely to collect and process data; providing the ability to calculate underwater noise signatures within minutes of the measurement.

The buoy can be deployed from the ship being tested by using a small crane or A-frame; this removes the need for additional support vessels, reducing the planning and operational costs of the test. The measurement system can be broken down and shipped in conventional cases, allowing for measurements to be performed in locations convenient to a particular port or shipyard.

NCE has successfully used the system in two tests thus far, which were performed on nearly opposite sides of the globe. NCE has plans to use the system to measure noise from five different vessels in the next twelve months. This system can take measurements in accordance with the Grades B and C requirements of ANSI's underwater measurement standard – S12.64 (2009).

Kentec:
Protecting SemiSubmersibles

Hallin Marine's new Compact Semi-Submersible (CSS) vessel Derwent, recently floated for final fit out, is being fitted with a fire safety system that uses a Kentec Syncro ASM network with Apollo Discovery Marine Detectors, designed and engineered by Singapore-based fire specialist company EPAS Fire Protection Pte. Ltd.

With accommodation for up to 152 personnel, Derwent is a multi-service vessel built for complex subsea operations and work scopes that cross a wide spectrum of duties, including construction support, IRM, and light/medium well intervention.

To meet the subsea Industry's stringent standards and classifications for specialised vessels, innovative fire protection systems solutions are needed. The Derwent's fire alarm system is centered on three Kentec Syncro ASM analogue addressable panels in a network integrated to 300 Apollo Discovery Marine addressable smoke and heat detectors, supported by 80 addressable manual call points. The system is also designed to generate alarms via 60 alarm bells and 20 sounder/beacons and includes EPAS PLC based gas detection/alarm and Co2 fire extinguishing systems designed, engineered, integrated, approved to ABS MODU rules and supplied by EPAS Fire Protection Pte Ltd, who are also responsible for its testing and commissioning to ABS rules and owner's compliance.

Kentec's Syncro ASM is the choice of marine fire specialists because of the ease with which these 'open protocol' fire control panels can be networked to provide scalable fire alarm systems, suitable for many classes of vessel.

Compact Semi-Submersible (CSS) vessel Derwent is protected by Kentec Syncro AS Marine fire control panels.

First BallastMaster UltraV for Jack-up Barge Vidar

Hochtief Solutions is strengthening its position in the market for offshore wind power installations with the expansion of its fleet of special vessels. The German construction group has engaged the Polish Crist shipyard to build another jack-up barge, the Vidar, for establishing offshore wind power installations. On board for the first time: A BallastMaster ultraV ballast water treatment installation of GEA Westfalia Separator Group, which uses filtration and UVC treatment to guarantee a high degree of disinfection safety. The BallastMaster ultraV is designed to operate with low energy and operating costs, does not require any chemicals and is thus suitable for being installed in new vessels and also retrofitted in existing vessels. The ballast water system used on the Vidar has a capacity of 500 cu. m. per hour. The system has BSH type approval according to IMO MEPC. 174(58). GEA Westfalia Separator Group has already received further orders for the BallastMaster ultraV.

New Pumps Save Millions at Sea

A Grundfos project aboard a Lauritzen Bulkers cargo ship shows that large vessels could be losing money on wasted energy, according to the manufacturer. The project, carried out between Grundfos and Danish shipping operator Lauritzen Bulkers on the 19,889-ton Durban Bulker, focused on efficiency in ship's pumps. The project paid off. Kim Kirkegaard, Business Development Manager at Grundfos, estimates that approximately 35,000 USD per year will be saved with the Durban Bulker's new system. For larger container ships, the sav-

ings can amount to 500,000 USD per year. The Durban Bulker project focused on the energy used in cooling off the ship's engines. This means the electricity used to power cooling pumps and thereby the fuel used to power the generators that create the ship's electricity.

The ship uses pumped seawater to cool its engines, but the previous system did not take into account the temperature of the water. When the Durban Bulker is sailing in colder seas, the energy needed for cooling water is reduced. Grundfos' new system uses controls, frequency converters, motor valves and sensors to control the temperature of the cooling water and heat transfer, in order to save energy and keep constant operating temperature on the engine and equipment.

Søren Roschmann, technical superintendent at Lauritzen Bulkers, said that Lauritzen Bulkers plans to install Grundfos energy-saving systems on a number of other ships. For each vessel, Grundfos will design a unique energy-saving solution.

www.grundfos.com

David Clark Marine Series 9900 Wireless Headset Communication Systems

David Clark Company Series 9900 Wireless Headset Communication Systems is designed to provide maximum freedom and mobility, without being tethered to the vessel. Communication is clear and safety is dramatically improved.

Ideal for a wide variety of work boats, tugs, towboats, barges, ferries, harbor patrol and Coast Guard vessels, as well as go-fast and high-performance watercraft. Series 9900 systems consist of weather-tight components including noise-attenuating headsets, gateways and belt stations are resistant to salt and spray and provide reliable performance in rugged and corrosive marine environments. Headsets are available in over-the-head, behind-the-head and under-helmet styles to meet the application needs and personal comfort preferences of virtually any crew member. Series 9900 systems utilize reliable, DECT-based technology and provide secure signaling to eliminate unwanted interception. Wireless systems are compatible for use with existing David Clark Company wired systems and with most HF, VHF and UHF radios.

www.davidclark.com.

Fire Detection from Fireboy-Xintex

Fireboy-Xintex Inc. announced its new line of USCG Type Approved Fire Detection Systems for commercial vessels and recreational yachts. Marine Elite RSM Analog Addressable Fire Alarm Control Panels are available for hosting up to 256 fire detection devices on all Commercial and Recreational Marine applications. These control panels can also be expanded and networked to become part of larger systems. Elite RSM Control Panels are simple and easy to understand for installers, commissioning personnel and vessel owners and feature Apollo protocol smoke and heat detectors. Two full SLC loops and leading edge microprocessor based electronics are also standard. The control panels are compatible with the eVIEW Analog Addressable Serial Annunciator. The eVIEW fire alarm annunciator allows the controls and indications of the Elite control panels to extend to other locations.

www.fireboy-xintex.com
Email: fireboy@fireboy-xintex.com

Wireless Transmitter/ Sensor System

The OMEGA zSeries wireless sensor/transmitter system provides Web-based monitoring of Temperature, Humidity, and Barometric Pressure, as well as thermocouples and any transducer with analog voltage or current output. The high power zSeries wireless Sensors are designed for demanding industrial applications and harsh outdoor environments. The new zED-DC-H2 wireless sensor/transmitter can run on low voltage power, 10 to 30 Vdc or 24 Vac. The electronics are protected in a rugged weatherproof, polycarbonate NEMA4/IP65 rated housing. You can set alarms to be notified by email. Alarms can be sent to a single user or to a group distribution list, including text messages to cell phones.The coordinator/meter-controller connects directly to an Ethernet network and the Internet and serves active web pages to display and chart the data. You can monitor and record the measurements over an Ethernet network or the Internet without any special software; just a Web Browser.

www.omega.com

Pirate Fence
from GAC Maritime Security

GAC Maritime Security entered into a strategic partnership with Mobile Defense Systems LLC to provide PirateFence anti-grapple razor wire to protect vessels from attacks by sea criminals. This marks the latest addition to GAC Maritime Security's expanding portfolio of protective solutions for vessel owners and operators seeking to put in place a non-lethal, multi-layered risk mitigation system.

PirateFence is a modular-based perimeter protection system with an innovative anti-climb and grapple-resistant component. The coil is applied in sections to avoid any attempts made by attackers to peel the system away in its entirety; a solution to a common problem with many existing systems. It fortifies a vessel against a system failure and buys more time for the crew to counter any threat.

The system uses Razor Ribbon razor wire with a galvanized steel core and sharp razor blade-like edges, but its easy-to-use 'roll' design ensures that the risk of crew injury is virtually eliminated during installation or transportation of the cylinder units. The entire PirateFence system is purpose-designed to withstand harsh salt-water conditions. GAC Maritime Security, Powered by AKE, is a partnership between global shipping, logistics and marine services provider GAC Group and AKE Group.

Email: ake@gac.com

Harrold van der Meer

Medler

Hall

Morton

Kotug Appoints New COO

The supervisory board of KOTUG announced the appointment of Harrold van der Meer as Chief Operating Officer (COO) of KOTUG International B.V. He succeeds Dorus Knegtel, the current COO & Vice President Business Development, in operational responsibilities.

Sphere Offshore Appoints Cox VP

Sphere Offshore Solutions LLC, a marine survey and rig moving company and member of the Signet Maritime Corporation group of companies, announces the appointmentof Captain Andrew Cox as Vice President, a new position. Captain Cox is located in the company's Houston, Texas headquarters. With a Class 1 (Master Mariner) Foreign-Going Certificate of Competency, Captain Cox has more than 20 years of experience in the marine oil and gas and rig transport service sector.

Senergy Management Changes

Senergy, which provides fully-integrated project and asset development services across the energy industry, appointed Rhys Medler to the newly created role of Vice President in Quality Health Safety Security and Environment (QHSSE) and Compliance. He is joined by Dick Hall in the position of Alternative Energy and Power Engineering Global Coordinator and Tony Morton as Global Technical Head of Power Systems. Over the past 12 months, Senergy has appointed 50 members of staff into new roles across the business and expects to recruit around 100 new employees in the coming year. Medler will be based in Aberdeen, while Mr Hall and Mr Morton will work from the US and Australia respectively.

Michel Named President of Webb

R. Keith Michel, Chairman of the Board of the Herbert Engineering Group of Companies, was appointed President of Webb Institute, effective July 1, 2013. The appointment was made following the recently announced retirement of RADM Robert C. Olsen, Jr. USCG (Ret.), who will have filled this role for eight years. "Keith was a natural choice for us. His professional business experience will help open doors for our students as well as for fundraising," said John Russell, Chair of the Search Committee.

Webb also announced that, effective immediately, Mr. Michel will step down as Chairman of the Board and will be replaced by Dr. George Campbell Jr. "One of the many challenges to this type of transition is to make sure we maintain strong leadership at the Board level. George Campbell is the right person at the right time for this job," said Will Jenkins, Chair of the Nominating Committee. "The fact that we were able to bring Keith Michel aboard as President and have George Campbell agree to become the Board Chair says a lot about the strength of Webb."

Jaya Holdings Appoints CFO

Jaya Holdings announced the appointment of Chong Chow Pin as Chief Financial Officer Designate. Chong will report directly to the Chief Executive Officer and be responsible for financial, treasury and all corporate services. He succeeds Ms Thai Kum Foon, who will step down on 31 December 2012 from the position to pursue personal interests. Chong was a scholar of Singapore's Economic Development Board (EDB) and holds a Bachelor of Science degree majoring in Electrical Engineering (Honors) from the University of Illinois of Urbana-Champaign (USA).

Retlif's Poggi gets iNARTE Certification

Walter A. Poggi, President and CEO of Retlif Testing Laboratories, Inc., received iNARTE certification (International Association for Radio, Telecommunications and Electromagnetics, Inc.) as "Master EMC Design Engineer." The certification is awarded to those who demonstrate knowledge, proficiency, education and experience in Electromagnetic Compatibility and the employment of EMC/EMI principles in Electronics and Electrical Design. Poggi has long been a leading advocate of continuing electronics industry education with particular emphasis on EMC/EMI training. His accomplishments include authorship of EMC/EMI publications, production of DVD training vehicles including "EMI & The World Around Us," as well as direction and hosting of electromagnetic interference-related training seminars.

Donche-Gay to head BV Marine & Offshore Division

Bureau Veritas has restructured its marine and offshore activities and made a number of new key appointments. The moves follow the retirement of Bernard Anne from his position as Executive Vice-President and Managing Director of the Marine Division. The marine and offshore activities have been merged into one Marine & Offshore Division, with a global network divided into four key areas. Philippe Donche-Gay has been appointed Executive Vice-President in charge of the Marine & Offshore Division, addressing both industry segments.

Nicolaisen Joins TWG

TWG said that Kirk Nicolaisen has joined its sales team, taking on the role of Offshore Energy Account Manager. Nicolaisen is based out of Gulfport, Miss., and brings more than 16 years of experience developing business and serving customers in the offshore energy market. Kirk has a B.S. in Mechanical Engineering and has extensive experience specific to winches and offshore equipment.

ABS Awards $3M to Stevens Institute

ABS donated $3m to Stevens Institute of Technology, which will be used to create a new civil, mechanical and naval engineering laboratory complex in the Davidson Laboratory. The new complex will bear the Bureau's name.

Stevens will construct a 25,000-sq.-ft. facility above the historic Davidson Laboratory, including new laboratories critical to the Stevens strategic plan. The complex will meet the research and instructional needs of approximately 800 Stevens students annually working in such areas as robotics, underwater systems, land- and water-based vehicles and ocean and weather sensors.

With the opening of the new complex, the former wave tank in the Davidson Laboratory will be preserved as a significant historical center to educate students about its importance to the development of ship design during World War II.

www.stevens.edu

Lawrence Joins Global Diving & Salvage

Global Diving & Salvage, Inc. hired Andrew Lawrence as Salvage Engineer, based out of the corporate headquarters in Seattle, Washington. As part of the Marine Casualty Response Service Line, Mr. Lawrence will develop salvage plans, provide detailed engineering support, and assist with project management during emergency and routine operations.

Doen Enters Joint License Agreement with China Shipbuilding

Doen Pacific as one of only 5 marine waterjet manufacturers in the world matching engines to 4,000kW, and CSIC, one of the two largest shipbuilding conglomerates in China, together with its Member WMMP, have jointly signed a license agreement for the manufacture and sale of WMMP•DOEN Waterjets in China. The signing ceremony took place on October 29, in Wuhan, China. Doen's latest range of 13 waterjet models, covering 100kW to 4,000kW will be manufactured and branded WMMP•DOEN in China, and the Director's decision to li-

Poggi

Donche-Gay

Lawrence

cense its waterjet technology is a landmark decision.

Email: mdp@mpdirect.com.au
www.doen.com

ClassNK Certifies ECDIS Courses

ClassNK has certified the type specific ECDIS (Electronic Chart Display and Information System) training courses provided by the newly established ECDIS training center, Philippines-Japan Maritime Training Management Inc. (PJMTM). ClassNK Executive Vice President Koichi Fujiwara presented the certificates to PJMTM President Eduardo U. Manese during the center's opening ceremony on 8 November 2012.

Retlif To Help in Ballast Water Technology

Retlif Testing Laboratories is part of a partnership to evaluate and test technologies designed to treat ballast water on board ships against non-native aquatic species in American coastal waters, lakes and rivers. The U.S. Coast Guard developed regulations to limit the release of live organisms and to reduce the risks associated with the spread of aquatic invasive species. Retlif Environmental Laboratory Supervisor Scott Poggi commented that the 34-year old testing laboratory "is part of a collaborating relationship between NSF International, an independent public health organization, the Great Ships Initiative (GSI), and the Maritime Environmental Resource Center (MERC) to test and evaluate systems to the Coast Guard requirements." Ballast water management system manufacturers (BWMS) will apply to NSF International and the U.S. Coast Guard for testing, review and evaluations. NSF International will coordinate testing between Retlif, the GSI and the MERC. Retlif will complete testing of the electrical and electronic components, including each alarm, control and monitoring device of the BWMS (Ballast Water Testing Requirements).

BAE Sytems to Acquire Marine Hydraulics Intl.

BAE Systems entered into a definitive agreement with American Maritime Holdings, Inc. to acquire Marine Hydraulics International, Inc., a privately held company that operates a shipyard, pier and waterfront facilities in Norfolk, Va. The proposed acquisition would complement BAE Systems' support to its customers with enhanced readiness and sustainment maritime services. MHI is a marine repair, overhaul, and conversion company serving the U.S. Navy, Military Sealift Command, Maritime Administration and commercial ship owners and operators worldwide. The company employs approximately 400 people and would be integrated with the BAE Systems Ship Repair business.

Cummins Tier 3 Engines Available

Cummins Inc. announced the availability of its U.S. EPA Tier 3 certified QSK19 and QSK60 marine engines. Cummins Tier 3 solutions apply advanced combustion technology to reduce emissions in-cylinder without the need for aftertreatment. Cummins Tier 3 marine product line will serve as the platform for future, more stringent emissions in the U.S. and globally.

Representing a 50% reduction in particulate matter (PM) and a 20% reduction in nitrogen oxides (NOx) compared to Tier 2 standards, the EPA's Tier 3 marine emissions regulation went into effect January 1, 2012 for Cummins engines between 3.5 and 7.0 liters per cylinder and continues through 2014. The QSK60 is the only engine in Cummins marine portfolio requiring EPA Tier 3 certification in 2012; the QSK19 is not required to meet EPA Tier 3 until January 1, 2013.

The Tier 3-certified QSK19 and QSK60 feature the same premium base engine hardware and footprint as the existing MCRS product. Further, the lubrication, cooling, air handling, fuel and exhaust systems are the same design as the current product ensuring minimum disruption for series-built vessels or replacement engines. As with Tier 2, Tier 3 engines will be available with Cummins C Command panels, CENTINEL Oil Management System and the ELIMINATOR filter to help monitor and reduce the cost of operation and maintenance. The QSK19 has a Tier 3 ratings from 660 to 750 hp, and the QSK60 between 2000 and 2700 hp

Jeppesen: Deal with BP Shipping

Jeppesen finalized a contract to provide its optimization solutions to BP Shipping, which will result in the installation of Jeppesen's Vessel and Voyage Optimization Solution (VVOS) on 52 BP vessels carrying crude oil and LNG shipments globally. The contract also provides for integration of Jeppesen's FleetManager shoreside component into BP Shipping operations. FleetManager will be used to track BP's owned and chartered vessels.

www.jeppesen.com/marine

ABS, CSBC Corp., Taiwan Sign Strategic Cooperation Agreement

ABS signed a strategic cooperation agreement with CSBC Corp., Taiwan (CSBC). ABS agrees to support CSBC in vessel and offshore asset construction. It creates an opportunity to form joint development projects in such areas as design optimization, energy efficiency management and design and fabrication of offshore support vessels, bulk carriers, oil tankers, ice-classed vessels and floating production units, and positions ABS as the preferred classification society for CSBC.

Ocean Titan Heroism at Sea

Officers and crewmembers of the Crowley Maritime Corp.-managed M/V Ocean Titan were honored with a 2012 Admiral of the Ocean Sea (AOTOS) Mariners' Plaque for demonstrating heroism at sea during the United Seamen's Service's (USS) annual AOTOS awards ceremony in New York. The mariners were recognized for their December 2011 rescue of the seven-member crew of the M/V Florece, which sank about 250 miles southwest of Land's End in the Bay of Biscay, near the United Kingdom following a collision with the tanker M/V Afrodite. Accepting the award on behalf of the ship's officers and crew was Capt. Christopher Hill, master on the M/V Ocean Titan.

The account of the incident provided by the USS said the collision caused the Florece to sink to the ocean floor within an hour, causing the crew of seven to take to lifeboats. Shortly thereafter, the crew of the M/V Ocean Titan received the distress call and, upon arriving on scene, launched rescue operations. The crew faced gale-force winds and 12- to 14-ft. seas, and had a full load of cargo. To ensure the crew's safety, Hill decreased the vessel's speed to prevent broaching as he approached, and then idled near the life raft. He used the engines and rudder to block the swell and minimize roll, moving close enough to pull the survivors on board from the raft using a heaving line.

"The Ocean Titan crew saved lives, while demonstrating proficiency and devotion to duty in keeping with the highest traditions of the sea," wrote the USS in its account of the rescue.

"On behalf of everyone at Crowley, we want to commend crew of the Ocean Titan for their truly heroic act," said Mike Golonka, VP, ship management. "Capt. Hill and his crew showed extraordinary skill to ensure the safety of their own lives while fighting through extreme weather to rescue their seven fellow mariners. Without the crew's bravery, those men may not be alive today."

The M/V Ocean Titan crew involved in the rescue included Capt. Hill, Chief Mate Thomas Lisante, Second Mate Daniel Landgrebe, Third Mate Zachary Gray, Chief Engineer John Vlahakis, First Assistant Engineer Sean Donovan, Bosun Magdy Balat, AB Hilario Rochez, AB James Luttrell, AB Miguel Angel Matos, QMED Electrician Michael Kelly, GUDE Stephon Thompson, Steward Lawrence Winfield and ACU Steven Holmes. The M/V Ocean Titan is operated by Intermarine LLC through its U.S.-flag affiliate, US Ocean LLC.

BUYER'S DIRECTORY

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER. A quick-reference readers' guide, it includes the names and addresses of the world's leading manufacturers and suppliers of all types of marine machinery, equipment, supplies and services. A listing is provided, at no cost for one year in all issues, only to companies with continuing advertising programs in this publication, whether an advertisement appears in every issue or not. Because it is an editorial service, unpaid and not part of the advertisers contract, MR assumes no responsibility for errors. If you are interested in having your company listed in this Buyer's Directory Section, contact Mark O'Malley at momalley@marinelink.com

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David Clark, PO Box 15054, Worcester, MA 01615, USA , tel:1-800-298-6235, Sales@davidclark.com

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HS.MARINE S.r.l., Via G. Marconi, No. 33 - Loc. Commessaggio Inferiore 46018 Sabbioneta (MN) ITALY

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Hydrex US, 604 Druid Rd E; Clearwater, FL, USA , tel:727-443-3900 (24/7), fax:727-443-3990, info@hydrex.us contact: Dave Lamon, www.hydrex.us

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Nano Fossil Fuels Technology, LLC, 561 Keystone Avenue, STE. 322, Reno, NV , tel:(775) 356-0280, fax:(775) 356-0283, nanofuels@sbcglobal.net

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Ship's Officer Maritime (SL4) - Second Engineer
Job Location: USA, Bronx

Ship's Officer Maritime (SL4) - Second Engineer

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Job Description:
•Operate, maintain, troubleshoot and repair a variety of shipboard equipment to include electric motors and controls, diesels, pumps and compressors, refrigeration plants, high-pressure boilers and steam turbines.
•Specifically responsible for the maintenance and safe operation of the ship's boiler and the fuel oil system.
•Responsible for fuel oil transfer and all boiler operations.
•Responsible for daily maintenance of the ship's boiler; to supervise daily testing of boiler water.
•Assisting the Chief Engineer in the supervision, operation, maintenance and repair of all machinery, equipment, piping, electrical systems, controls in the engine room, and other areas supervised by the ship's Engineering and deck departments
•Maintaining records of machinery repaired and inventory of consumed stores, liquid supplies, and spare parts; preparing machinery for annual inspection by the United States Coast Guard and American Bureau of Shipping
•Planning the cadet maintenance and repair work schedules
•Serving as a liaison to various agencies and businesses.
•Working directly with the Cadet shipboard training program, and those assigned to administer the program.

•Other duties as assigned by the Chief Engineer
• Assisting with Shipboard training and instruction as assigned

Requirements:
Required:
•Bachelors Degree in Marine Engineering
•USCG Second Assistant Engineers license, steam/motor, unlimited horsepower.
• Experience in pipefitting, welding, lathe and machine shop practices is also required.
•Good communication skills and a desire to teach as they will also be directly involved in the supervision and training of Cadets.
•Excellent interpersonal and problem solving skills.
•Desire to work in a student-oriented environment

Preferred:
•Knowledge of the maritime industry
• Upper level USCG Engineers license, and minimum 3 years sailing experience.
•Experience as Second Assistant Engineer, steam desirable.
•Experience with ships electrical and troubleshooting components.

Additional Information:
Special Notes: This position often requires working a non-traditional schedule in order to accommodate the operational needs of the College. The individual accepting this position will be required to work a 40 hour work week for 10 months each year in addition to required participation on the annual two-month training cruise. Professional Staff Position (calendar year)
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Vigor Marine is one of seven companies in the Vigor Industrial family. We are a fast paced, highly successful ship repair company. With West Coast-wide operations, Vigor Marine's projects range from voyage repair to complex dry-dockings.
Job Purpose
This position successfully leads project based job results, specifically delivery under budget and on-time. This is accomplished by demanding a daily plan of the day that successfully supports overall project objectives. The incumbent assists the supervisors in mitigation strategies as soon as variances from schedule are identified. Daily progressing against daily plan is required to identify and mitigate variances. The individual will be required to learn and perform functions of project manager on smaller projects that do not necessarily require the services of a project manager. The role reports to the Project Manager on an assigned project, but remains a direct report of the appropriate Director level manager.
Duties

(This is not an all inclusive list of the regular job duties. Other responsibilities within the accepted job scope will apply.)

1. Coordinates estimates into work plans and work schedules utilizing MS Project and ensures materials needed are ordered and delivered timely. Coordinates scope of work, Crafts workers and subcontractors needed to complete jobs on time and within budget.
2. Sequencing units of work to meet required delivery dates and maintain project profitability within or ahead of budget. Removes roadblocks identified by Production Supervisors / Manufacturing Supervisors and Production workers.
3. Promotes a safe working environment using daily safety briefs; promoting/enforcing PPE, discussing job hazard analysis, and accident prevention.
4. Supports supervisors in resolving any issues and eliminating barriers that may compromise the successful completion of the plan of the day and elevate those issues they are unable to resolve.
5. Supports the estimating and planning phases of the project by attending meetings and supporting the creation of the estimate and the quality of the plan with the PMT and Trade Coordinator as needed.
6. Responsible for identifying and aligning external resources to support the execution of the project. These groups include any and all departments that interface with production such as Engineering, Procurement, Manufacturing and Facilities.
7. Primary liaison between the Project Manager and the working crews regarding communications relative to performance on safety, quality, budget and schedule.
8. Manages subcontract production through subcontractor's onsite supervisors.
9. Coordinates leads and workers in prioritizing activities/jobs to meet or exceed customer expectations while assuring best use of shipyard facilities and resources.
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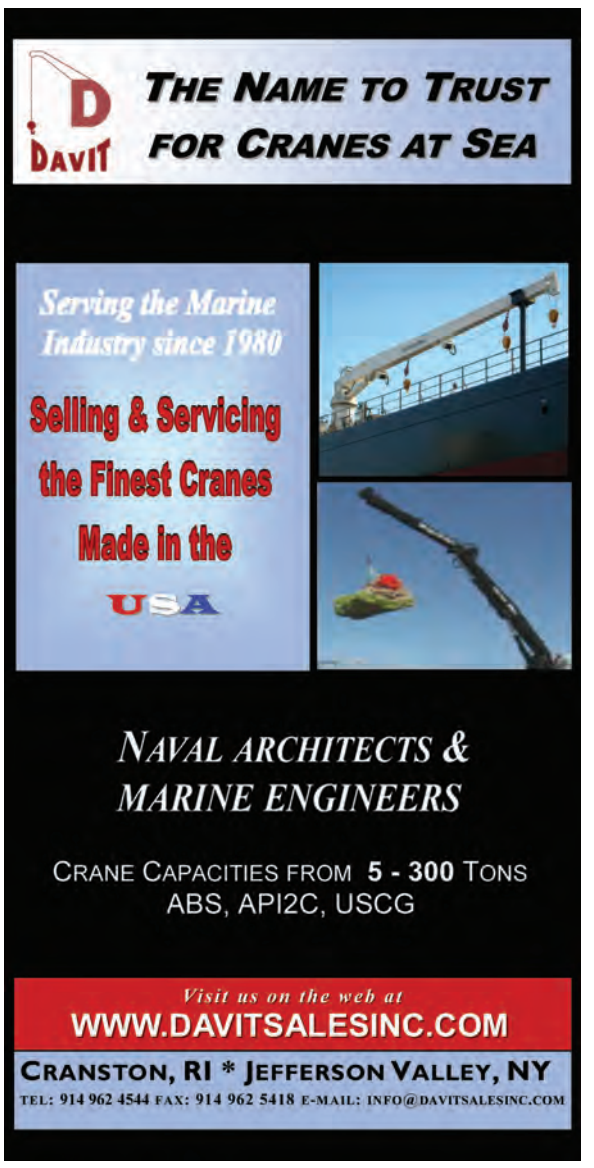

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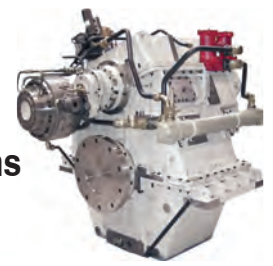

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