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MARITIME REPORTER AND ENGINEERING NEWS

August 2010

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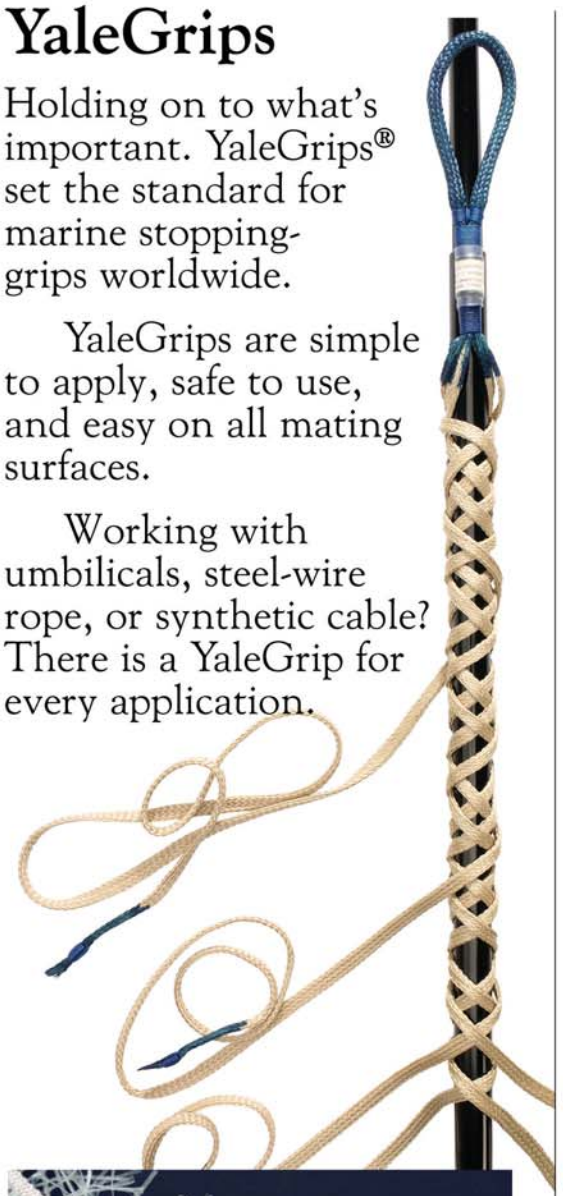

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Last month I attended a dinner at the residence of U.S. Navy Chief of Naval Operations **Admiral Gary Roughead** to engage in a discussion regarding Unmanned Underwater Systems, their application and future with the U.S. Navy. While the discussion among the 15 gathered industry leaders and senior Flag Officers was not fodder for publication, per se, it was an excellent opportunity to gather insight and analysis regarding future technology deployment in and around the U.S. Navy. More importantly, if afforded me the opportunity to sit back and analyze the rapidity with which the maritime industry as a whole identifies and adapts change.

As most of you know, the maritime industry is often broadly classified as conservative and slow to change, the reason for presenting the quote to the left — which is one of my favorites because I was raised and still have many family and friends in the Cincinnati area. While the maritime industry is not exactly "Silicon Valley-esque" in regards to speed of change, it is not accurate to paint it broad stroke with the conservative label.

"When the end of the world comes, I want to be in Cincinnati because it's always twenty years behind the times."

Mark Twain (attibuted)

(Source: www.twainquotes.com)

This month **Henrik Segercrantz** graces our pages with a pair of reports — one on a company/personality, another on a vessel — which highlight the profound changes that are sweeping the maritime landscape. In an interview with **Klaus Stahlmann**, CEO of MAN Diesel & Turbo, we find a world-leading power company that is working with other industry leaders to develop the systems and procedure where commercial ships can carry and use a cyrogenic gas fuel-supply system that can — in the case of a 14,000 TEU containership — significantly reduce fuel consumption and emissions ... and, by the way, **reduce annual operating costs by an estimated $12 million per year**. On the vessel side, Segercrantz helps MR readers figuratively jump aboard the innovative MV Viking Legend, an inland cruise vessel with a cutting edge diesel-electric propulsion system.

If you are looking to identify the emerging technologies that will shape this industry for a generation to come, my suggestion is to visit the SMM 2010 exhbition in Hamburg, Germany in early September, which is arguably the world's biggest and best display of marine technology, with nearly 2,000 exhibitors and more than 50,000 visitors. If SMM 2010 is not in your plan, turn to page 43 of this edition, where we present some of the new systems to be unveiled in Hamburg.

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Letter to the Editor

Dear Greg:

First, you know that I have the world of respect for all that you and your colleagues at *Maritime Reporter and Engineering News*, MarineLink.com, *Marine News*, and *Marine Technology Reporter* do to help keep our industry and government leaders accurately informed.

As a result I was surprised and even disappointed when I came upon *"Money for Nothing - Maritime Salvage for Fun & Profit"* appearing in the 2010 World Yearbook edition of the Maritime Reporter and Engineering News. No one I know in the salvage industry would ever think of associating the words "Money for Nothing" with the challenging and often dangerous work of marine salvage. Nor would anyone I know in this business associate the word "Fun" with the response to a vessel in distress with the potential for loss of life and damage to the environment not to mention loss or damage to the vessel itself as well as its cargo. Frankly, I found the article sophomoric from its beginning, "You are sailing along in your ship …." to its end, "… the best thing a person who has rendered assistance at sea can do next is to contact a lawyer."

You have given the issues of salvage, marine firefighting and wreck removal significant coverage in the past and, as a result, have helped raise the level of understanding of the important role of the salvor at the time of a marine casualty. Please know that I am grateful for that and that my colleagues and I will be pleased to assist you in any way that we can in the future.

Best regards,
Dick

Richard E. Fredricks, Director
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801 North Quincy Street, Suite 200
Arlington, Virginia 22203 U.S.A.
Tel: 1-703-373-2267
www.americansalvage.org

Obituary

Jack Gilbert

John (Jack) William Gilbert, Founder and President of John W. Gilbert Associates Inc., a Naval Architect and Marine Engineering company in Hingham, Mass., died at the age of 80 years on July 26, 2010. Gilbert was a resident of North Scituate, Mass., for more than 48 years. He graduated with a B.S.Nam. from the University of Michigan, Ann Arbor, in 1955. Gilbert founded John W. Gilbert Associates, Inc., in 1964, which has a long and successful business in ship design, overseeing the construction of over 400 vessels ranging from fishing, research, passenger vessels and vehicle ferries, excursion ships, tugboats, fireboats, river towboats, to other commercial vessels. He pioneered original research from his model tests, developed computer programs and simulations for his design and stability of vessels. Additionally, Gilbert received numerous awards and has given lectures worldwide on topics of naval architecture and marine engineering, fishing industry and diversification, vessel regulations, and ferry transportation.

An online guestbook is at www.mcnamara-sparrell.com

Bluefin To Expand
Bluefin Robotics has begun work on building a 54,000-sq. ft. facility in the Quincy Shipyard, with a plan to relocate there in the fall. To support the renovation, 28 subcontracts were awarded to various trades to refurbish the aging building for AUV development, production and testing. Bluefin's move to Quincy doubles the high-tech company's space, and for the first time, merges operations under one roof. The new location provides the Cambridge-based firm with direct access to the ocean for marine operations, which is currently conducted in East Boston. The move will co-locate engineering, production and marine operations functions, streamlining testing and demonstration phases of the business. The landlord is Quincy Shipyard, LLC, an affiliate of Jay Cashman, Inc.

Huisman Delivers for New Deep Water Construction Vessel
Huisman and Heerema Offshore Services signed a Letter of Intent for the delivery of all mission equipment onboard Heerema's new Deep Water Construction Vessel. Huisman will design, construct and install a 4,000mt Offshore Mast Crane and a pipelay tower for both J-lay and Reel-lay operations in ultra deep water. Installation of equipment is scheduled for 2012/2013, partly at the DSME yard in South Korea and partly at the Huisman quay in Schiedam, The Netherlands. The heavy lift crane will have a revolving lift capacity of 4,000mt. The Mast Crane design was selected for this vessel because of the small footprint and small construction weight of the crane. The J-lay tower is installed over a moonpool and is designed for both J-lay and Reel-lay operations. For Reel-lay, the tower features two pipe tensioners of 400t capacity each. The pipe is spooled on reels which can be lifted on board offshore by the vessel's own crane. This concept is a novelty in rigid pipelaying on a big scale. It allows for onshore spooling of reels while offshore pipelaying continues, eliminating the need for a large spool base. Also the reels can be easily removed to free up deck space when operating in J-lay or crane barge mode.

Future Oil Spill Prevention

Oil Majors to Invest $1B

Last month four oil majors – Chevron, ConocoPhillips, ExxonMobil and Shell – announced a plan to build and deploy a rapid response system that will be available to capture and contain oil in the event of a potential future underwater well blowout in the deepwater Gulf of Mexico. Putting their money where their proverbial mouth is, the companies report that they have already committed $1bto fund the initial costs of the system, and the four will form a non-profit organization, the Marine Well Containment Company, to operate and maintain this system.

Such developments in the wake of the Gulf of Mexico oil spill appear to be coming to fruition, as companies scramble to ensure that their operations are ahead of any legislative curve likely to evolve from the recent blowout in the GOM.

"The oil and gas industry has long been recognized as a technological leader, and the American public expects us to improve our ability to respond immediately to offshore incidents," said Jim Mulva, ConocoPhillips chairman and chief executive officer. "The creation and development of this sophisticated system will greatly enhance industry's ability to ensure a quick and effective response."

The new system will be designed to be flexible, adaptable and able to begin mobilization within 24 hours and can be used on a wide range of well designs and equipment, oil and natural gas flow rates and weather conditions. The new system will be engineered to be used in deepwater depths up to 10,000 feet and have initial capacity to contain 100,000 barrels per day with potential for expansion.

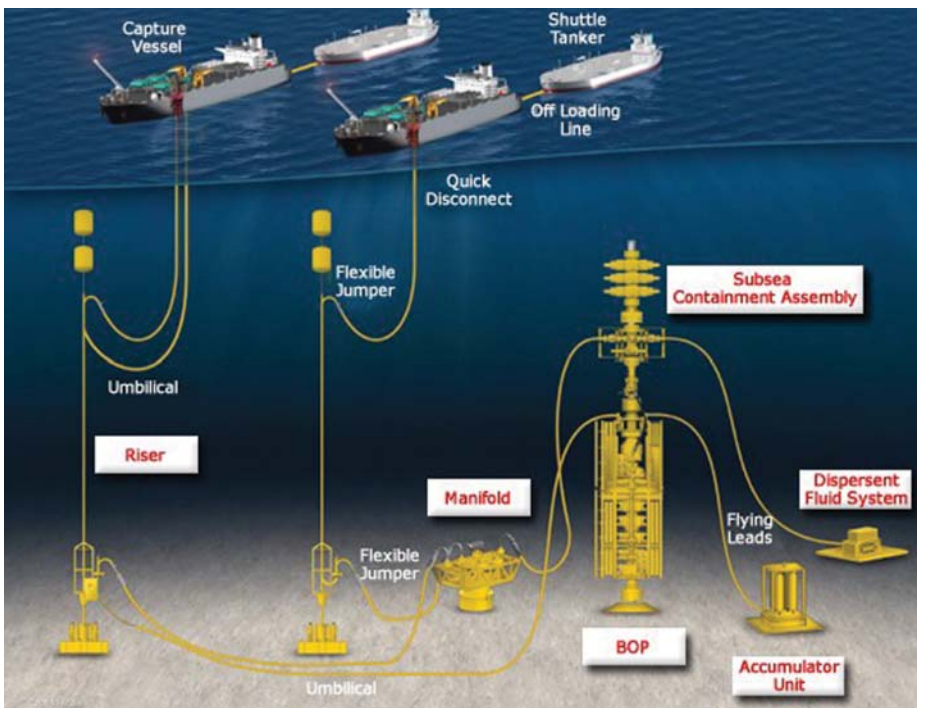
"If we all do our jobs properly, this system will never be used," Rex Tillerson, chairman and CEO, ExxonMobil.

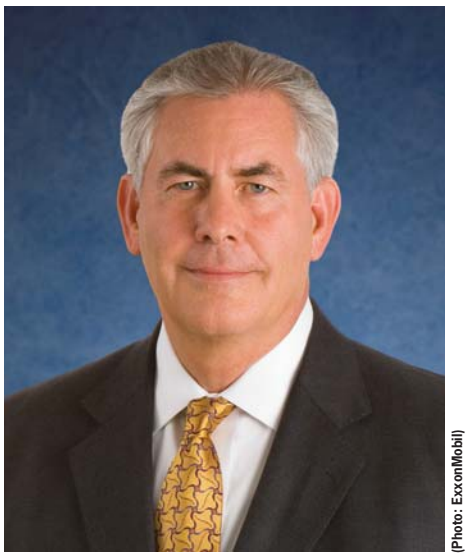
Additional operational and maintenance costs for the subsea and modular processing equipment, contracts with existing operating vessels in the Gulf of Mexico and any potential new vessels that may be constructed will increase this cost commitment.

"If we all do our jobs properly, this system will never be used," said Rex Tillerson, chairman and chief executive officer of ExxonMobil. "The extensive experience of industry shows that when the focus remains on safe operations and risk management, tragic incidents like the one we are witnessing in the Gulf of Mexico today should not occur."

This system offers key advantages to the current response equipment in that it will be pre-engineered, constructed, tested and ready for rapid deployment in the deepwater Gulf of Mexico. It is being developed by a team of marine, subsea and construction engineers from the four companies.

The system will include specially designed subsea containment equipment connected by manifolds, jumpers and risers to capture vessels that will store and offload the oil. Dedicated crews will ensure regular maintenance, inspection and readiness of the facilities and subsea equipment.




(Photo: ExxonMobil)

"As an industry, we must rebuild trust with the American people in order to demonstrate that we can produce energy in a safe and environmentally responsible manner," said Marvin Odum, president, Shell Oil Company. "Beyond Shell's absolute commitment to oil spill prevention and robust well designs, additional safeguards must be strengthened across the industry to develop the capacity to quickly respond and resolve a deepwater well blowout in the Gulf of Mexico, regardless of how unlikely it is that this situation will reoccur."

Work on this new containment system is being accelerated to enhance deepwater safety and environmental protection in the Gulf of Mexico, which accounts for 30 percent of U.S. oil and gas production and supports more than 170,000 American jobs.

The sponsor companies will proceed immediately with the engineering, procurement and construction of equipment and vessels for the system. ExxonMobil will lead this effort on behalf of the four sponsor companies.

The companies are also actively involved in significant industry efforts to improve prevention, well intervention and spill response. This includes rig inspections and implementation of new requirements on blowout preventer certification and well design. The industry has proactively formed several multi-disciplinary task forces to further develop improved prevention, containment and recovery plans.

The companies have reviewed the system with key officials in the federal Administration and Congress and will conduct briefings with other key stakeholders.

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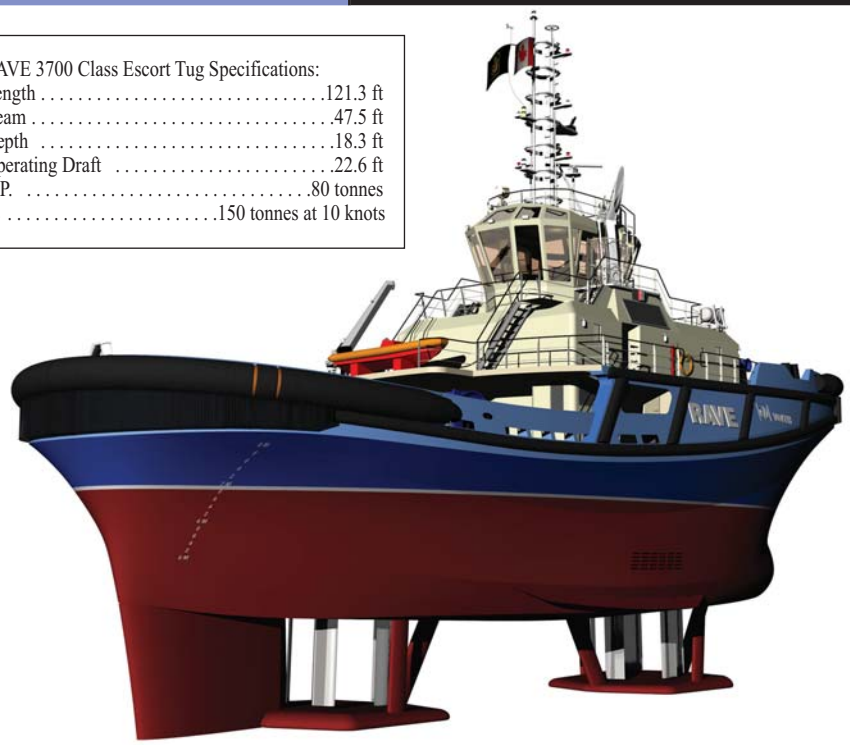
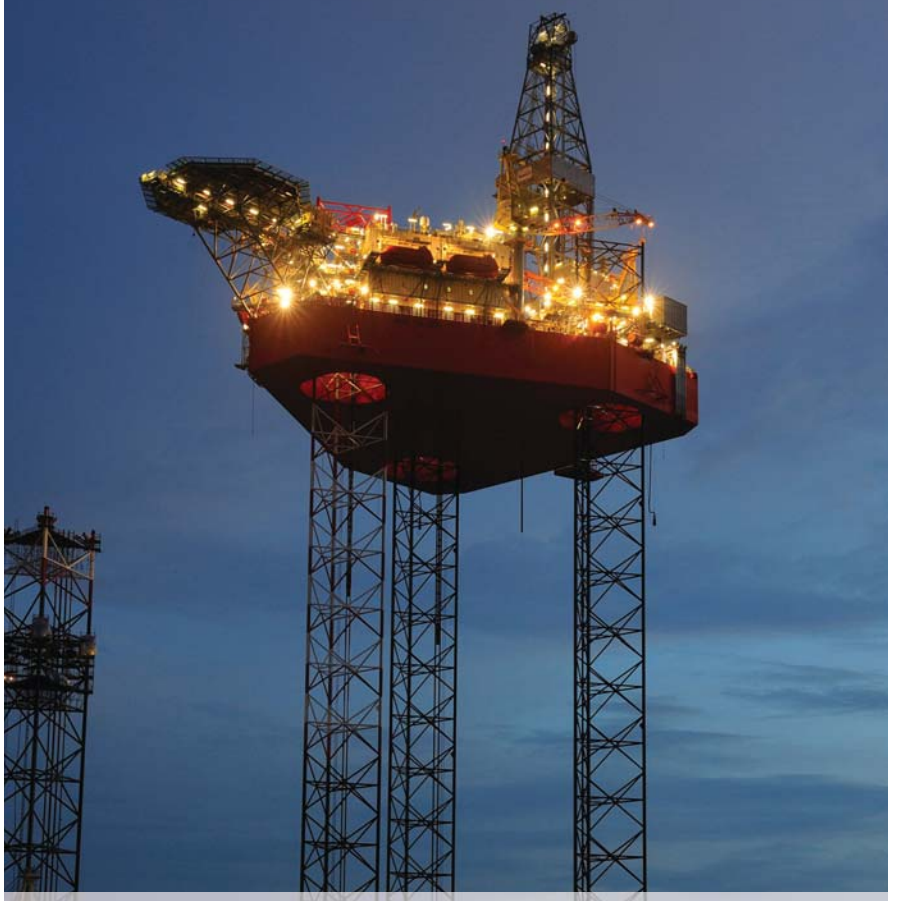


(Image courtesy Robert Allan Ltd.)

The RAVE Tug Concept

The RAVE tug (Robert Allan Ltd. — Voith Escort) is a new concept for a highly maneuverable, high-performance escort and ship-handling tug jointly developed by Robert Allan Ltd. and Voith Turbo Marine. The unique characteristic of the RAVE concept is the longitudinal alignment of two Voith drives in contrast to the more conventional transverse configuration. The RAVE design offers very precise and improved force generation characteristics, which is necessary not only for the demands of indirect escort towing, but also for working in narrow confined harbor and channel areas. The RAVE tug uses the variable pitch characteristics and the X/Y–logic of two Voith Schneider Propellers for optimum power allocation and precise maneuvering. The principal advantages of the RAVE tug concept include higher indirect steering forces than developed by a conventional VSP configuration. The use of an active drive unit in combination with a small skeg develops higher lateral forces compared to a simple foil-shaped larger skeg. The RAVE tug concept also offers very quick response to directional commands, easy and logical control, excellent control capabilities and omni-directional thrust characteristics in confined ports, channels and locks. The performance and configuration optimization of the RAVE tug is being actively documented through an extensive series of model-tests and CFD analysis, sponsored jointly by the project partners. This technology can be applied to any size of VSP powered tug, depending upon the application and power.

Keppel Delivers Seadrill Rig



Keppel FELS Limited (Keppel FELS) is on track towards an on-budget and on-time delivery of the KFELS B Class jackup rig, West Callisto, to Seadrill Limited (Seadrill) before the end of July 2010. This rig was named at Keppel FELS recently by Lady Sponsor Mrs Poespawardhani Priyono, spouse Mr R. Priyono, Chairman of BPMIGAS, Indonesia's upstream oil and gas supervisory agency. Wong Kok Seng, Executive Director of Keppel FELS, said, "Together, Keppel and Seadrill have been setting the global standard in offshore drilling since 1993. Our win-win partnership has yielded a fleet of 14 exceptional rigs worth $1.5 billion. West Callisto is expected to commence development drilling operations in Indonesia under a nine-month contract with Premier Oil, in the third quarter of 2010. The KFELS B Class design is designed to provide maximum uptime with reduced emissions and discharges.

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Manila STCW Amendments Push

eLearning Protocols: To the Head of the Class

Long awaited by the global maritime industry and much feared by American educators in particular, the newly adopted additions to the Standards of Training, Certification and Watchkeeping (STCW) code for Seafarers are here. Last Week's 2nd Annual International Maritime eLearning Conference brought the enhanced STCW code – and the blended, eLearning techniques that will allow it to be implemented – under the harsh glare of collective scrutiny. By week's end, conference attendees had every reason to be cautiously optimistic. More importantly, a cogent way forward had been defined for both issues.

— by Joseph Keefe

Easton, MD (Calhoon MEBA School): With the world's maritime training schemes already groaning under the collective weight of flag state and International requirements, the International Maritime Organization (IMO) last month plowed ahead with promised amendments and additions to the STCW code. These agreements, adopted on June 25 2010, are now and forever known simply as "the Manila Amendments". But, there's nothing simple about any of this. And for those who last week sat through the U.S. Coast Guard's Zoe Goss' presentation of the mind-numbing list of new training requirements for deck and engine personnel, the implications for implementing speedy compliance were more than obvious; arguably, they were daunting.

The first of two Keynote speakers for the 2nd Annual eLearning Conference – both notably from the U.S. Coast Guard's National Maritime Center – Goss patiently brought the 'good news' to her gathered audience of maritime educators, government regulators, industry representatives and technology providers. A myriad of changes were in store, she reported, including changes to the celestial navigation, visual signaling and BRM training requirements, the addition of ECDIS training to the code, new A/B competencies and much, much more. Her 45 minute talk also revealed that the new amendments would enter into force on January 1st, 2012, with existing seafarers who commence approved education and training programs (maritime academies) or an approved training course after July, 1 2013 must meet the new minimum training standards, where applicable, by January 1, 2017.

Another dreaded development, at least for the American side of the equation, was put off until January of 2011. At that point, the possibility of inserting language that would address the (lesser) U.S. maritime academy sea time requirements will probably come to a head. For now, however, the considerable changes and additions to the code were enough. To be fair, the IMO didn't finish up in Manila without offering at least the possibility of providing for (new) ways for all parties to implement the new code requirements. For the first time ever, STCW language includes room for eLearning to be added to the mix. It's a start.

Maritime Momentum: Conference participants weigh in, work out details

Building on the momentum generated from last year's inaugural International eLearning Conference, the 2010 working groups, meetings and presentations provided real meat for industry to move forward. Discussions spanned the full gamut of relevant issues, including the need for a "consortium-type" approach to future maritime and/or STCW education. Quite a bit of business also got done here, too. Still, with as many as 160 different schools providing STCW training in the United States alone, there is little in way of cooperation or collaboration between many of these parties at present. In order for the eLearning protocol envisioned by the majority of the conference attendees to work, that's one metric that has to change, and soon.

Leaving aside the technical discussions for those better qualified to give that report, a major outcome of the conference was the general agreement between all parties – regulatory, commercial and educators alike – was that eLearning for mariners is best packaged in a "blended format." As a baseline, that blended learning can be defined as providing a certain portion of the "knowledge-based learning" in an online, distance format with retention of the "hands-on" portion to be conducted in the traditional brick-and-mortar setting. That the two can complement one another if done correctly is no longer in question; how it will ultimately be codified, approved and carried out will be the hard part. And, if there as one thing that everyone gathered at the Calhoon MEBA Engineering School all agreed on, it was that the effort was worth the sweat equity that will eventually produce the model upon which future standards will be based.

Baseline & Fundamentals

Ultimately, any future, blended eLearning that is applied to satisfy STCW requirements will have to be certified in much the same way that current course curriculums, instructors and venues are approved. Involving both a regulatory and standard-setting approach, there are certain steps to be followed before any of this can come to fruition. As such, it was no surprise or accident that DNV was in attendance at the Learning Conference, and prominent in their involvement. Already a key standard setter and watchdog of sorts for maritime course offerings at many schools, DNV aims to ensure that eLearning – blended or otherwise – is carried out to same quality standards as the brick and mortar course counterparts.

At last Wednesday's conference presentation on "Quality System Standards for Maritime training Institutions," DNV's Gordon Halsey told his gathered audience, "DNV was on forefront of ISM standards and they see great opportunities to be first again." To that end, he also promised a finalization of an eLearning standard by October 2010. He added, "We will apply, among other things, lessons learned from our experience in with technical standards for certification of simulation." That said, he also cautioned that any eLearning system will need to include a Quality System Standard, equipment that conforms to a substantial level of realism, robust student-teacher interaction, strict conformance to content standards and then, a benchmark upon which all systems can be based. For its part, the U.S. Coast Guard promised to play ball. Having previously agreed to certify two STCW courses for purely online delivery, they've arguably made good on that promise. In Friday's climax Keynote address by Robert Smith, Chief of Mariner training & Assessment at the National Maritime Center, he promised that the Coast Guard was actively working to ramp up their electronic footprint in many ways and not just in terms of eLearning. With regard to future blended eLearning courses, he nevertheless vowed a strict certification process, at least as stringent as that which is already in place for traditional "brick-and-mortar" schools. That's a good thing. DNV and the Coast Guard left little doubt last week that changes to mariner training in this country would go forward only if done correctly and at the end of the day, the eLearning knowledge 'transfer' fully satisfied the intent of the STCW protocols. Conference attendees seemed to embrace that metric and some further vowed to exceed it.

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Irano Hind May Weather Ban

Irano Hind Shipping, an entity of Islamic Republic of Iran Shipping Lines, is likely to overcome the planned restrictions imposed by the US and EU.

The sanctions imposed by the US and the European Union on Iran because of its nuclear ambitions are likely to see the Islamic Republic of Iran Shipping Lines and a number of entities with which it is associated becoming prime targets. For Irano Hind Shipping Company the joint venture formed 35years ago between the Shipping Corporation of India (SCI) and Islamic Republic of Iran Shipping Lines (IRISL) it may be tough going for some time and could weather this storm sooner of later. But for SCI the sanctions hardly matter.

Mr. S. Hajara, Chairman and Managing Director of SCI informed that the immediate impact has been the withdrawal of P& I cover by the International group. As an alternative Irano Hind have got their ships now covered by Iranian P & I Club.

"As far as the company's bulk carriers are concerned they haven't had any problems in their cross trades because Irano Hind vessels hardly call at any of the Iranian ports," Hajara said. "In the last 12.5 years Irano Hind vessels had called at Iranian ports only twice and that too under foreign charter for loading from Iranian ports. This was not under their control. Hence as far as bulk carriers of the company are concerned there has been no major impact so far.

"With regards their tankers I understand the company is still struggling because the cover offered by Iranian P & I Club has not been acceptable to the oil cartels. Obviously you cannot take the risk without an insurance cover. I understand the matter can be sorted out according to what the management has informed us. I understand also that one or two vessels are deployed with an Iranian oil company and this does not pose any problem."

The joint venture company was formed in 1975 under a government to government bi-lateral agreement. The SCI holds 49% stakes in the seven ship fleet company and IRISL holds the remaining 51%. The government of India has advised SCI not to make any move which is likely to jeopardize relations with Iran in any way. SCI has also been advised to maintain status quo as far as investment in the JV is concerned.

"The impact on SCI is negligible according to Mr Hajara. "We had invested around half a million dollars in 1975 and earned several times over during the past," he pointed out. "Even today the dividend SCI earns is just a couple of million dollars which does not make any impact on our overall revenue."

Shipping Corporation of India, which is India's largest and most diversified government owned shipping company yielded a net profit of $42.6 million for the quarter April – June 2010 a rise of 59.68%. Total income of SCI for the same period increased to $201.5 million from $ 196.2 million a jump of 2.69%. Earning from the JV is negligible.

Posted by **Joseph Fonseca**

New Air Regs: A Boon for Containershipping?

It doesn't take much for shippers to switch certain types of cargo from air to ocean. Soaring fuel prices and the resultant surcharges will do it. Or a shortage of space.

But the greatest disruption to air freight comes in the shape of delays. Unlike sea freight, there is not much of a cushion built into the supply chain of high value, time sensitive goods, so when cargo is held up, it doesn't take long for the risk management plan to kick in. From midnight on Saturday, the U.S. Transportation Security Administration will require that all air freight carried in the bellies of passenger planes in, around and out of the US will have to have been screened. Most of the world's air cargo is transported in the bellies of passenger planes, not freighters, so the predictable disruptions are expected – delays, congestion, frustration. Several airlines say they are ready for the new measures, but many forwarders and shippers are concerned.

Back in the day, air freight shippers could switch to shipping lines in a pinch, but with slow steaming ships now operating on all major trade lanes, that door is not exactly wide open. So now might be the time for container shipping lines to push the full steam ahead lever on transpacific services calling at the big US gateway ports.

Supply chain managers, however, are seldom without a Plan B, and after years of dealing with crises like terror attacks, congestion at West Coast ports, hurricanes, earthquakes, tsunamis, overcapacity, space shortages, economic meltdowns, etc, etc, their risk management plans are thicker than the Yellow Pages and cover most plausible scenarios. Of course, switching modes is no easy task. It will take a serious adjustment to sourcing and supply strategies because of the extra time in the pipeline, but you could argue that anything that doesn't absolutely have to go by air should be on top of a ship, anyway. It's cheaper and emits less of a carbon footprint.

Posted by Greg Knowler on **MaritimeProfessional.com**

A Wolf in Sheep's Clothing

Q-Ships

Q-ships were merchant vessels drafted into wartime service, armed with concealed heavy weapons and sent out to lure enemy submarines into combat. They were used extensively by the Royal Navy during both World Wars and, to a lesser extent, by the US Navy during World War II. The term is derived from the homeport utilized by most of the Royal Navy vessels on these missions: Queenstown, Ireland. The Royal Navy commissioned 200 Q-ships during World War I. A typical Q-ship resembled a tramp steamer, and probably was one prior to conversion. It was equipped with deck guns hidden behind panels that could be dropped quickly for combat. The Q-ship generally carried a cargo of balsa or cork so as to remain buoyant even if struck by a torpedo. During World War I, German submarines (U-boats) carried a limited number of torpedoes and preferred to attack on the surface using deck guns when feasible. The Q-ships were designed as bait to lure the U-boat into a surface attack. The guns on a Q-ship were generally superior to those on a U-boat, plus they had the element of surprise. In 150 engagements, Royal Navy Q-ships sank 14 German Navy U-boats and damaged 60, while losing 27 of their own. With the coming of World War II, submarine technology had changed. Few submarines engaged in surface attacks. The Royal Navy commissioned nine Q-ships when war broke out. Two were promptly sunk by U-boats and the remaining Q-boats were converted to other work. Shortly after the US entered World War II, five merchant vessels were converted by the US Navy to operate as Q-ships off the Atlantic coast. One was promptly sunk by a German U-boat and the others proved unsuccessful. There have been some suggestions that Q-ships should be utilized in the Indian Ocean to lure Somali pirates into making attacks. Because the pirates have mistakenly attacked armed warships, there seems to be little need for subterfuge here.

Posted by Dennis Bryant on **MaritimeProfessional.com**

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New O&G Safety Program

A new partnership between ANP (National Petroleum Agency), Ibama (National Environmental Agency) and the Brazilian Navy, plans to upgrade and expand existing E&P safety measures, in order to prevent major oil spills in Brazil.

According to Haroldo Lima, Director of ANP, presently Petrobras elaborates the contingency programs for each platform, but now the Brazilian government will launch a nationwide contingency plan led by the navy and involving the regulatory agency and the environmental agency. Although Lima emphasizes that the current safety systems and regulatory systems in place on offshore platforms in Brazil are among the most advanced in the world, he admits there will certainly be upgrades due to the Deepwater Horizon tragedy at the GOM. At the same time he alerts that Brazil speed up its pre-salt and post salt exploration programs, at the risk of having the oil and gas lose market value in the near future with the increased use of alternate energy sources, which undoubtedly will be increasing worldwide following the GOM accident. Plans also call for speeding up onshore oil and gas E&P, as there is also believed to be a big potential for large onshore plays in Brazil. All this potential will be necessary to further develop the country and help reduce poverty in Brazil.

It is believed that Brazil and Norway have the most stringent platform safety and regulatory systems and also the most experience in deepwater drilling and production. A good example is the pre-salt exploration in Brazil where 80 wells have been drilled with no major accidents. The conclusion is that safety and security still need to be increased, but not at the expense of stopping or even decreasing exploration and production.

One of the new facts in the regulatory context will be the participation of the Bureau Veritas, certification society, which will directly reflect on more time that ANP engineers will spend aboard platforms. According to ANP, last year ANP engineers spent an average of 80 weeks aboard platforms. Although it is not yet clear how this partnership will work, there is no doubt that it will be far reaching and fundamental in order to increase the rhythm of E&P in the Brazilian pre-salt and post salt plays. Hopefully we will soon have a more in-depth look at these plans and how they differ from the current systems in place.

Posted by Claudio Paschoa on **MaritimeProfessional.com**

Human Error & Accidents

The Japanese classification society NK published earlier this year a 42 page booklet titled “Guidelines for the Prevention of Human Error Aboard Ships”, with the sub heading “Through the Ergonomic Design of Marine Machinery Systems.” According to the guidelines, man-made causes are said to account for 80 per cent of all marine accidents. Despite training and instruction of crew members accidents occur that are attributable to confusion or ignorance in the operation of equipment. The guidelines stress the importance of standardization in operating, control, methods, indicators, labeling and color coding to reduce confusion, avoiding the situation when crews familiar with a procedure on one ship are faced with opposites in procedure on another ship. To this end ergonomic design plays an important part so that operation of equipment is easy to understand and logical (even though logic differs by culture).

A chapter covers design considerations and recommendations to prevent human error, explaining causes and giving advice on information displays, prevention of wrong operation, improvements in operability and working environment. An interesting section titled countermeasures gives advice on risk assessment and how to analyze accidents and malfunctions to determine the best course of action to remedy the cause depending on the severity and (re-)occurrence.

To illustrate practical aspects of the guidelines, the publication includes a number of detailed reports of marine accidents, ranging from a broken gen set con-rod to falls with fatal consequences. Their cause is identified and showing how changes could be made to prevent their recurrence. Good reading for anyone concerned with ship design or operation.

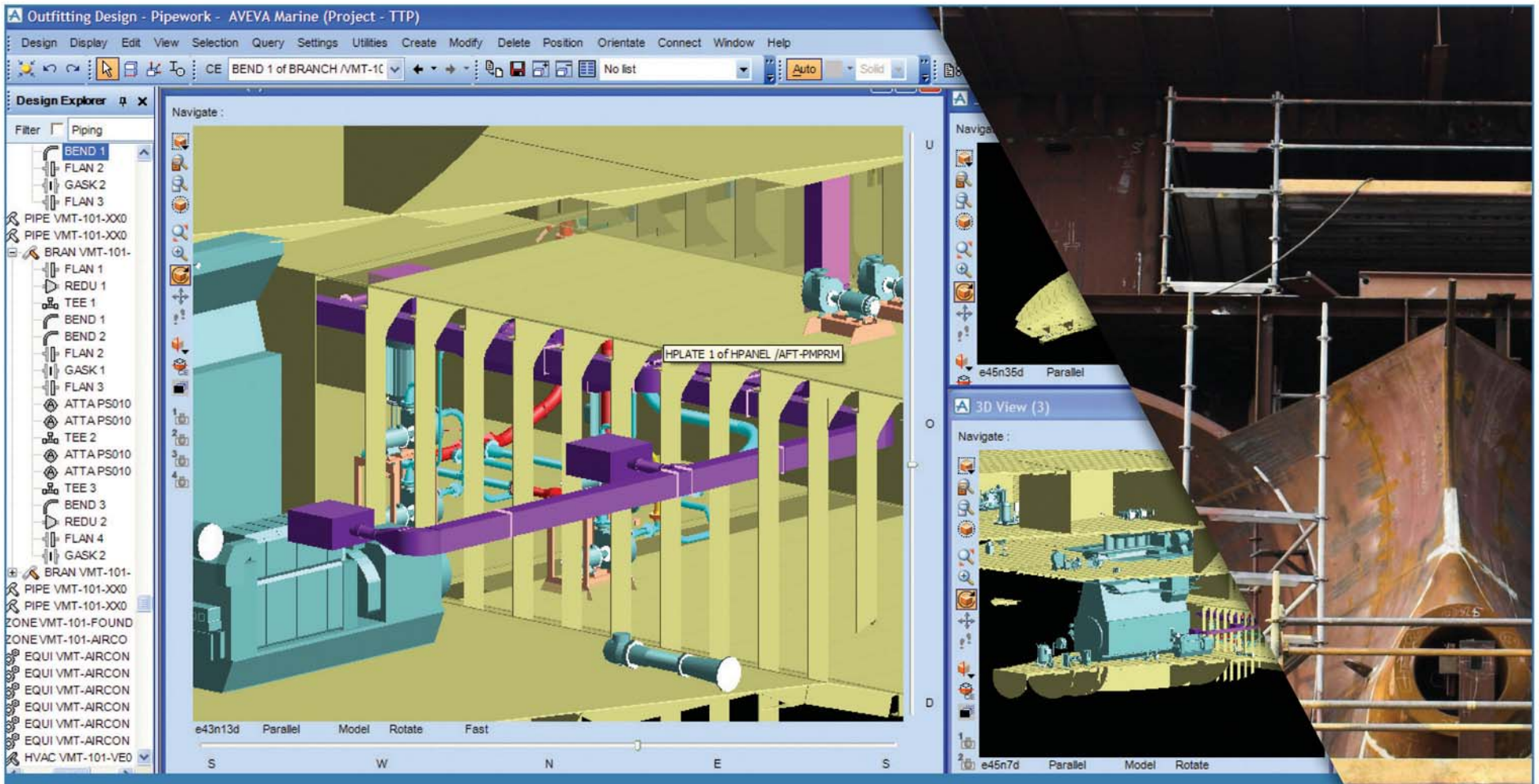
Posted by **Keith Henderson**

The GOM Oil Spill ...

I’m to Blame

Since the tragic explosion and fire on the MODU Deepwater Horizon and the large discharge of oil from the Macondo well, numerous government and private searches, followed intently by the media and the public, have searched for the cause. I now confess that it was me – I caused the whole thing. Immediately after the Exxon Valdez oil spill in 1989 and passage of the Oil Pollution Act of 1990 (OPA 90), there was a major decrease (in excess of 80%) in the volume of oil entering the waters of the United States from ships. This was not due to any regulations issued by the Coast Guard, which actually were not promulgated until 1993 at the earliest. Rather, it was due to the recognition by all involved that the old way of doing business was no longer acceptable. Everyone in the industry, from owners and operators to masters and mariners, changed their mindset and adopted a new watchfulness. Keeping oil out of the water became highly important. The success shown by the industry in this regard caused everyone, myself included, to become complacent. Dictionaries define “complacent” as meaning smugly self-satisfied or calmly content, especially when unwarranted. That was me, exactly. Because ships were being better designed (with double hulls on tankers and protectively-located fuel tanks on all) and better operated (with AIS and other navigational improvements), I quit looking for other potential sources of oil spills. Because major blowouts from oil wells were rare, I failed to fully consider the potential devastation if one went very, very bad. Because companies generally did the right thing and complied with industry guidelines and applicable regulations, I turned a blind-eye when Congress reduced funding to the regulatory agencies. I knew that individuals were prone to cutting corners, but assumed that the various redundancies built into complex systems, such as the drilling of offshore oil wells, would more than compensate for those inevitable lapses. It never occurred to me that numerous individuals would independently cut corners at the same time within the same system, allowing catastrophic failure to occur. Because of my complacency, I am responsible for 50% of the Gulf of Mexico oil spill. There is one other person responsible to the other 50%. I do not know his or her name, but you might identify that person by looking in the mirror.

Posted by Dennis Bryant on **MaritimeProfessional.com**



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Marine Fuels

Better Procurement

Web-based Procurement Management Systems Standardize Purchasing Procedures, Increase Transaction Oversight and Streamline Accounting Processes for the U.S. Military

The Defense Energy Support Center (DESC), a field activity of the Defense Logistics Agency and an agency within the U.S. Government Department of Defense, is responsible for the procurement of all energy-related resources in support of the warfighters of the U.S. DESC program management began implementing card programs for the purchase of ground and aviation fuel in the mid-1990s. The success of these programs led to the formal creation of the Government Fuel Card Program Office in 2006. The department's focus was to implement, manage, and improve fuel procurement services offered by the DESC. At that point in time, the development of a program to secure marine fuel was a developing concept in its initial pilot stage.

The Problem

Marine fuel and the bunkering process are very costly, the cost of the fuel frequently in the millions of dollars per lift. The time involved in locating and qualifying fuel suppliers, ordering specifications, confirming or disputing transaction details, and processing payments represents additional administrative expense. Marine fuel is frequently ordered in large quantities, typically hundreds or thousands of metric tons, with specific and detailed fuel specifications and delivery method requirements. For this reason, a transaction cannot typically be initiated at the point-of-sale and frequently must be requested a week or more in advance of a vessel actually coming into port. Additionally, due to oil price fluctuations, the cost of a single transaction can be extremely volatile. To help mitigate this issue in key ports, the DESC has pre-negotiated long-term contracts linked to industry pricing indexes. However, as frequently happens, when there is no contracted merchant available at a port of entry, vessel operators require a method to locate and evaluate the fuel options available to them. Because the DESC is responsible for the procurement of marine fuel across all branches of military service, a way to standardize fuel procurement processes as well as to ensure that appropriate procedures are followed and that the required transaction information is gathered prior to payment was required.

Requirements

After reviewing existing fuel procurement processes, the DESC identified a number of methods through which it could improve the efficiency of transactions. The DESC's primary objectives included:

- Improved access to fuel and the fuel ordering process,
- Accurate capture of transaction data,
- Simplified matching of orders to authorizations and invoices, and
- Reduced paper flows.

In theory, the SEA Card Program was initiated to make fuel procurement and the resulting payment process more efficient for both vessels and merchants, while decreasing administrative costs for the government.

The Solution

The SEA Card Order Management System (SCOMS) was designed in conjunction with Multi Service, a global transaction management company, as a custom-built web operation, accessible 24/7/365 from any computer with a working Internet connection. This strategy ensured that any registered and authorized (warranted) Ordering Officer would have access to the system when needed. The web-based operation also required no hardware or software investment. DoD-SCOMS standardizes the ordering process, electronically capturing all transaction details throughout the procurement process including authorization and confirmation that the transaction has taken place. This electronic capture of information expedited the entire transaction and payment process, eliminating the wait time associated with paper transaction processing and speeding up payment to the supplier. DoD-SCOMS also creates and maintains a completely auditable trail for each transaction. The first test of DoD-SCOMS was to ensure that accurate transaction details could be captured efficiently for existing long-term contracts. The pilot program launched in October 2005 with 13 vessels and all the contract merchants utilizing DoD-SCOMS. Post successful completion, participation was later expanded to over 500 vessels. Concurrently, a non-contract network of marine fuel merchants was being developed in order to expand U.S. Government access to marine fuel around the world. DoD-SCOMS would provide the U.S. Government with access to multiple merchants within a single port, worldwide. One fuel request could then be submitted to multiple merchants for proposal so that the DESC could accurately determine the lowest priced, technically acceptable offer. Access to multiple merchants in ports where an existing fuel contract does not exist would provide the U.S. military with the opportunity for competitive and transparent tendering on all "spot" or "Open Market" transactions. SEA Card went live with its first-ever Open Market transaction in August 2008. The first three quote requests submitted through the system, which resulted in orders and fuel deliveries, took place in Japan and South Korea for Military Sealift Command. This Open Market pilot program ran through March 2009, resulting in the successful completion of 52 orders with a combined worth of $13 million.

Measured Success

"Internal review of SEA Card illustrates its value," says Rodolfo Cruz-Olmo, Account Manager at the DESC. "DoD-SCOMS improves analyses over transactions occurred and provides the means with which the United States can make smarter marine fuel purchases." In fact 77 percent of the non-contract fuel transactions made through DoD-SCOMS to date have been purchased at below the U.S. Government fiscal year standard price points. The SEA Card Program has also had a measured impact on procurement administration. The procurement process has been designed such that there have been zero incidences of fraudulent purchases made within the system, and that invoice accuracy is confirmed prior to any accounting processes. This has significantly reduced transaction processing time, which used to average more than 75 days from fulfillment to payment and now averages 28 days – a 47+ day improvement. The measurable success of the SEA Card Program contributed to DESC's 2007 David Packard Excellence in Acquisition Award. The David Packard Award honors superior Department of Defense acquisition teams that demonstrate exemplary innovation and best acquisition, technology or logistics practices. In 2007, the Deputy Undersecretary of Defense for Acquisition and Technology James Finely honored the winning acquisition groups for finding "new and innovative ways to expand the talents of their people, to extend the talents of their people, to extend the life of our material, and to stretch the purchasing power of scarce dollars." Enhancements to the SEA Card Program have been ongoing to further streamline communications within DoD-SCOMS between all parties in the transaction process. The number of vessels and branches of service utilizing SEA Card continues to grow. The number of fuel merchants signed to the program also continues to increase. SEA Card has processed over $700m in transactions to date.

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CFD for Offshore Apps

About the Author

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Email: a.koop@marin.nl

In 2009, MARIN took a major step towards the commercial application of Computational Fluid Dynamics (CFD) tools for offshore-related problems. This article outlines achievements so far and the problems currently under investigation.

For current loads on general offshore constructions, such as semi-submersibles, FPSOs, LNG carriers and shuttle tankers, MARIN can offer services using in-house CFD, as well as model basin tests. Current loads and wind forces have been the two main issues addressed. Current loads have been investigated since the start of the "Current Affairs" JIP in 2007 and although the investigation of wind forces has just started, it profits from the wealth of experience gained since then. Added Value of CFD.

The average and time-dependent loads by current and wind are an important design parameter for the mooring of offshore constructions or for a Dynamic Positioning (DP) system. Usually, these loads are obtained by wind tunnel and/or basin tests, or by empirical methods. CFD can help to calculate these loads in a cost-efficient manner. Detailed flow analysis and the resulting forces on the (sub)structures can be obtained, leading to a better understanding of complex flow phenomena. Examples include:

- Analysis and visualization of the unsteady vortex shedding from columns of a semi- submersible;
- Determination of shielding effects for columns or vessels in the wake of other structures;
- Scaling effects;
- Influence of test facility limitations such as blockage effects.

Achievements in 2009 were possible due to a combination of important assets now available at MARIN. These include the in- house CFD code ReFRESCO (old name FreSCo, see [1]), which is optimized, verified and validated exclusively for hydrodynamic applications; High-Performance-Computing clusters with around 1,400 processor-cores; three commercial grid-generation packages, in-house tools and extensive experience. Several researchers continue to be involved in the further development and validation of CFD. Furthermore, MARIN has an extensive experimental database that enhances the validation of our tools. Some examples follow.

Current Loads on a Semi-Submersible

MARIN carried out time-dependent, model and full-scale calculations for a simplified semi-submersible configuration tested within the "Current Affairs" JIP, (see [2]). The model-scale, time-averaged drag coefficients (Cx) obtained with ReFRESCO are within 4%, when compared to the model-scale tow experiments (see Figure 1a). The full-scale CFD calculations reveal that the time-averaged drag loads are expected to be 15% lower than at modelscale. However, the amplitude of the oscillating lift forces (Cy) at full-scale are factor 2 higher than at model-scale (see Figure 1b). These oscillations are a result of the complex vortex shedding around the multiple columns as illustrated in Figure 1c. The full-scale calculations must be validated but agreement between the CFD calculations at modelscale with the experiments gives confidence in the accuracy of the full-scale results.

Current Loads on an LNG Carrier

Within the "HAWAI" JIP the current loads were measured on an LNG carrier with bilge keels and rudder in MARIN's shallow water basin for flow angles between 0 and 180 degrees. Within the Current Affairs JIP and within the MARIN research programme, CFD calculations have been carried out for different angles. For example, for a bow-quartering current, the CFD results concurred well with the model tests for the steady-state force coefficients, see Figure 2 and [3].

Wind Loads for Tandem-Offloading

Within the OO1 and OO2 "Offloading Operability" JIPs, wind tunnel measurements were carried out for tandem and side-byside offloading to determine the wind force coefficients and the velocity distribution in the wake of the first vessel. This wake has a significant effect on the loads on the second vessel. MARIN has carried out CFD calculations for single ships and for the tandem configuration. This is a difficult problem due to the large geometric complexity, grid sizes and the accuracy that has to be achieved regarding the calculation of the wake of the upstream ship. Figure 3a shows the wake field of the FPSO (upstream ship) and indicates that reasonable results have been obtained for the wind loads. Figure 3b shows the tandem configuration and the first qualitative results, see [4]. The work on current loads and wind loads will be extended and in 2010 MARIN will start offering current load calculations to its clients. There are several other offshore-related problems where CFD can make an important contribution. Within MARIN research and the TRUST JIP, DP related issues will be studied. Additionally, CFD analysis of viscous effects on roll damping and offshore- related viscous, free-surface flows offer great prospects.

[1] Vaz, G. , Jaouen, F. and Hoekstra, M. "Free-Surface Viscous Flow Computations. Validation of URANS code FreSCo". OMAE2009, Hawaii, Honolulu, USA. June,2009.

[2] Vaz, G., Waals, O., Ottens, H., Fathi, F., Le Souef, T and Kiu, K. "Current Affairs: Model Tests, Semi-Empirical Predictions and CFD Computations for Current Coefficients of Semi-Submersibles".OMAE2009, Hawaii, Honolulu, USA. June, 2009.

[3] Fathi, F., Klaij, C., Koop, A. "Predicting Loads on an LNG Carrier with CFD", OMAE2010, Shanghai, China. June, 2010.

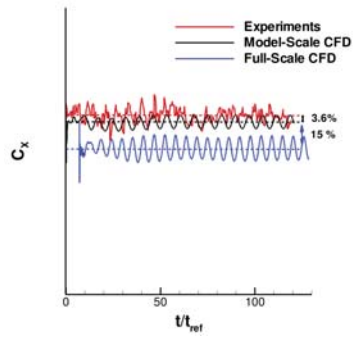
[4] Koop, A., Klaij, C., Vaz, G. "Predicting Wind Loads for FPSO Tandem Offloading Using CFD," OMAE2010, Shanghai, China. June, 2010.

Figure 1a: Time dependent Cx coefficient; CFD results obtained with ReFRESCO for model-scale and full-scale compared with model-scale experiments

Figure 1b: Time dependent Cy coefficient; CFD results obtained with ReFRESCO for model-scale and full-scale compared with model-scale experiments

Figure 1c: Snapshot in time of the vorticity distribution around a semisubmersible configuration for the full-scale CFD calculation with ReFRESCO.

Figure 1a



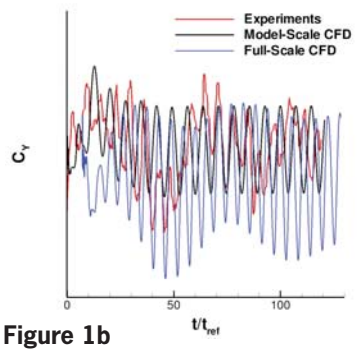


Figure 1b

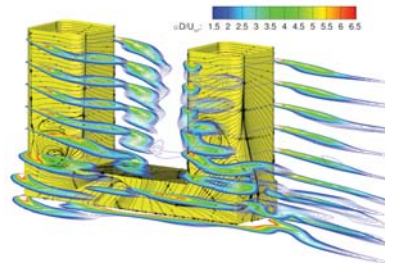


Figure 1c

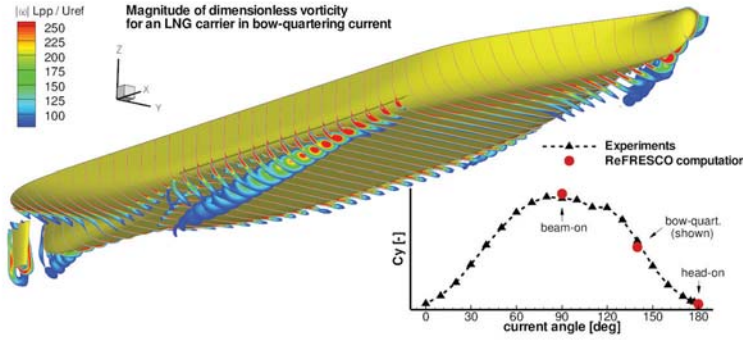


Figure 2: Impression of vorticity distribution around the hull of an LNG carrier in bow-quartering current; Cy coefficient (red) calculated with ReFRESCO compared with tow experiments (black).

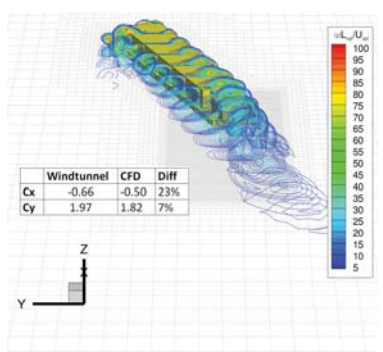


Figure 3a: Solution of magnitude of dimensionless vorticity for an FPSO at 30 degrees with respect to the main flow direction. Results obtained with ReFRESCO on unstructured Hexpress grid. Flow is from top to bottom.

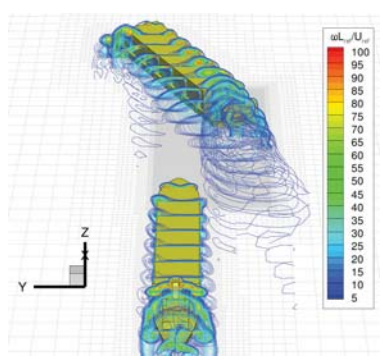


Figure 3b: Solution of magnitude of dimensionless vorticity for tandem offloading configuration. Results obtained with ReFRESCO on unstructured Hexpress grid. Flow is from top to bottom.

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Americans with Disability Act

Do your Vessels Conform?

About the Author

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The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. Although passenger vessels are not specifically mentioned in the legislation, it soon became apparent that they were within the ambit of public accommodation and services operated by private entities that are clearly covered by the ADA. It was also apparent that the details on how to apply the ADA to passenger vessels were going to be complex. Unlike the road and rail transport sectors, vessels must maintain seaworthiness and meet conditions totally unknown ashore.

Primary responsibility for implementation of the ADA as it relates to the transport sector fell to the Department of Transportation (DOT). For many of the details, DOT has deferred to the Architectural and Transportation Barriers Compliance Board (popularly known as the Access Board). This independent agency was established in 1973 to ensure reasonable access to federally-funded facilities. With the enactment of the ADA, the Access Board was charged with developing and issuing guidelines to supplement the statute and make the accessibility standards more specific and enforceable.

The Board quickly developed accessibility guidelines for transportation vehicles, but specifically omitted from inclusion therein any accessibility guidelines for passenger vessels. In 1998, it convened the Passenger Vessel Access Advisory Committee to assist in development of proposed accessibility guidelines for covered passenger vessels. The Advisory Committee submitted its report in December 2000, addressing such topics as onboard accessible routes, egress, emergency alarms, toilet and bathing, drinking fountains, lodging, and vehicle parking. The Board utilized that report to develop separate draft guidelines for large and small passenger vessels. For this purpose, a large passenger vessel was defined as a vessel permitted to carry more than 150 passengers or more than 49 overnight passengers. In addition, the definition includes all ferries regardless of size and passenger capacity and certain tenders which carry 60 or more passengers. These Access Board guidelines have yet to be finalized.

Meanwhile, the DOT has been working to actually implement the ADA for passenger vessels. It sought public comment on a number of basic conceptual issues in 2004. The Department proposed regulations on service and policy issues in 2007. On July 6, 2010, DOT promulgated its final rule concerning application of nondiscrimination service and policy issues to United States passenger vessels and to foreign passenger vessels that embark or disembark passengers in the United States. The regulation comes into effect on November 3, 2010. The Department has reserved for the future any vessel accessibility standards, awaiting finalization of the Access Board guidelines. It intends to follow those guidelines when issued. The regulation does not apply to private entities not primarily engaged in the business of transporting people, thus exempting nu-

merous small entities that transport people as an ancillary activity to their primary business.

The Department is seeking comment on three related issues: (1) emotional support animals; (2) mobility aids; and (3) the relationship between these rules and general ADA rules promulgated by the Department of Justice. Comments on these issues should be submitted by October 4, 2010.

The owners and operators of covered vessels will be required to make reasonable modifications of otherwise acceptable general policies where doing so is necessary to accommodate the needs of a particular individual or category of individuals with a disability. Such modification is required unless that modification would require a fundamental alteration in the nature of the vessel's services, facilities, etc.

Any policy or action prohibiting a person with a disability from being transported on or otherwise utilizing a covered passenger vessel will be viewed by the Department as discriminatory on its face.

Only if there is a genuine safety issue, meeting the stringent criteria outlined in the regulation will an owner/operator be justified in excluding a person because that person has a disability.

Even in that case, the owner/operator must provide a written or email explanation within ten days of the denial of service. The rule does not, though, require the owner/operator to do the physically impossible. For example, if the vessel has entries or corridors that are 30 inches wide, the owner/operator may deny service to a disabled person using a mobility device that is 36 inches wide.

The owner/operator may not require a person to provide advance notice simply that he or she is planning to travel, just because he or she has a disability. The vessel's nondiscriminatory policies are to be in place beforehand. An owner/operator, though, may suggest that passengers with disabilities self-disclose the need for special privileges or services.

The Department regards requiring a passenger with a disability to travel with another person, just because that person has a disability, as discriminatory on its face. Crew members, though, are not required to assist passengers with personal functions such as eating, dressing, or toileting. Passengers who need such assistance will be expected to travel with a companion who can provide such functions.

Price discrimination is strictly forbidden. The owner/operator may not charge higher fares to passengers with disabilities than to other passengers and may not impose surcharges on such passengers for facilities, equipment, accommodations, or services that must be provided to a person because he or she has a disability.

The owner/operator must be able to effectively communicate with passengers with disabilities, through the use of auxiliary aides or services where needed. Fundamental alterations to the vessel, though, are not required. The owner/operator is also required to inform persons with disabilities, accurately and in detail, if the vessel is not able to be made accessible to people with mobility impairments or if some ports may not be usable by persons with some disabilities. Finally, landside facilities owned, leased, or controlled by the vessel owner/operator must comply with the same ADA obligations as apply to other types of transportation facilities.

Because passenger vessels are in a service industry, many owners/operators have already adopted service and policy standards that are consistent with the new DOT regulations. All owners and operators of covered passenger vessels should, though, take this opportunity to examine their practices to ensure conformity to these requirements.

While there is no requirement that these service and policy standards be in writing, the use of written standards is highly recommended as a means of establishing consistency among employees and crew members and as evidence that a compliance policy was in effect in the event of a challenge.

Evaluating the

Floating Production Market

2010-2015

By Lucy Miller, Douglas-Westwood Ltd

Introduction & market overview

Over the next few years, Douglas-Westwood forecasts a strong increase in FPS expenditure, driven by a surge in installations. Findings from the latest edition of our World Floating Production Market Report indicate that more than 100 Floating Production Systems (FPSs) will be installed worldwide over the next five years. This represents a total global value of approximately $45 billion and around a 20% increase on the previous five years.

It is worth noting upfront that, following the Deepwater Horizon explosion and oil spill, President Obama has announced a ban on drilling in deepwaters (in depths greater 500 feet) by floating semi-submersible drilling rigs and drillships currently operating in the region. This will ultimately lead to a delay in the development of current and future offshore reserves.

However, at this time we do not believe that the ban will affect any of the North American FPS projects forecast to come onstream during the 2010-2014 period.

To date, Latin America has seen the greatest number of FPS installations and its forecast market share is equivalent to almost a third of global FPS Capex over the period. The region's importance is almost entirely due to the wave of deepwater projects in the Santos and Campos Basins off Brazil moving forward development in the next five years. Together, Africa, Asia and Latin America account for almost two-thirds of the units forecast for installation over the next five years. Asia is forecast for 23 installations, but only accounts for 12% of the expenditure as a number of the planned installations are redeployments which only require minimal Capex for upgrades. The relatively benign environments and shallow waters in which most of the FPS prospects in the region are located also allow cheaper FPS solutions to be adopted. In the Western Europe region, despite the fact that many of the producing areas are now considered mature and significant new finds are becoming less frequent, there are still considerable development opportunities – with 18 planned installations.

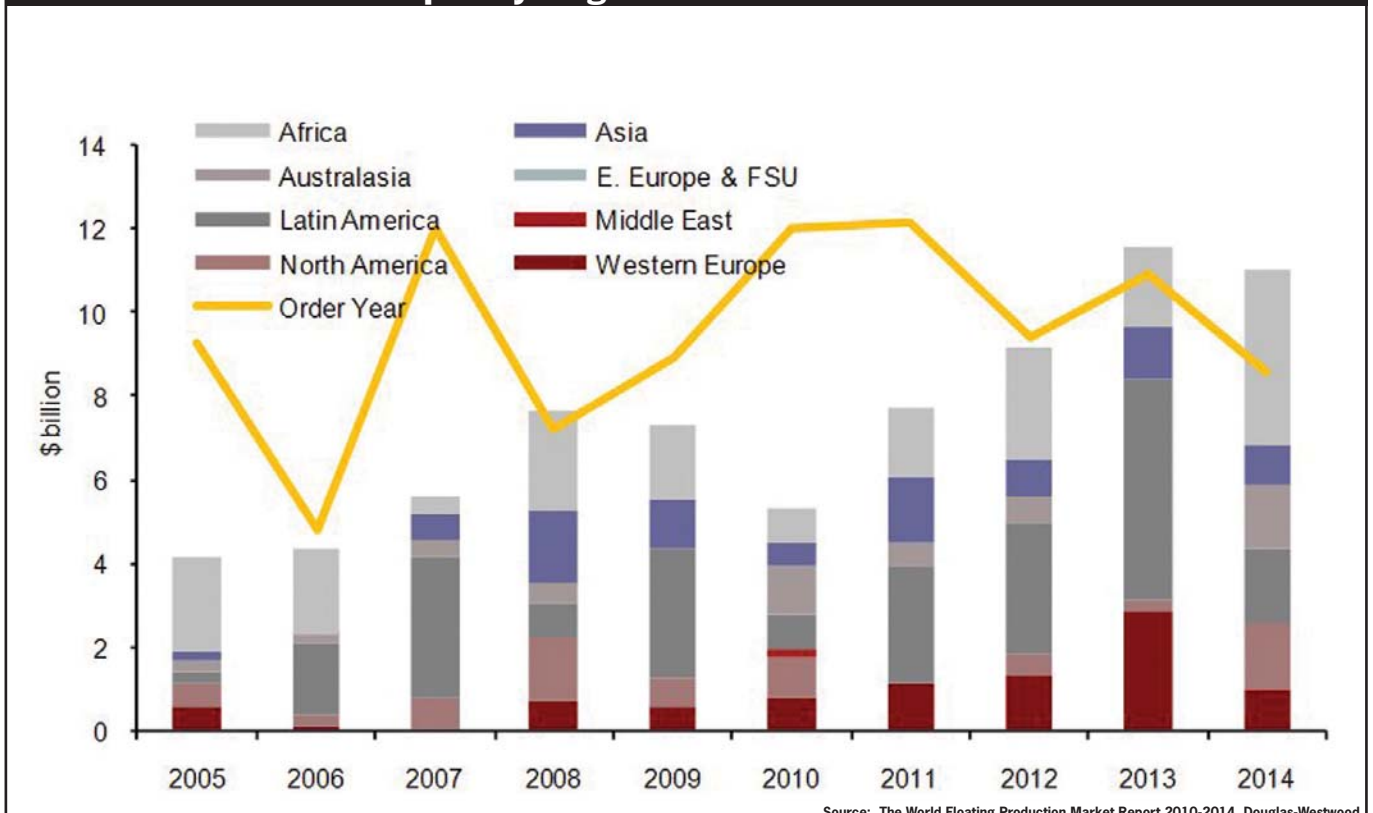
Global FPS fleet

In terms of vessel type, FPSOs dominate the global floating production scene. As of year-end 2009, there had been more than 220 FPSO deployments worldwide – almost double all the other floating production systems (semi-submersible FPSs, TLPs and Spars) put together. There are currently more than 150 FPSOs in operation. Africa and Asia have the largest fleets, followed by Latin America. It's not surprising, therefore, that FPSOs represent by far the largest segment of the market, accounting for close to four-fifths of the total FPS forecast Capex. TLPs and semi-submersible FPSs form the next-largest segments around 10% of the market each (with Spars make up the remainder).

FPSSs have a long history and have proved particularly popular off Brazil where the national operator, Petrobras, has embraced FPS technology as a means of developing the country's extensive deepwater reserves. There have been more than 80 FPSS installations worldwide; many of these were short-term deployments for early production or well testing purposes.

TLPs, and more recently Spars, have proved the production system of choice in the US Gulf of Mexico. More than half the TLP installations to date and all but one of the spars have been associated with deepwater developments in the US Gulf. Recent years have seen the introduction of smaller, less expensive designs to enable the exploitation of marginal fields. However, the progression into ultra-deep waters in this region is now working in favour of FPSO solutions (with operators such as Petrobras bringing extensive FPSO experience) and against TLP designs, which are less feasible in ultra-deep waters.

Global FPS Installation Capex by Region 2005-2014



Source: The World Floating Production Market Report 2010-2014, Douglas-Westwood

In terms of vessel type, FPSOs dominate the global floating production scene. As of year-end 2009, there had been more than 220 FPSO deployments worldwide – almost double all the other floating production systems (semi-submersible FPSs, TLPs and Spars) put together.

Market Drivers

• *Growing emphasis on 'fast-track' and/or phased developments.*

The fast-track approach is designed to ensure a swift start to a project's revenue stream, but the scope of these projects and consequently the work load associated with them tends to be greater than for more traditional Early Production Schemes (EPSs). In contrast to EPSs early production schemes, which are usually hosted by redeployed floaters that have undergone minor upgrades to adapt them for the project in question, fast-track projects typically feature a vessel conversion with a relatively large topsides capacity allowing a more extensive field development than envisaged under the EPS approach. Once the fast-track project is up and running, production capacity can be augmented in subsequent phases by expanding the topsides equipment on the original vessel, or by deploying a larger replacement vessel and/or additional FPSs in support.

• *Subsea Production Technologies*

It can be said without exaggeration that the emergence of subsea production technology has revolutionised the oil and gas industry's offshore activities. The subsea sector has developed at a remarkable pace in recent years enabling the economic development not just of fields on the continental shelf but also in the deeper waters further offshore. The growing adoption of subsea production technology runs very much in parallel with the expansion of the global FPS fleet and the growth in deepwater production and the trends are in many ways mutually reinforcing.

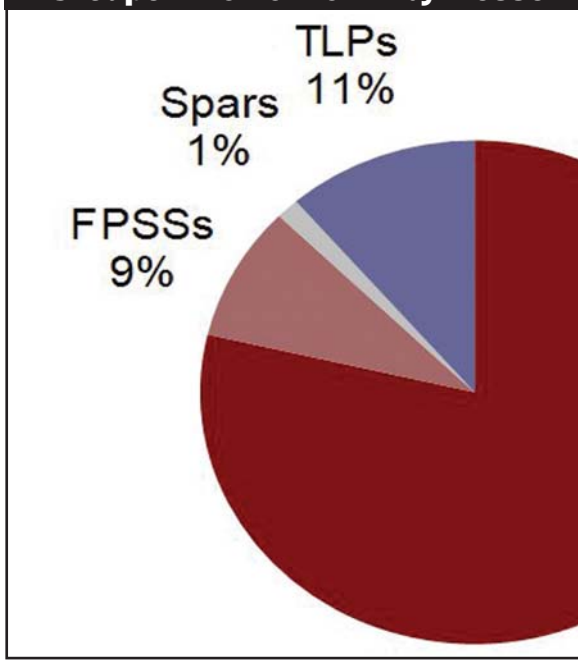
The Move into Deepwater

For obvious practical reasons, the hydrocarbon potential of deep waters has historically received relatively little attention compared to that in continental shelf areas. However, as shallow-water opportunities become increasingly scarce, the development of deepwater reserves will accelerate rapidly. For fields in deepwater, floating production systems are the development method of choice since the use of fixed platforms will tend not to be feasible on technical and/or economic grounds. The costs of the jacket structure that supports the deck of a fixed platform are strongly correlated with water depth, so as water depths increase, greater production rates are required to ensure economic viability. Once the WD 400m mark is passed, conventional fixed platforms become technically impractical and unstable. Although a compliant tower platform – with a jacket designed to sway slightly under wave action – may be used, fabrication costs remain high and installation becomes increasingly complex.

Exploitation of marginal fields

Floating production systems have long been used to develop marginal fields.

FPS Capex 2010-2014 by Vessel T



FPSO vessels and semi-submersible FPS platforms are the candidates of choice for marginal projects. An example of a marginal project made viable through the use of an FPS is Statoil's Glitne project in the Norwegian sector of the North Sea. The field, in WD 109m, was thought to have reserves of just 32 mmbbl oil and 10 Bcf gas. A leased FPSO – the Petrojarl I – was selected for the project. Developed via four subsea production wells and one injector, Glitne is the smallest field on the Norwegian shelf ever brought into production on a stand-alone basis.

Innovations

Given the high financial stakes involved in FPS-led projects, there is a natural tendency for operators to play it safe and stick with proven FPS designs rather than investing in a promising but untried concept. Unfortunately – from the point of view of the concept originators, at least – this tendency may actually be reinforced in these key areas of deepwater and marginal projects where, because of their relatively high risks and/or limited rewards, there is even less room for error. Hence, it is usually the smaller, independent operators (who are by default risk-taking entrepreneurs) that select an innovative design rather than the larger multi-national operators.

To date, the majority of FPS developments worldwide have been either semi-submersible FPSs, based on converted semi-submersible drilling rigs, or oil tankers converted into FPSOs. In technical terms this is more evolutionary than innovative, and evolution generally carries less business risk than innovation. It is only relatively recently that other more innovative concepts – notably TLPs and spars – have become more common. Once a new design gets accepted and successfully deployed, uptake of the idea can be fairly swift – as evidenced by the wave of spar projects currently moving forward in the GoM. The danger for concept originators is that the acceptance and deployment of a rival FPS solution may result in the exclusion of other concepts targeting the same niche market (e.g. marginal fields off West Africa) on account of operators' understandable preference for field-proven technology. More detailed analysis of the global Floating Production market is available in Douglas-Westwood's, 'World Floating Production Market Report 2010-2014.'

The Authors

Established in 1990, Douglas-Westwood is an independent employee-owned company and the leading provider of business research & analysis, strategy and commercial due diligence on the global energy services sectors. Further information is available at www.dw-1.com. Contact:
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Type

Source: The World Floating Production Market Report 2010-2014, Douglas-Westwood

The Electric Ship

A look inside of a Luxury Diesel-Electric River Cruise Ship

The latest newbuilding vessel of Viking River Cruises is Mv Viking Legend. The luxury vessel is the first "green" diesel-electric river cruise vessel in the fast growing fleet of the successful river cruise line. ***Henrik Segercrantz*** *reports.*

Viking River Cruises is one of the world's leading river cruise company. Established in 1997, the Swiss company today has a fleet of 18 vessels, doing river cruises in Europe, Russia, Ukraine, China and Egypt. The company is currently heavily expanding its fleet of vessels, with eight newbuildings and two large refurbishments planned, for a total of $250 million, to be delivered between 2011 and 2014.

"Over the past decade, Viking has established river cruising as a mainstream means of travel. At the same time, we believe that river cruising is still in its infancy, and has tremendous growth potential," Torstein Hagen, Chairman of Viking River Cruises, said when announcing the newbuilding program in late May. The company initiated marketing in North America in year 2000. Viking River Cruises has a tradition of setting the standard in the industry, and has won many awards for its services.

Last year, in the beginning of July, the company took delivery of its largest vessel to date, the company's flagship Viking Legend, the industry's first "green" river cruise vessel. The next vessel to be delivered, in June 2011 is Viking Prestige, a sistership, intended also for the European market. Viking Prestige will be built by the Neptun Shipyard in Rostock, Germany, part of the Meyer Neptun Group. This vessel is to be followed, also in 2011, by Viking Emerald, with 132 staterooms with balcony, to be built in Chongquing for operation in China, and by two new vessels for each season in 2012, 2013 and 2014. At the Neptun Shipyard there are also an option for two additional sisterships, for delivery in spring 2012.

Mv Viking Legend, the flagship

Viking River Cruises AG placed its order for the first diesel-electric newbuilding at SET Tangermünde mbH, a yard placed at the cross points of rivers

Mv Viking Legend features cutting-edge technology and the largest suites on European river cruise ships. The vessel is certified under new EU guidelines regulating greenhouse gas emissions.

(Photograph Courtesy Schiffstechnik Buchloh)

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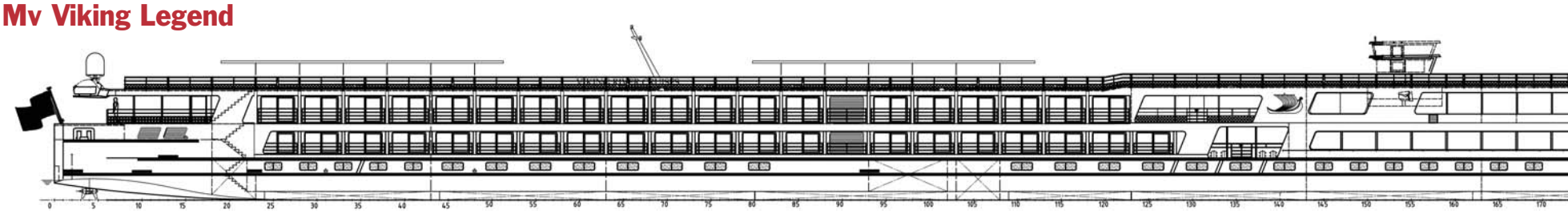
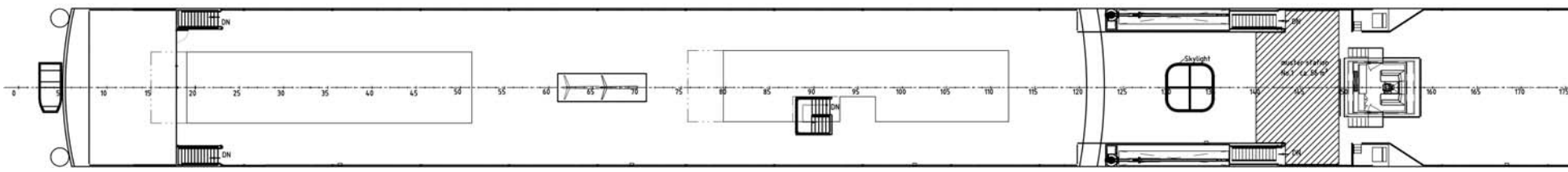
Tanger and Elbe in Germany. Engineering consultant Schiffstechnik Buchloh was responsible for the ship design and project development. Maritime Reporter talks to Peter Andersen, Managing Director at another consulting company, Germany-based e-powered marine solutions GmbH & Co. KG (e-ms), which developed and realized the integrated diesel-electric network and propulsion system of the vessel. "Minimizing the sources for noise and vibrations as well as implementing a highly efficient power supply and drive system were the major focal points during project planning and development for this vessel," Andersen points out. Some two years before delivery Viking River Cruises decided to order the world's first diesel-electric driven river cruise vessel, which is also one of the largest vessels of its type in Europe. The decision was based on a comparative study, made by e-ms. "The study convinced the owner that only the innovative diesel-electric network and propulsion solution, developed and engineered by us, would fulfil the various requirements regarding efficiency, redundancy, space

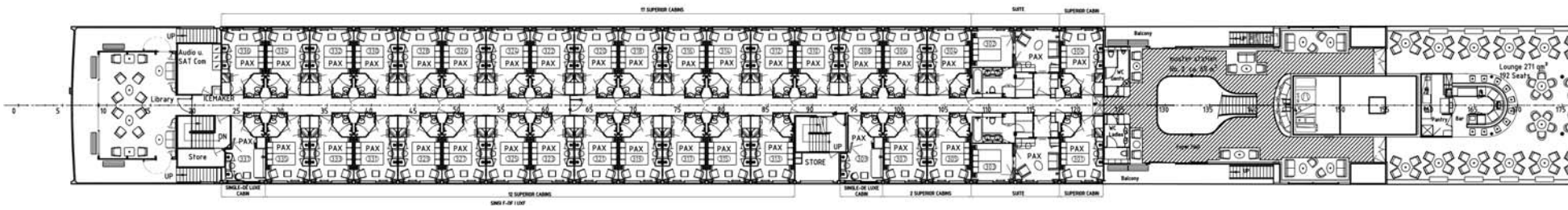
Mv Viking Legend



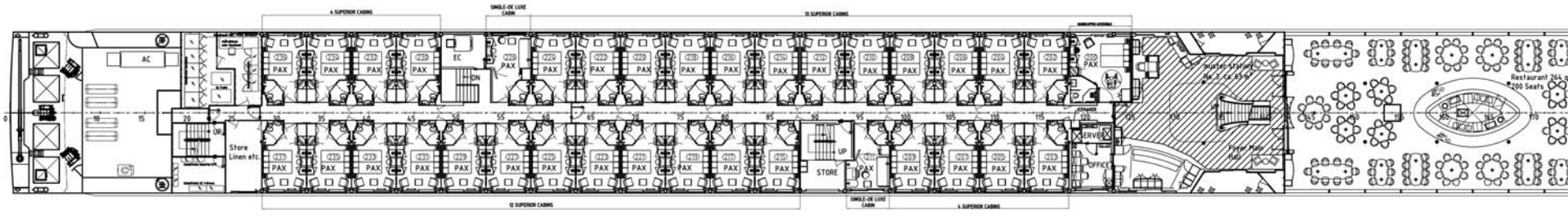
Sun Deck



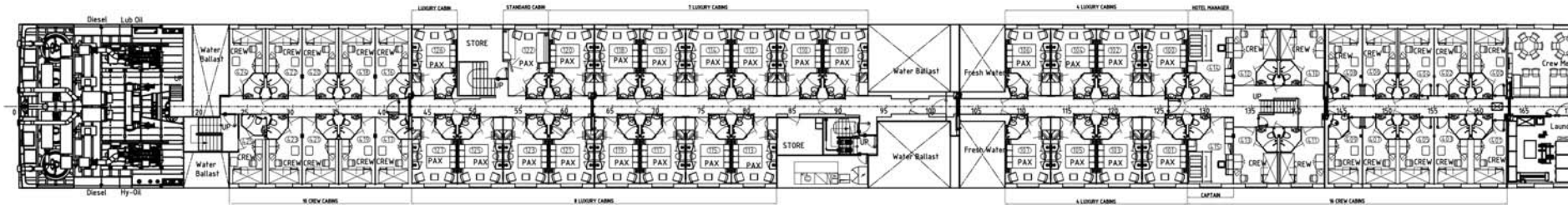
Upper Deck



Middle Deck



Main Deck



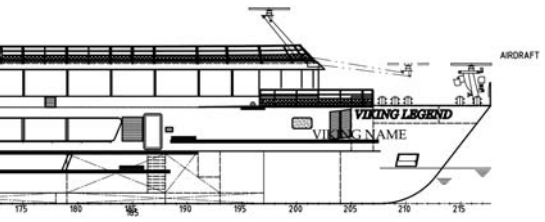
(Courtesy Schiffstechnik Buchloh)

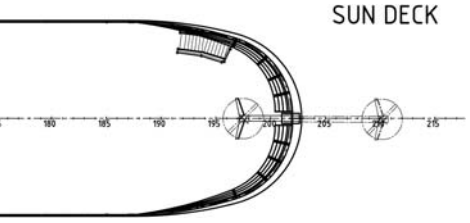
consumption, noise and vibrations," Andersen said. "Actually, during the final sea trials, the system proved what was promised in the beginning and measurements showed that the level of structure-borne noise and vibrations in all passenger cabins is even significantly lower than expected."

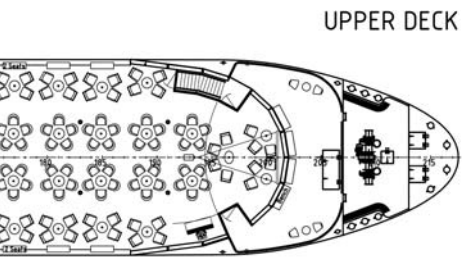
General layout of Viking Legend

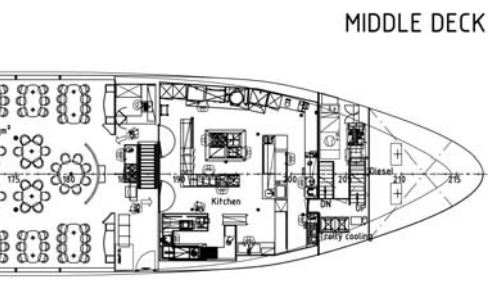
With a length of 135m (443 ft) the Viking Legend is the longest in the Viking fleet. The vessel is 11.45m (37.5 ft) wide. The design draft of the vessel is 1.59m (5.21ft) and displacement some 2.500t. The vessel features some interesting technology, and has also the largest river cruise suites in Europe.

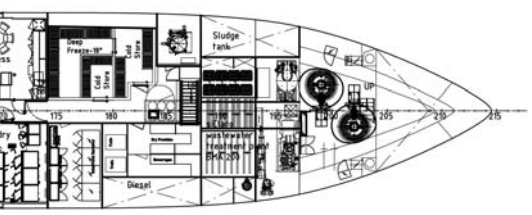
Viking Legend features two 310 sq.ft (28.8 sq.m.) suites, with a separate day-room, providing "the finest service level anywhere a for suite guests," according to the owner. As most of the staterooms onboard, the Suites feature French balconies, with a sliding glass door. Suite guests are provided with complimentary room service, with in-room dining available during all mealtimes, if so preferred.

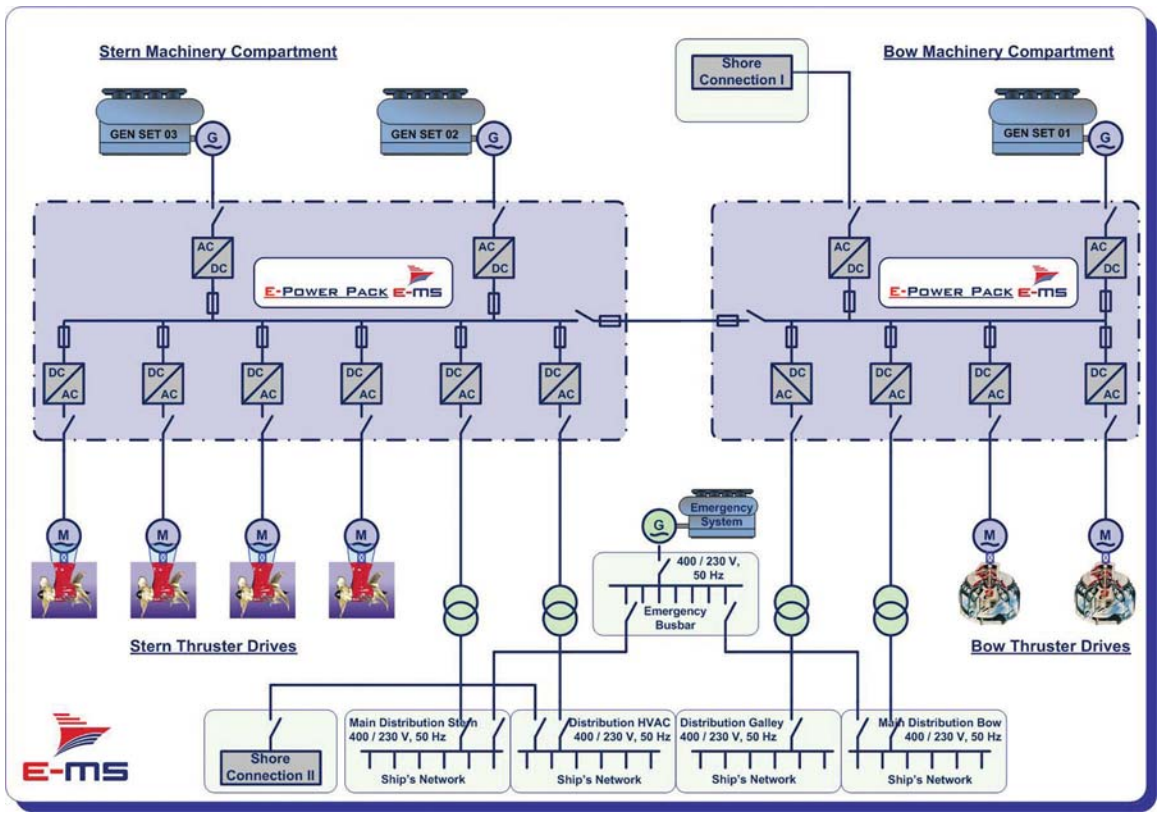












At any given moment the ship's energy needs are automatically calculated and the diesel engines produce and supply only as much energy as needed. This allows the ship to use 20% less energy than a comparable ship.

Single Line Diagram. The innovative diesel-electric machinery uses an estimated 20% less fuel than comparable diesel-only ships, and also provides a quiet ride.

Viking Legend can accommodate, in all, 189 guests in 98 luxury staterooms, all equipped with 26 inch flat-screen television, refrigerator, etc.. Aboard Viking Legend, guests can enjoy fine dining in the ship's restaurant, featuring seasonal menus and local specialties to complement the destinations, a cozy library, a sun deck, a souvenir shop and an observation lounge.

The vessel has three passenger decks. On the lowest Main Deck there are 25 staterooms, all fitted with windows. The category D and E deluxe stateroom have a size of 155 sq.ft. (14.4sq.m.), and category CS single stateroom is of 134 sq.ft. (12.5sq.m.). Forward on that deck is the crew accommodation, crew mess and dayroom as well as the Bow machinery compartment with one diesel generator, emergency generator and bow jet thrusters, the engine control room, and some other technical spaces. Aft is the Stern machinery compartment with two diesel generators and the four Z-drive propulsion units, and midships there are the fuel etc. tanks. On the Middle Deck above, the galley is placed forward, with the Restaurant behind. It seats 189 guests at 29 tables. The dining room has open seating. Behind is the Atrium/Reception lobby, also featuring an onboard boutique and a Grand Staircase to the Upper lobby. Behind are 35 staterooms of mainly category B and C, with a size of 155 sq.ft and equipped with French balconies. On the deck above, the Upper Deck, there are in all 37 staterooms, including the two largest suites. Some 33 staterooms are of 155 sq.ft. category A. Aft on that deck is the Library, also fitted with tables for cards and games. Forward, above the Restaurant, is the large Observation lounge/Bar, fitted with a dance floor, and an open seating area forward. Behind is the upper part of the grand atrium, featuring a spacious seating area with large panoramic windows. This area has a 24-hour tea and coffee station. The open deck above, the Sun Deck, is fitted with deck chairs. From here there is access to the bridge, placed one quarter ship's length aft from the bow. The Sun Deck can be accessed from the library and the atrium. Viking River Cruises itineraries are all-inclusive. The cruise fare covers accommodations, all onboard meals, shore excursions each day and cultural activities such as lectures, discussions, and workshops, and local food and wine tastings. If air tickets are purchased through Viking River Cruises, transfers are included as well.

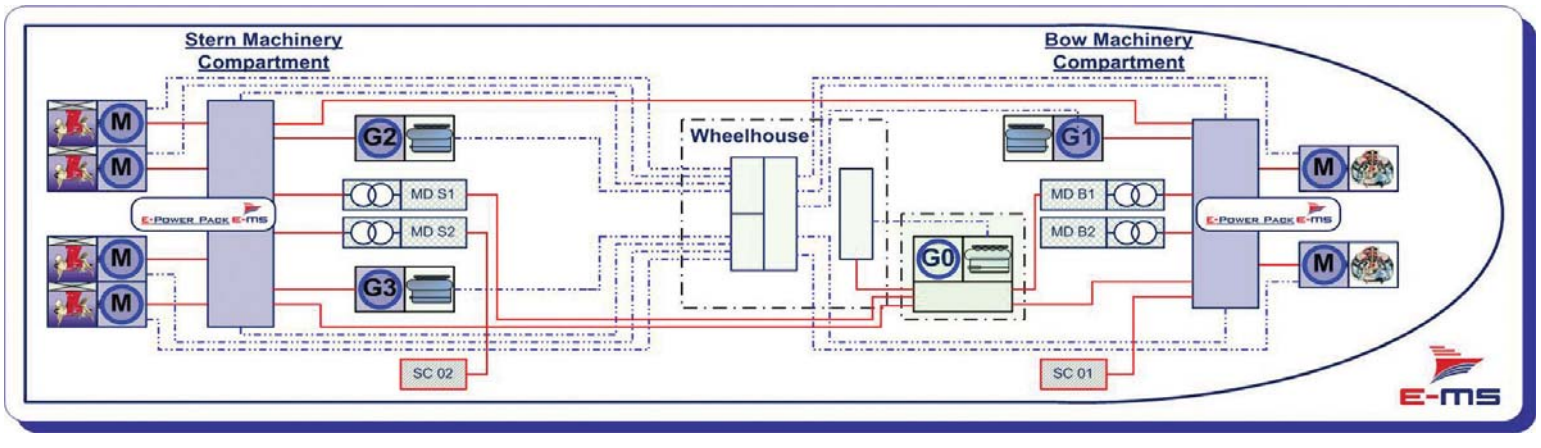
There are 49 crew members onboard the vessel, and the total capacity is 239 persons.

Innovative diesel-electric machinery configuration

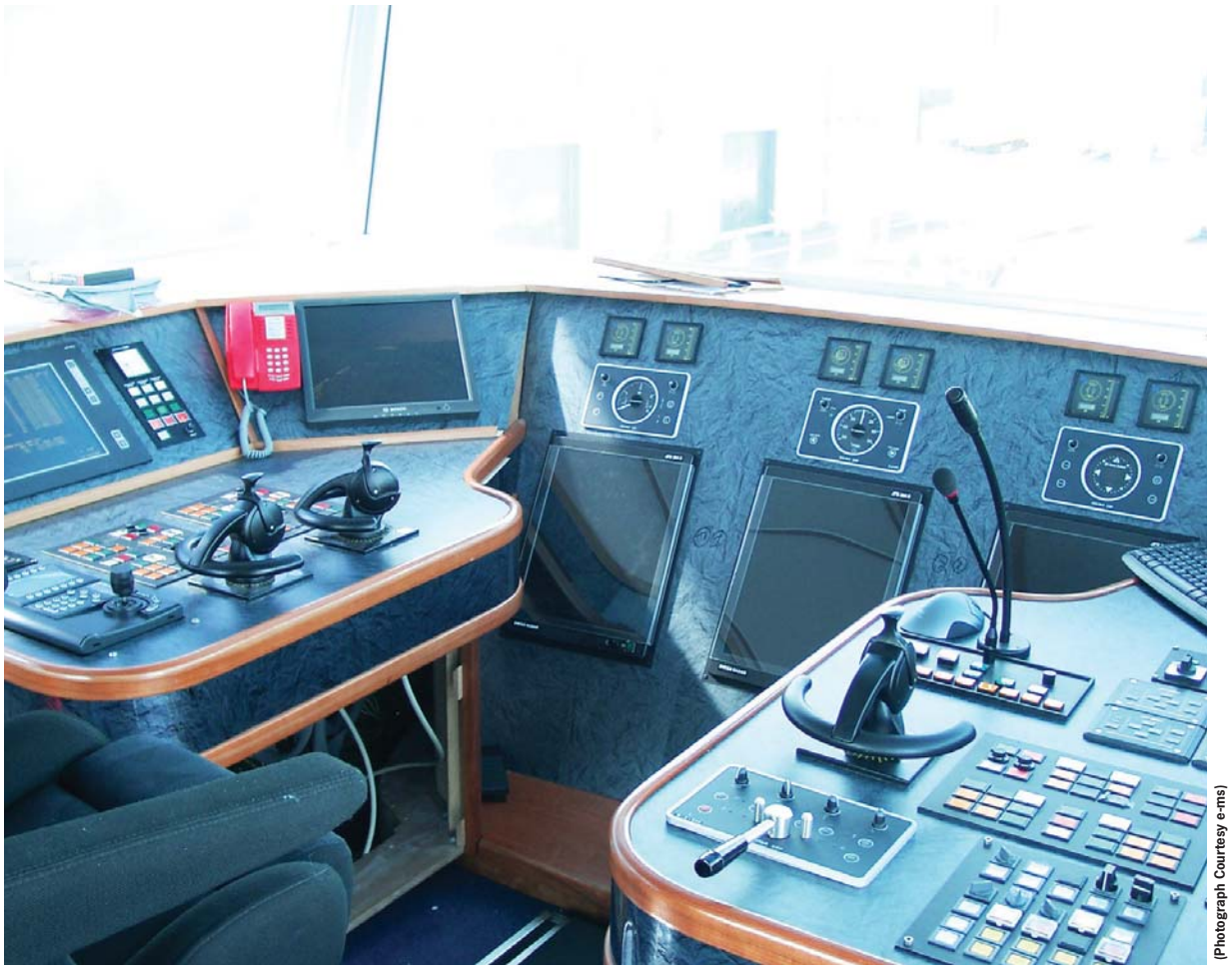
Viking Legend is powered by an innovative diesel-electric machinery and propulsion system, designed in line with the latest European rules and regulations for river cruise vessels and the technical requirements of the classification society Germanischer Lloyd.

Viking Legend is the first river cruise vessel in the world that is equipped with an integrated propulsion and network system, based solely on inverter-driven asynchronous generators and propulsion motors.

The system uses Vacon's variable-speed liquid-cooled (frequency converter) drives, and asynchronous alternators and diesel engines manufactured by AEM Dessau GmbH in Germany.



System overview.



Wheelhouse console.

(Photograph Courtesy e-ms)

Providing electrical power for propulsion system and the ship's network are three diesel alternator-sets, two placed aft and one forward. The diesel-alternators aft consist of two 1,000kW diesel-alternators. Forward is a smaller AEM engine driving a 560kW alternator.

The innovative diesel-electric network consists of IGBT (insulated gate bipolar transistor) inverters transforming the electrical power supplied by the alternators into DC voltage for the common DC bus. Again using IGBT inverters, the DC power is transformed into AC electricity to provide power to the drives and all other electrical consumers. "A highly dynamical control system handles the coordination of all IGBT inverters so that neither braking resistors nor other similar dumping devices are necessary," Andersen explains. IGBT inverters make it possible to use simple and cost efficient asynchronous alternators instead of more complex synchronous alternators, also simplifying and speeding up their control. This system design also restrains harmonic distortion, which can be a problem in conventional system setups with variable speed drives. The diesel alternators do not need to be synchronized with each other or with the ship's network. All the inverters, the switch boards as well as the power supply to the ship's network is combined into a compact integrated system reducing space and costs for cabling and installation.

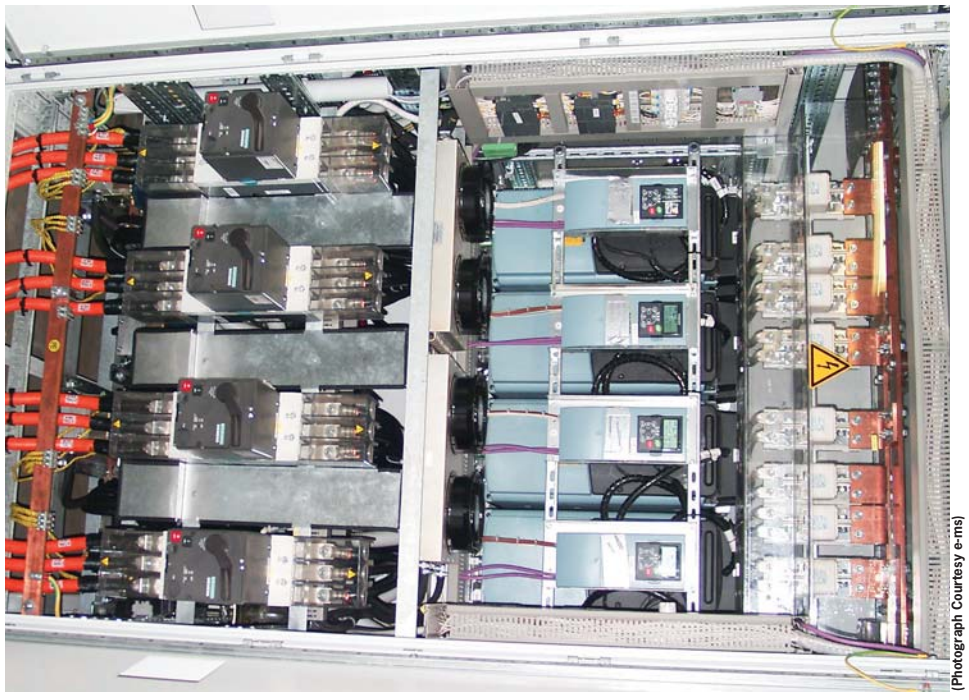
The main propulsion system consists of four electrically driven twin screw rudder-propellers supplied by Schottel. Each unit is driven through a Z-drive by an electrical motor supplied by AEM, with a power of 330kW, controlled by Vacon's variable-speed liquid-cooled (frequency converter) drives. The total propulsion power aft is 1,320kW. Forward there are two electrically driven pump-jets, which under normal operation are utilized as bow thrusters, but can in an emergency be individually operated as a propulsion system. The pump jets are each driven by a 300kW AEM electrical motor. The electrical power supply network for the consumers onboard total 800kW. All Vacon AC frequency converter drives are connected to a common DC bus with load balancing.

In case of a partial blackout Viking Legend will achieve the required minimum speed of 7 km/h only using the two pump-jet drives of the emergency drive system. Despite its dimensions and big displacement, the vessel's maximum speed of more than 21 km/h, some 11.3 knots, is achieved at a comparatively low propulsion power of 1.200kW. "Existing river cruise vessels of comparable dimensions and displacement, but with conventional drive systems require 1.600 to 1.800kW installed propulsion power," Andersen claims. As the vessel is fitted with four smaller diameter twin-

Viking Legend is the first river cruise vessel in the world that is equipped with an integrated propulsion and network system, based solely on inverter-driven asynchronous generators and propulsion motors.

(Photograph Courtesy e-ms)

Vacon variable-speed liquid-cooled drives for the three main alternators.



(Photograph Courtesy e-ms)

The inverters of the stern drives.

propeller thrusters instead of one or two large propellers, typical on other similar vessels, the power load per propeller blade area is smaller, resulting in a higher efficiency. Forward is also the emergency alternator, a 90 kW unit. With its novel diesel-electric propulsion and thruster system the manoeuvrability of the 135-meter-vessel is very good.

According to the owner, the innovative power supply and drive system requires less diesel engines compared to a conventional system with several dedicated diesel engines for propulsion and generation of electricity. This reduces not only the number of pistons installed but also the amount of necessary auxiliary units such as fuel oil - and lubrication oil systems.

At any given moment the ship's energy needs are automatically calculated and the diesel engines produce and supply only as much energy as needed. This allows the ship to use 20% less energy than a comparable ship. Only two diesel-alternator sets are normally sufficient to provide the propulsion power and electricity onboard. The arrangement provides sufficient power to continue cruising when one engine is taken offline for scheduled maintenance. During port stays it is possible to supply the vessel from the land grid through a shore power connection.

The new ship provides a quieter ride for the guests. Both engine rooms are particularly well insulated to reduce noise. As the diesel engines in a diesel-electric configuration are always operating at the same constant speed, very efficient vibration absorbers optimized for that exact constant operating speed, could be fitted, further reducing vibrations and noise.

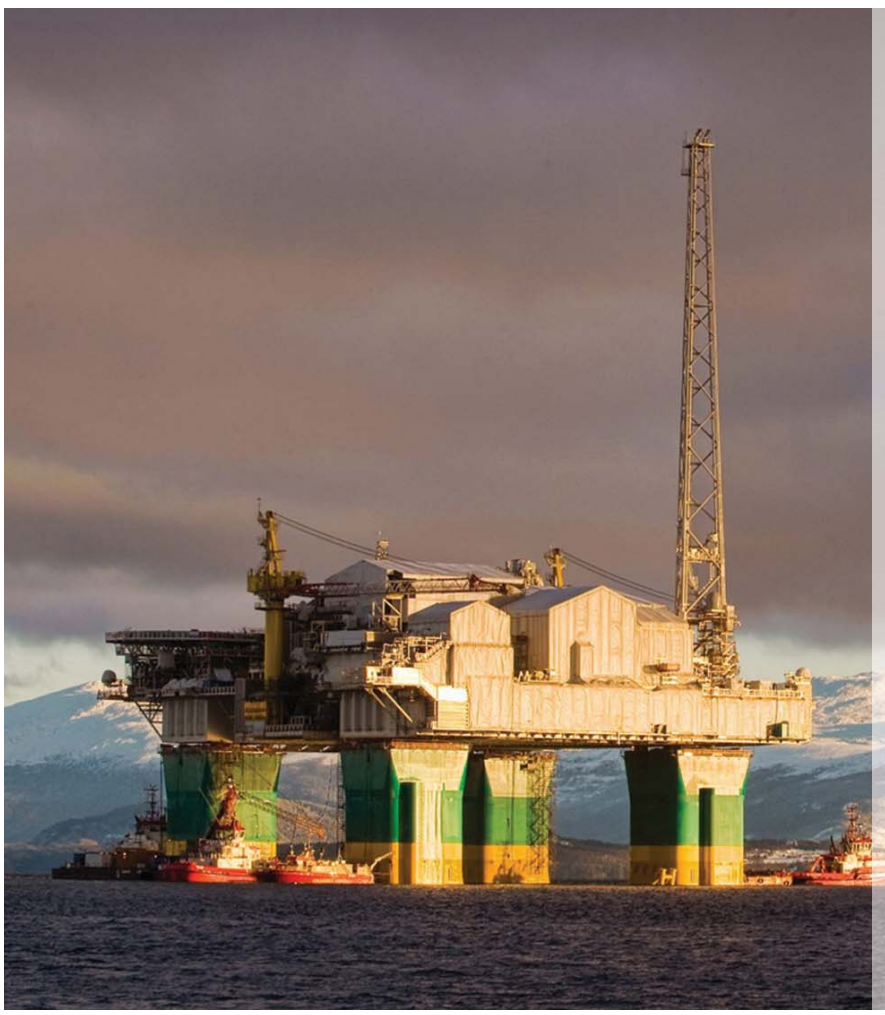
"We think that this innovative diesel-electric network and propulsion solution can be provided for all types of low voltage drives on board yachts, offshore service vessels and inland waterway vessels. The current limitation of the system is about 2x4MW shaft power." Andersen notes. The sistership Viking Prestige will receive an identical machinery network configuration and propulsion system from e-powered marine solutions (e-ms).

When delivered, Viking Legend joined the fleet operating on Viking River Cruises' Grand European Tour, the line's most popular 15-day itinerary across Europe, along the Rhine, Main and Danube Rivers between Amsterdam and Budapest. This year, Viking Legend has four different itineraries, including also a 10-day Tulips & Windmills program through Holland and Belgium.

"As an innovator, we focus on the future, pushing ourselves to an ever-higher level in every aspect of what we do," Hagen points out, noting that "this industry will continue its double-digit growth for years to come." Earlier, in 2008, he said that river cruising had grown more than three times faster than ocean cruising, at a rate of 23.4% versus 7.7%, for the past several years. With an aggressive marketing program, providing discounts for ocean cruise passengers, the expansion program of Viking River Cruises is bound to succeed.

Viking Legend, main particulars

Owner:	Viking River Cruises AG
Length:	135m (443 ft)
Breadth:	11.5 m (37.5 ft)
Draft, design:	1.59m (5.21ft)
Displacement, approx.	2,500 tons
Passenger staterooms:	98 luxury staterooms
Passenger capacity:	189
Crew:	49
Crew cabins:	28
Total capacity:	239 persons
Machinery:	Diesel-electric machinery
	Diesel-alternators: 2x1.000 kW, 1x560 kW
	supplied by AEM motors, with Vacon AC drives
Propulsion, stern:	1,320 kW
	(4 x 330 kW SP200 Schottel twin screw rudder- propellers)
Emergency propulsion, bow:	600 kW
	(2 x 300 kW SPJ 82 RD Schottel jet-drives)
Shipyard:	SET Tangermünde mbH
Classification:	Germanisher Lloyd
Ship design and project development:	Schiffstechnik Buchloh
Integrated diesel-electric network and propulsion system design:	e-ms GmbH & Co. KG



(Photo: Tommy Solstad/Statoil)

Gjøa gets connected

On July 11 Statoil switched on the power, making Gjøa Norway's first floating platform to get electricity from the mainland. "This is a good example of how Statoil can play a part in solving some of the climate challenges in collaboration with the supplies industry," said Bjørn Midttun, head of subsea installations, pipelines and marine operations on the Gjøa field. Statoil had considered supplying the platform with electricity from the mainland, right from the start of the Gjøa project. And the world's longest alternating current cable to be installed in one piece and with such high voltage is now a reality. The electricity comes from Statoil's Mongstad facility, north of Bergen, which provides very good security of supply for Gjøa. Present calculations show that Statoil will avoid 210,000 tons of carbon dioxide (CO2) emissions per year by providing the Gjøa platform with power from shore. The alternative would have been a traditional solution using gas turbines on the platform as electricity generators. Statoil and the contractor ABB have worked together for several years to develop a technology which makes it possible to replace the gas turbines on board a floating platform with a power cable from land.

New technology

The platform will require a maximum of 40 MW of electricity from land. The 90,000-volt cable is 100 km long. It comprises a static and a flexible part. Running between the seabed and the floating platform, the flexible part of the cable has been the biggest challenge. The necessary technology did not exist before and had to be developed through the Gjøa project. "Developing and adopting new technology is our most important measure for reducing the environmental impact of our operations," said Midttun. Statoil has been the operator for Gjøa in the development phase. In the fourth quarter of 2010 GdF Suez takes over the production phase as its first operatorship for a field on the Norwegian continental shelf (NCS).

Avtron Helps Upgrade USCG Icebreaker

The U.S. Coast Guard awarded Avtron Industrial Automation a contract to upgrade the main propulsion system on its fleet of 9 WTGB Ice Breaking Tugs with the Avtron ADD-32 DMG Drive System. To date, Avtron has upgraded the electrical propulsion system for the Neah Bay in Cleveland, OH, the Bristol Bay in Detroit, MI, and now the Penobscot Bay in Bayonne, NJ. The WTGBs are 140-ft. diesel-electric vessels which operate on the Great Lakes and the Northeastern U.S. Based on previous successful Avtron drive projects with the 175-ft. WLM Buoy Tenders and 240-ft. WLBB Mackinaw, the U. S. Coast Guard chose Avtron for the WTGB-class tugs. Over the next three years, Avtron will provide new Avtron DMG motor and generator field supplies, PLC, metering, and updated bridge controls for the U. S. Coast Guard's entire WTGB class of vessels. The WTGB fleet joins a family of Avtron driven vessels including the above referenced U.S. Coast Guard Vessels, Ferries, Dredges, Ice Breakers, Research Vessels, and commercial ships.

Power Broker

Klaus Stahlmann, CEO, MAN Diesel & Turbo

MAN, the world's largest provider of two-stroke diesel engines, started year 2010 by merging MAN Diesel SE, producing engines for maritime applications and power stations, with its compressor and turbine technology manufacturing division MAN Turbo AG, into one single strategic business segment, MAN Diesel & Turbo SE. Still utilizing, for some time, the vast orderbooks built up a few years back, in its manufacturing, the company's main strength in the near future will to some extent shift from marine engines to power station supply and after sales. Market strategies and new technologies are being developed. Maritime Reporter talks with Mr. Klaus Stahlmann, CEO of MAN Diesel & Turbo SE. ***Henrik Segercrantz*** *reports.*

Klaus Stahlmann, CEO of recently merged company MAN Diesel & Turbo SE, the world's largest provider of two-stroke diesel engines.

"The reason for this merged company MAN Diesel & Turbo was really to create on the one hand, what I would call, a counterbalance to the commercial vehicle side. This was specifically needed due to the fact that with the buying of MAN Latin America from Volkswagen as well as with our investment in (Chinese truck manufacturer) Sinotruk, the commercial vehicle side was becoming a little bit of an overwhelming part within MAN. On the other hand and even more important, we are now able to offer complete packages like DCC (Diesel Combined Cycle) and waste heat recovery systems to our customers as well as more development opportunities to our employees," Stahlmann explains. Together with reduction gear manufacturer Renk AG, MAN Diesel & Turbo SE forms the strategic business area Power Engineering within the MAN Group. "It is a good counterbalance," he notes. After the merger MAN Diesel & Turbo has formed four strategic business units, "quite equal in size." The Engine & Marine Systems comprises low speed and medium speed engines and the business unit Turbocharger. The second strategic business unit, Power Plants, is according to Stahlmann "really a key business, which buys the motors and components from the Engines & Marine Systems unit." The strategic business unit Turbomachinery is on the market in two sectors, Process Industry and Oil and Gas, and the after sales side now combines the old PrimeServ after sales units of Diesel and Turbo. Stahlmann points out that "those four areas are a little bit in different cycles," from the financial and commercial perspective.

Having operated as one company already from the start of 2010, the merger became registered in March. According to Stahlmann, MAN will be seeking to pool its expertise in large-bore diesel engines and power plants with its strengths in compressor and turbine technologies. "After Sales is a very stable business, that is driven by our own engine and machinery population. Obviously this will grow. We will benefit when there are more ship engines, compressors, steam turbines or gas turbines in the market," he points out. "Power Plants is still a promising business. The energy requirements of the global population and the growth of the population specifically in the BRIC countries will continue so that this type of business is still growing." When describing the current state of the Engines & Marine Systems and Turbomachinery for *Maritime Reporter*, Stahlmann notes that these two are "obviously a bit cyclical businesses, but are also on different cycles. In the Turbomachinery business unit, for example, the recovery has already started to happen," he points out. "In fact, over the last couple of months we have seen a stronger demand coming out of that one." But regarding the low speed and medium speed market of the maritime side, Stahlmann notes the market is still weak. **"Nevertheless, the freight rates are starting to recover and we are seeing slight improvements specifically on the medium speed side in certain areas, specifically the tug boat sector and in supply vessels on the oil and gas side.** By also considering certain naval applications we are seeing a sign that the top of market is picking up again. So we are in my opinion very well positioned specifically now, with the merged company, to cater for the future." On the Power Plants side the company can now offer a complete product portfolio comprising of diesel engines that can be combined with steam turbines, as well as with gas turbines, a "nice" possibility, according to Stahlmann.

Managed from its head office in Augsburg, the German-Danish engine and turbomachinery specialist decided, back in 2006, to switch entirely to licensee production of two-stroke engines, by 2009. Affected by this decision was the production in Fredrikshavn, Denmark, where the production of smaller four-stroke engines and stationary generating sets continued for some time. A year ago, however, MAN announced it is ceasing engine production in Fredrikshavn due to the financial and economic crisis and the market forecasts for the maritime sector. The production of the 21/31 and 27/38 engine type series was to be relocated ei-

ther to other locations of the MAN Diesel production network, or alternatively to licensees, by the second quarter of 2010. "What we have done is we have closed our factory in Fredrikshavn. The affected types of own-produced engines will be transferred to Augsburg but we are also proving the option to send them to India," Stahlmann reveals. "We have our own factory in Aurangabad where we are doing a lot of engineering for the two-stroke as well as the four-stroke side."

MAN Diesel & Turbo currently produces four-stroke engines in Augsburg, Germany, in Saint-Nazaire, France and in Aurangabad, India. There are today some 36 licensees of low-speed and medium-speed engines throughout the world. Of these, twenty are low-speed engine manufacturers. "In terms of our strategy and let's say, global footprint, we are with the merger quite Europe-centric regarding our production network," Stahlmann continues. **"We have some twelve production sites in Europe, one production site in China and one in India. Now we are planning to enhance these two and are also trying to look specifically at one market which is quite interesting for us, Brazil.** In Brazil, with the MAN Group, we believe we have quite a strong foothold. There we see potential investments and an interesting market e.g. on the power plant side where, in January, we got a quite large contract almost worth 300 million euros. We are seeing huge opportunities for us there."

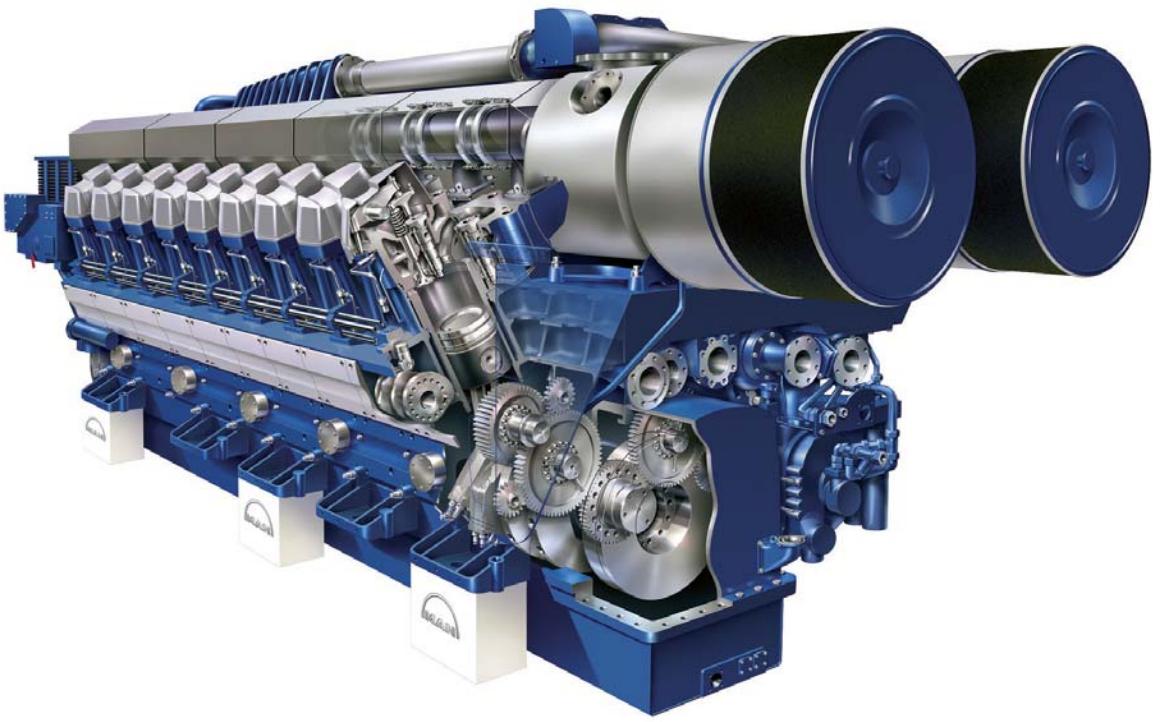
When asked about a possible move of engine production to India, Stahlmann explains: "What we are seeing is that there is something we will have to define. Which types of engines we want to go for on the four-stroke side. Which engines do we want to go for in the licensee model, and which engines in own production or through a joint venture partnership. This is something in the strategic perspective that we will be discussing this year, and we will make a decision where to go."

Regarding China, Stahlmann stresses: "We need to win the battle in China. China has the clear wish to become the world nation number one. For us it is very important to be present in China with our licensee models specifically on the two-stroke side, and support all the developments which are being done for the Chinese market. We still believe that our licensee model on the two-stroke side is the right model so we will continue with this. It is going to be very important that we have a good coverage in China which is ensured by our organization in Copenhagen, with the help of our office in Shanghai, which supports the local licensees." On the turbocharger side, MAN is planning to transfer the assembly of turbochargers, presently being done in Shanghai, to their setup in Changzhou. Stahlmann also notes the company is introducing the small S35 type low-speed engine, specifically developed for local coastal vessels required in China.

Tier II and Tier III Compliance Process

The first Tier II compliant MAN B&W engine, a low-speed two-stroke engine of 6S50ME-C7 type, built by licensee Hyundai Heavy Industries Engine & Machinery Division, was this spring installed in a Teekay shuttle tanker, to be delivered by Samsung Heavy Industries in July this year. This milestone relates to MAN's decision to re-launch its product portfolio, making all its engines compatible with the emission limits of nitrogen oxides, NOx, established by IMO in its Tier II regulations.

The V28/33D engine range has 12-, 16- and 20-cylinder configurations, a state-of-the-art design featuring a high power density, and maintains full compliance with IMO-II and EPA Tier-II legislation.

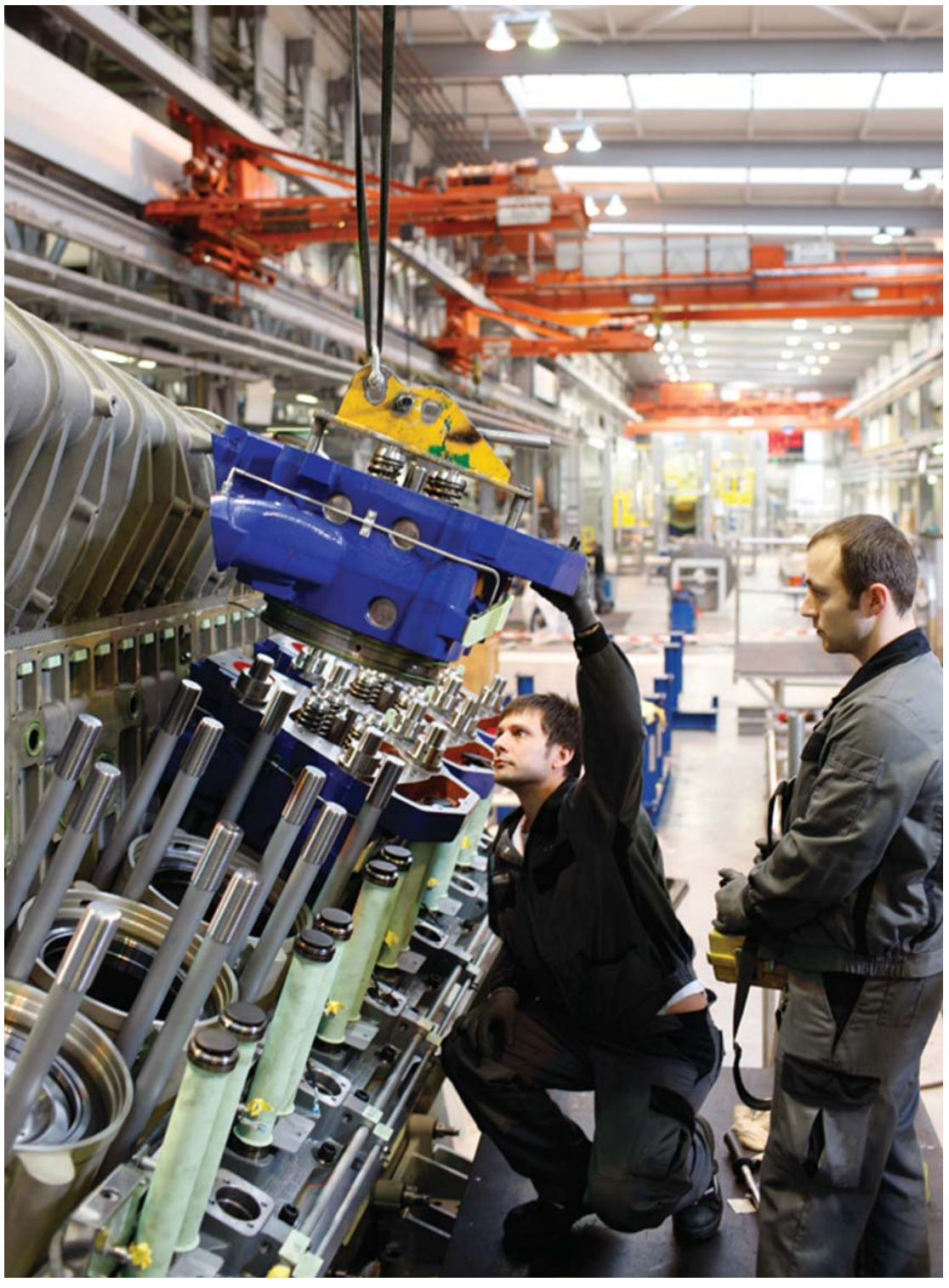


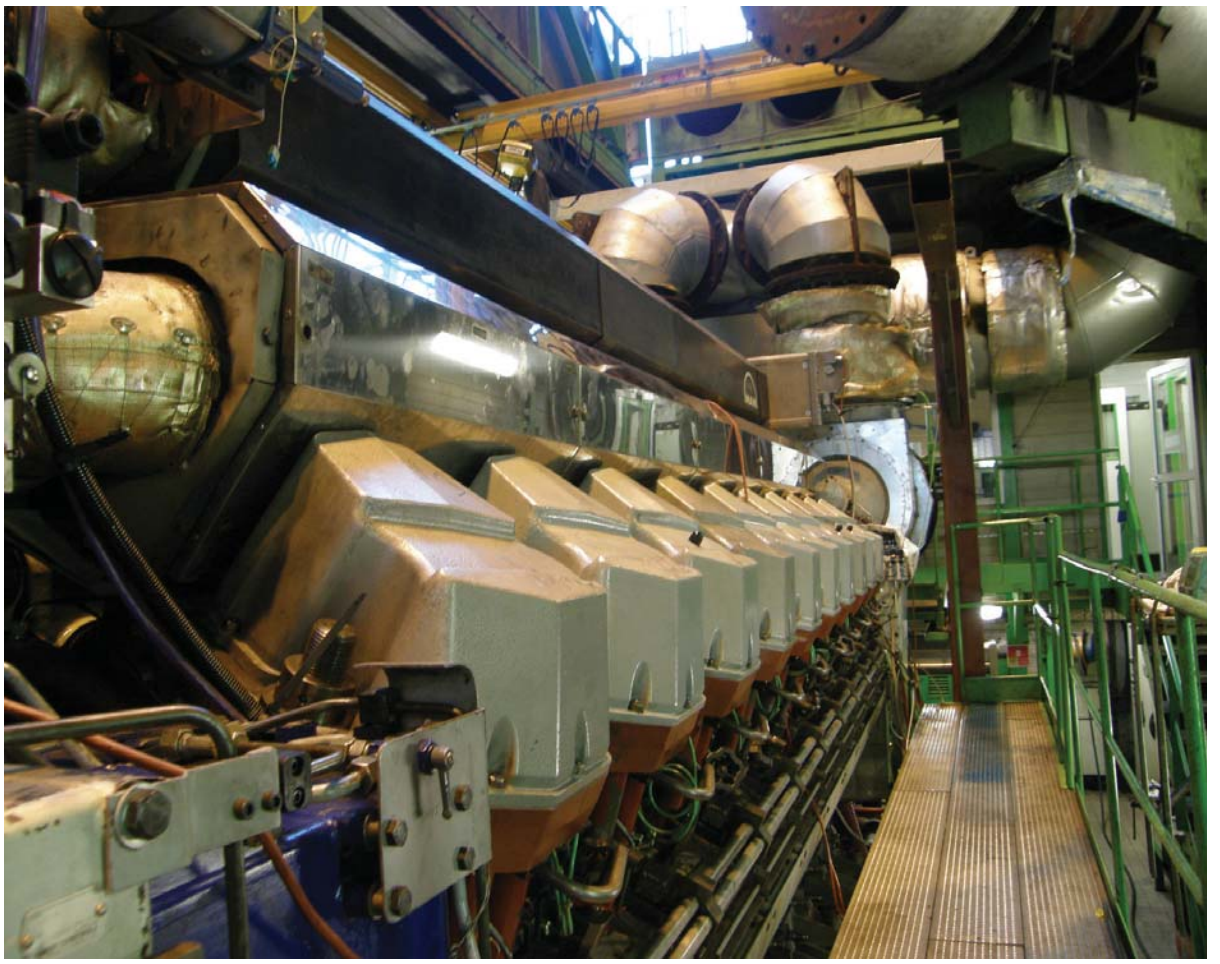
Hence the company's whole engine range, two-stroke and four-stroke, already complies with these standards ensued now by corresponding implementation measures.

The company's St. Nazaire, France Works recently announced it has received class approval, by DNV, for its first upgraded 20-cylinder 28/33D prototype 9,100kW four-stroke medium speed engine for which the company claims a good power to weight ratio as well as fuel efficiency, using the new TCA33 turbocharger, especially tuned for the IMO II and EPA Tier II compatible V28/33D engine. The first upgraded 20V28/33D engines on order are scheduled for delivery in the fall.

MAN Diesel & Turbo is currently focusing on the next step, to achieve full compliancy for its engines with the even more stringent emission levels of Tier III, by 2016. Regarding Tier III, and the issue of sulfur emissions, Stahlmann notes: "There are obviously different ways to skin that cat. We are looking at all the means and ways be it Exhaust Gas Recirculation, Selective Catalytic Reduction, or Scrubber technology." Stahlmann points out that the ways ahead regarding sulphur is not a clear path, and that there are possibly different technologies going forward. "We have not finally decided where specifically to go, the selective catalytic route or the EGR route. We are looking at both. We have made both developments on the two-stroke and on the four-stroke side, and I believe it will be open to what type the industry will go for. We will have to keep that one a little bit open until 2016. That is my basic view, regarding the NOx emission side." On the sulfur side, Stahlmann asks will gas be the (future) fuel, or will reduced sulfur fuels be used in ECAs. "We are keeping ourselves

MAN Diesel & Turbo engine assembly in Augsburg: The staff is fitting a cylinder head.





The 20V28/33D prototype engine on the test bed in St. Nazaire.

open and are keeping developing both. This is depending finally on the shipowners decisions, made on the basis of their strategies where they want to go and which type of technologies on the ships will be used."

For some time already, research and development work has taken place by MAN, at its R&D Center in Denmark, on developing an Exhaust Gas Recirculation (EGR) installation that reduces NOx emissions from a big two-stroke main engine installed on a commercial vessel by half from its IMO Tier I level. MAN Diesel & Turbo's Marine Medium Speed business unit in Augsburg today also offers a full product line of SCR systems for all engine types in its sales program.

Developments on the turbocharger sides

A product which in the coming years is bound to boost the engine performance is two-stage turbocharging, now being developed. The company announced recently it is now ready to bring two-stage turbocharging to the market with the introduction of its TCX generation. The reduction of exhaust emissions is a primary target in developing the next generation of large-bore diesel engines. Emissions are reduced by increasing the mean effective pressure. This requires high charge-air pressures not achieved through current single-stage turbocharging. Two-stage turbocharging enables the charge-air pressure to be increased substantially while simultaneously reducing exhaust emissions, despite the increased specific engine output. The new generation TCX series of turbochargers are especially aimed at two-stage turbocharging. It is based on the proven design philosophy of the TCA/TCR-series. MAN intends to offer the first engine with two-stage turbocharging in the course of this year. The charging pressure will increase from current 4 bars to 5-6 bars.

A complete range of TCA axial and TCR radial turbochargers are now available for both two and four-stroke engines complying with IMO Tier II emissions legislation. The new higher performance IMO Tier II turbocharger versions retain the same external and connection dimensions as versions for IMO Tier I compliant engines. In this way, no changes are needed to the existing turbocharger mounting arrangement when upgrading an ongoing engine series to IMO Tier II compliance.

The latest TCA and TCR turbochargers with a variable turbine area, VTA, allows the amount of air compressed by the compressor wheel to be flexibly varied. The charge air can thus be more precisely matched to the quantity of fuel injected optimising the combustion at all the engine's operating speeds and loads. By matching the flexibility of MAN's electronically controlled fuel-injection systems, common rail, minimizes fuel consumption and related emissions. The VTA technology can be applied on new turbochargers or retrofitted on existing units. VTA has proven very efficient for slow-steaming, operating the vessel with lower speed to save fuel. MAN Diesel & Turbo has successfully introduced the VTA technology on large turbochargers with both axial and radial turbines for installation on large diesel engines burning heavy fuel oil.

Earlier this year, the company announced it has agreed,

with Daewoo Shipbuilding & Marine Engineering Co., Ltd., to jointly develop and exploit the adaptation of Daewoo's high-pressure cryogenic gas-supply system for installation with MAN B&W ME-GI gas-injection, dual-fuel, low-speed diesel engines. The company notes that while LNG carriers carry a gas cargo, the potential for carrying gas aboard other vessel types is currently subject to a parallel development, for which a cryogenic gas fuel-supply system can be used.

By end 2010, a full-scale demonstration and performance verification test of the GI principle is to be made on its 4T50ME-X R+D test engine, to be rebuilt as a 4T50ME-GI engine. The potential of this development is big. Applying the technology on a 14,000-TEU containership could, according to the company, reduce annual operation costs by some $12m. Moreover, SOx, NOx, applying the company's technologies EGR or DeNox, and CO2 emissions, would also be reduced.Other developments taking place include that of an exhaust gas recirculation (EGR) system which has been able to reduce NOx emissions by 70 percent on a 4T50ME-X low-speed test engine, to be tested in full scale on container vessel Alexander Maersk this year. Also fuel/water emulsion applications and scavening Air Moistening systems, WIF and SAM respectively, are being tested as part of MAN Diesel & Turbo's Danish R&D operations.

Tough financial year ahead

The previous quarterly report notes, for the Power Engineering business area, that operating profit over the rest of the fiscal year will be impacted by a decline in capacity utilization due to the recession. Nevertheless, the report says, earnings quality will remain at a healthy level in 2010 due to the existing order backlog and the cost reduction measures that were introduced in the previous year.

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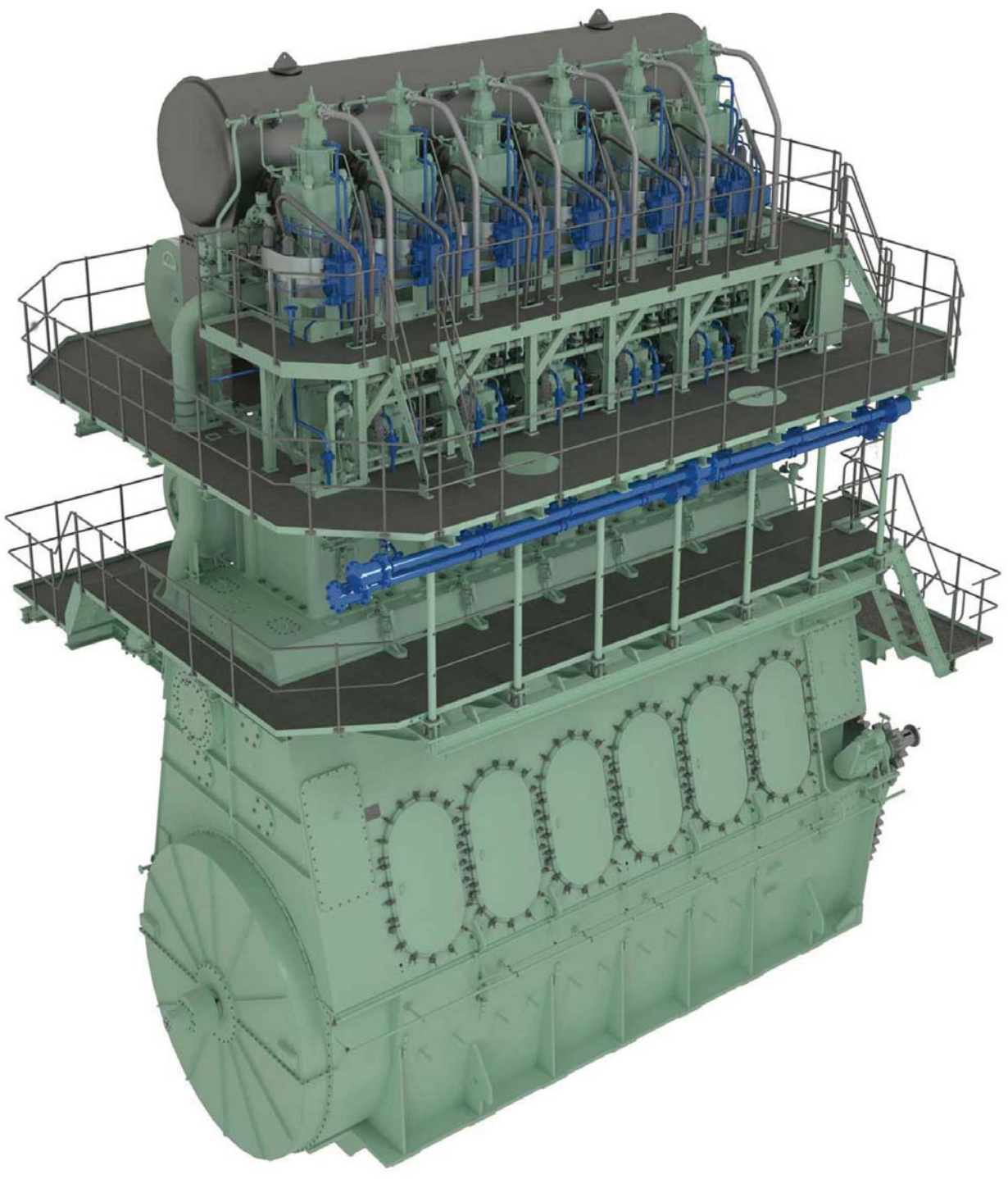

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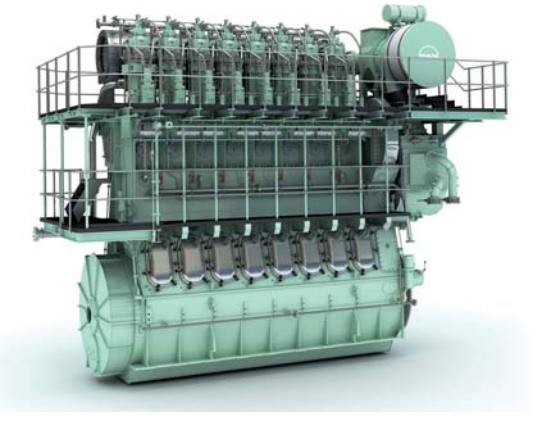


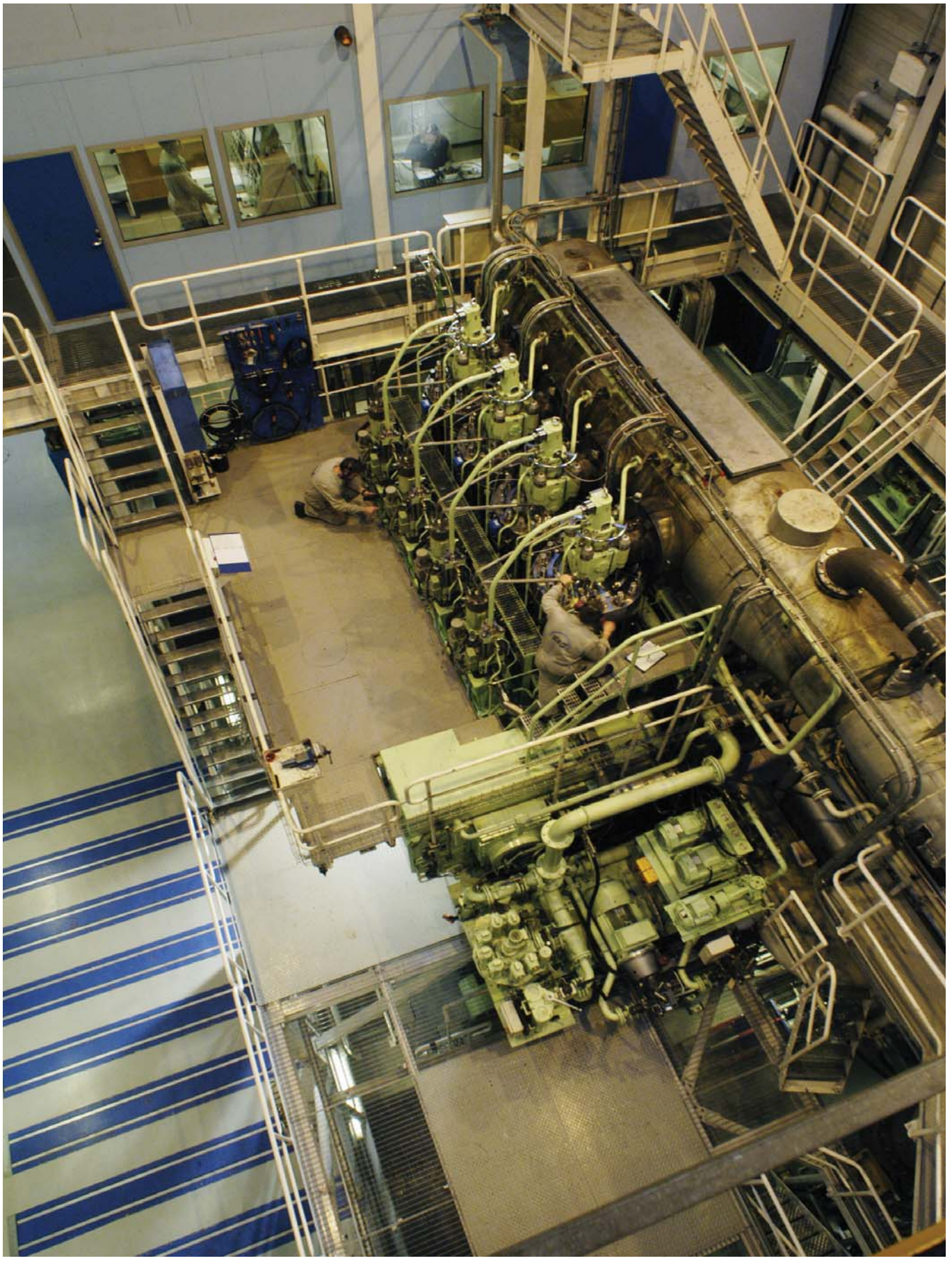
The MAN B&W S35MC-C9 was developed especially for the Chinese market and is designed for both river and coastal transport.

In the first quarter of 2010 the order intake at MAN Diesel &Turbo SE increased by 20% to EUR1.032m (previous year EUR863m) mainly due to an order of a power plant for Brazil. The 48% increase in Engines & Marine Systems order intake, to EUR446m, was mainly attributed to organizational changes. The revenue in the first quarter was EUR864m (EUR861m last year). The operating profit declined by 15% to EUR102m. The order backlog at the end of March 2010, for MAN Diesel & Turbo SE, stood at EUR4,634m (EUR4,422m at the end of year 2009 and EUR5,924m at end 2008). The company has a staff of some 12,500.

Regardless of the low business volumes on the marine market, MAN is confident that it can use the power plant business and its substantially expanded range of after-sales services to offset most of the decline in new marine construction orders, and is forecasting a revenue level that will be approximately in the range of the 2009 figure. Due to the decline in capacity utilization operating profit will be considerably lower than in the past fiscal year, but will remain above the company's target return on sales of 8.5%.

"We have still our licensee model and a huge backlog which, however, is slowly melting down," Stahlmann reflects regarding the maritime business segment. "We are still participating from both. I think that gives us a huge advantage towards our competition. We have a licensee model which certainly helps us, which is very effectual. We do not see a big move in this market."

Klaus Stahlmann, CEO of MAN Diesel & Turbo SE, is also a member of the Executive Board of MAN SE, the holding company. He previously chaired the Executive Board of MAN Turbo AG. He graduated as an industrial engineer in Darmstadt in 1986, and has a background from management positions in several big industrial companies, among them Krupp, Allweiler and NSK. Stahlmann spent his childhood living in various countries in South America.



MAN Diesel & Turbo is currently focusing on the next step, to achieve full compliancy for its engines with the stringent emission levels of Tier III, by 2016. Developments taking place at MAN's R&D Center in Denmark include exhaust gas recirculation (EGR)reducing NOx emissions by some 70 percent.

Company Profile

MAN Diesel & Turbo SE, with headquarters in Augsburg, Germany, is a world leading provider of large-bore diesel engines and turbomachinery for marine and stationary applications. It designs two-stroke and four-stroke engines, ranging from 450kW to 87MW, which are manufactured by the company or by its licensees. It also designs and manufactures gas turbines of up to 50MW, steam turbines of up to 150MW and compressors with volume flows of up to 1.5m cu. m./hr. and pressures of up to 1,000bar. The product range also includes turbochargers, CP propellers, gas engines and chemical reactors. MAN Diesel & Turbo's range of goods includes complete marine propulsion systems, turbomachinery units for the oil & gas and the process industries and turnkey power plants. Worldwide after-sales services are marketed under the MAN PrimeServ brand. The company employs around 12,500 staff at more than 100 international sites, primarily in Germany, Denmark, France, Switzerland, the Czech Republic, Italy, India and China. MAN Diesel & Turbo is a company of the Power Engineering business area of MAN SE, which is listed on the DAX share index of the 30 leading companies in Germany.

SMM '10

Welcoming the Maritime World To Hamburg

(Photo Credit: HMC/Nico Maack)

SMM 2010

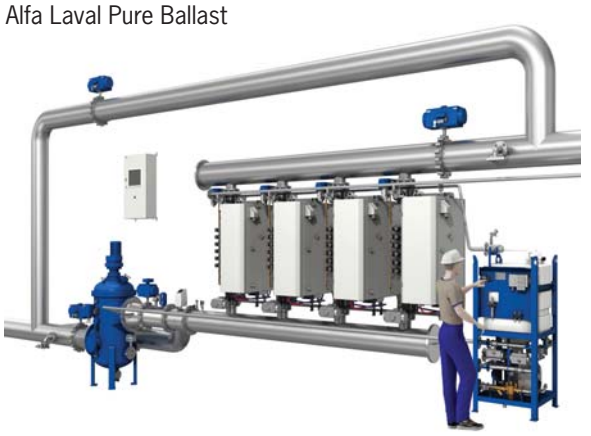
Technology Preview Guide

Anyone who has visited the mammoth SMM exhibition in Hamburg, Germany, knows that good shoes and patience are keys toward running an effective show. The event, which attracts nearly 2,000 exhibitors and more than 52,000 visitors, poses a serious challenge for even the heartiest road warriors. To that end, to help make your visit more efficient, *Maritime Reporter & Engineering News* provides here a glimpse of some of the new technologies scheduled to appear at SMM 2010.

New Tech on Tap @ SMM

Raytheon Anschütz IBS

Alfa Laval Pure Ballast



W R System's Emsys

Raytheon Anschütz (Hall B6/Stand 320) is bringing what it dubs a new, more intelligent generation of an Integrated Bridge System on the market, a system which builds on the Anschütz BridgeControl product line. For the new bridge, Raytheon Anschütz has now developed a modern integration platform which further improves both the nautical and the economical operation of the ship through intelligent integration of functions. The new platform makes possible not only the integration of additional applications such as automation data indication, DP system or load- and ballast calculator, but also the full scalability and future expandability of the bridge system. Intelligent multifunction displays provide the ship's command with the optimal nautical task at the right time as well as other ship control functions, at any desired workplace. With the integration platform Raytheon Anschütz can offer solutions incorporating equipment from the most varied partners flexibly and with a high degree of integration. The use of standardized hardware and software simplifies the design of individual bridge systems and reduces the costs of installation and spare parts logistics. Based on this concept, modular system solutions are possible, from the tanker or containership, the offshore supply ship and the mega yacht on up to the aircraft carrier and cruise ship. In order to counteract the high stress on board, Raytheon Anschütz has outfitted the Integrated Bridge with an intelligent Alarm Management system. Under the auspices of a German research project a concept was advanced which is based on the classification of alarms with respect to their relevance in the whole system. This study was further refined, optimized and now forms the core of an intelligent Alarm Management system in the new bridge generation. Raytheon Anschütz integrates the operator interface of the Alarm Management in the new and expanded Conning. It can be operated from any workplace using the multifunction displays. The Conning also provides the operator interface for the new CCRS and shows the quality of the sensors as well as the active set of sensor data. Alternatively to automatic sensor selection, manual sensor selection remains possible to enable the navigator to choose the sensors himself. The central presentation of the alarms, the sensor quality and having all navigation data available on every multifunction display make the Integrated Navigation easy to see at a glance and simplify operation and monitoring.

Alfa Laval (Hall A1/Stand 363) will be showcasing a range of innovative solutions, shedding a different light on many of its solutions at this year's SMM exhibition. In addition to learning about key launches, visitors will be able to explore essential aspects of Alfa Laval's core technologies and the difference they make in onboard applications. Exhibition highlights will include: PureBallast 2.0 and EX: Alfa Laval's system for ballast water treatment has now entered its second generation. Energy consumption has been greatly reduced, and there are many other improvements that contribute to easier operation. A new EX version for vessels with potentially explosive environments will also be on show; S-separator: The new series of Alfa Laval's landmark S-separator combines advantages with a wide range of technical developments. Smart adjustments in the disc stack, including an increase in separation area, create even greater efficiency and allow the use of a smaller separator for a given capacity. Additional changes, such as a new drive system, make the separator more robust and easy to use; Alfa Laval AOT 3F: Alfa Laval's new AOT 3F sterilizer provides chemical-free water purification and an effective microbiological barrier against Legionella. It is based on Wallenius Advanced Oxidation Technology (AOT), a water purification system that imitates nature's own way of purifying water. The innovative sterilizer is cost and energy efficient, handling heavy-duty demands despite its low weight and small footprint.

W R Systems (Hall B7/Stand 91 – USA Pavilion) is making its debut at SMM to formally release its Emsys, 2nd Generation; laser-based marine emissions monitoring system. Emsys is touted by its developer as the world's first QCL (Quantum Cascade Laser)-based, fully extractive, combined emissions and Particulate Matter (PM) monitoring system, designed to meet the requirements of MARPOL Annex VI, the NOx Technical Code, and additionally the requirements of the International Maritime Organization's (IMO) Emission Control Areas (ECAs). Installed within the funnel space, Emsys is designed and tested for continuous operation in multiple engine applications. Compact configuration decreases installation time; correspondingly installation costs are significantly lower than first generation extractive systems. Emsys is unique in its design by monitoring PM 'outside the stack'. Its (Patent Pending) design meets EPA Regulation PS-1 and ASTM D6216, providing PM

measurements in mg/cu. m. and g/kWh. Conventional gaseous measurements include NOx, SOx & CO2 for all installed engines, with the optional facility for NH3 (Ammonia) in Selective Catalytic Reduction (SCR) applications. Geographic position (GPS) data is recorded and time-stamped against each emission record enabling full traceability for assured compliance. The system is the first production system to incorporate QCL technology. The laser can monitor multiple gases and is designed to be relatively maintenance-free. Combining highly accurate measurements with a unique gas path design eliminates many of the problems associated with traditional extractive and in-stack technology. Emsys employs a sophisticated dashboard to display voyage emissions performance and compliance information. Configurable emissions reports, which include graphical representation of real-time values and historical trends, are also available. The system can provide real-time alarms for all monitored emissions based upon the applicable limit and geographical position. Fuel sulfur content is continuously monitored (% m/m) to allow optimized management of fuels for MARPOL, CARB (California Air Resources Board), EU (European Union) and other regional regulatory limits. Emsys is suitable for both diesel engines and boiler installations.

New Generation Natural Gas (NG2) (Hall A4/StandFG 03) is a startup company proposing innovative solutions to improve the shipping industry economical and environmental performance. At SMM it will exhibit its first demonstrator PLUG (acronym for "Power Generation during Loading & Unloading") shore power technology. Based on a unique concept of self mating /de mating connector, PLUG is designed to make shore power connection a press button operations, according to the company offering these advantages:

- Speed of operation (and hence reduction of on board generator sets use…),
- Safety : no direct handling of high voltage connector and cables,
- Compactness (no impact on ship side payload volume, negligible quayside footprint),
- Capital and Operational expenses: simplified installation, no manpower required,
- Versatility : a single PLUG Unit can provide up to 11 000 Volts / 700 Amps power exchange capability
- Standardization : PLUG is compliant with IEC High Voltage Shore Power requirements

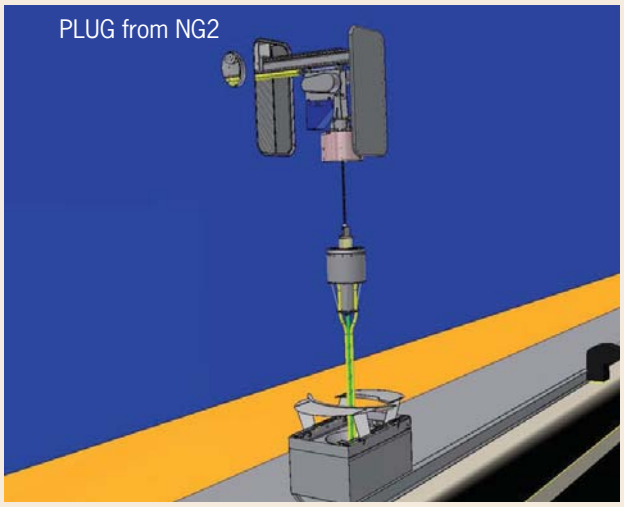
From Left to Right:

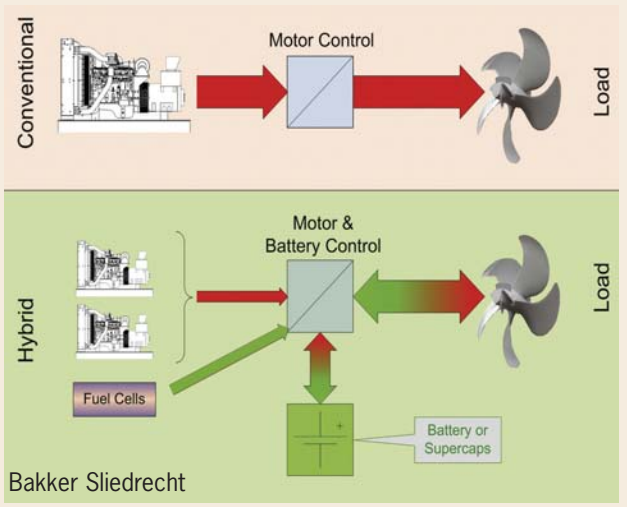
Hall B6/Stand 320
Raytheon Anschütz will introduce the new generation of IBS.

Hall A1/Booth 363
Alfa Laval will highlight Pure Ballast, among other systems.

Hall B7/Stand 91 – USA Pavilion
W R Systems will debut its Emsys, 2nd Generation; laser-based marine emissions monitoring system.

New Tech on Tap @ SMM





This first unit presented at SMM will be afterwards use to qualify PLUG with regard to IEC standards and major classification societies shore powerrequirements. PLUG Installation studies have been performed for the following requirements:

- 2 MVA / 6.6 kV for Mediterranean and Channel ferries
- 6 8 MVA / 6.6 kV for Container carriers, tankers…
- 16 MVA / 11 kV For Florida mega cruise ships…
- 10 MVA / 11 kV for cruise ships
- 2 MVA /3.3 kV for pusher barge RoRo

Bakker Sliedrecht (Hall 6/Stand EG.262) is an all-round and dynamic electrical engineering company. Its clients choose from a wide range of options with regard to energy and automation technology in the areas of electric drives, energy generation, alarm, monitoring and control systems, switchboards and control desks, cabling, commissioning, maintenance service, revisions and repairs. On its SMM stand, visitors will find:

- Specific Dynamic Positioning systems: projects and systems up to and including DP3, which many of the mentioned projects are provided with. It is not just only installing the system but being capable to integrate the DP requirements into the complete installation, equipment and systems of the vessel and its working profile.
- Green Technology: Special attention will be paid to the benefits of flex energy and hybrid drive technology.

Bretagne Pôle Naval (Hall B4 stand 4 [French Pavilion]) in 2010 includes 70 members representing about 10,000 people. Major Naval industry players of the region have joined in this association created in 2007 to develop, integrate and organize the naval and the Marine Renewable energies sectors in Brittany. The 70 companies grouped in the cluster have complementary and diversified skills in all professions forming the pole performance. The cluster attends SMM, and four companies actually display their international ambition on the BPN stand:

The Port of Concarneau Professional cluster, with 40 companies builds ships all over the world. Since the last edition SMM, major projects have been carried out by companies at the port of Concarneau in shipbuilding and in ship repair. Works scheduled for the next months are for instance: the building of 4 tug boats for Algeria, a new 45-m ferry and a new 110' carbon catamaran, the refit of 6 customs patrol boats and the refit of another catamaran. The shipbuilding and repair division of SPIE (CRN) especially works in military shipbuilding and repairing, offering to its customer's turnkey contracts. CRN act also as global contractor, for all or part of a ship (completely outfitted sections or hull blocks), and is involved in the production of switchboards for automation system for propulsion of submarines type Barracuda NAVTIS, ISO 9001 certified, is located in Brest harbor and is a permanent and major provider in the shipbuilding and repair field. In April 2010, the shipyard just finished off the technical stopover of the Hydrographic and Oceanographic vessel "Pourquoi Pas

STX Europe, Lorient designs and builds high-tech ships from 30 to 120 meters long. This subsidiary of STX Europe, one of the world most important shipbuilding groups, benefits from valuable synergies within the group. The reliable industrial organization is also a real asset for complex project management with a permanent concern on time, cost and quality control.At SMM this year **CONRAC (Hall B6/Stand 145)** introduces a series of Marine Grade Panel PCs adding the flexibility of an integrated solution to the benefits of their well-proven wideECDIS Marine Displays. Experienced in the integration of industrial PCs, CONRAC designed the ultimate Marine Panel Computer specified to run all marine applications, from automation and control to ECDIS and Navigation. Designed for 24/7 operation, this embedded solution offers an extremely reliable platform. As a special feature, CONRAC integrated a proprietary system monitoring application called SysMon which is used to control various settings and to obtain exact information on a multitude of parameters. It controls the backlights, supervises the system and allows the integration of the next generation of Ambient Light Control, ALCplus. Available are console mount versions with screen sizes of 22-in. (56cm) and 26-in. (66cm) diagonal, of course offering the same look-and-feel as the monitor only versions. Offering the same look and feel, the only eye-catching difference between the integrated solution and the monitor-only version are two front USBs. CONRAC's large screen Naval Displays have been tested according to various MIL standards. Active in the research and development of special display solutions for decades, CONRAC has established a reputation as a leading manufacturer of large screen solutions for extremely harsh maritime environments. CONRAC's series of ruggedized displays up to a screen size of 65" (165cm) has been tested according to MIL-STD-167 and 810. Furthermore the displays proved to withstand severe underwater explosions up to 100g. Optionally available are touch solutions and integrated IPCs.

Geislinger (Hall 3/Booth A3.011) will present itself in an updated corporate design at SMM2010 in Hamburg, and will highlight two new products will be shown: the VdampXT and the Genotorq. Both are tailored to the needs of power generation in the maritime and offshore industry. VdampXT (extended lifetime) is designed to offer twice the lifetime at nearly the same size. An oil exchange system enables to double the service life. This unique VdampXT feature helps to elongate the damper maintenance intervall and thus increases the genset uptime and reduces operation costs. After ending ist second life, the VdampXT can be refurbished by Geislinger and will afterwards be ready for a second dual cycle. The modular Geislinger Genotorq ist the second new development. With up to 64 kNm torque capacity and high overtorque capabilities, the Genotorq is up to the most demanding marine and power generation requirements. Radial installation and easy exchange of the longlife elastomer elements are key features of this coupling. This user friendly design helps to lower service time and thus increase the system uptime. By different stiffness series and connection inferfaces the coupling can be easily adapted to different requirements.

Two years ago, at SMM 2008, the **Imtech Marine Group (Hall B6/Stand 210)** was introduced as a newly formed group of companies, all renowned in the maritime market, who joined forces under the Imtech Marine Group flag.

Now two years later, Imtech Marine Group is back at SMM, in hall B6, same location stand no. 210, showing its capabilities with a focus on life cycle support. Managing each project from pre-design and engineering through to commissioning, IMG provides innovative systems and reliable services during the operational life cycle of the ship, operating as full-service provider and system integrator of tailor made, innovative technology solutions. IMG specializes in Automation (Platform and Bridge), Navigation & Communication including Connectivity, Energy & Drive systems, HVAC solutions and Fire Protection systems, Entertainment, Lighting systems and Maritime Services. The Group employs more than 2,500 staff at more than 70 offices along shipping routes and close to shipbuilding centers. At the stand the technology and services portfolio is shown by way of the latest developments in amongst others integrated bridge systems, platform automation systems, electrical drive & energy systems, HVAC technology, live Connectivity presentations on the stand and specifically 'green technology'. Special attention is paid to the life cycle support capabilities of Imtech Marine Group. Renowned members of Imtech Marine Group are Imtech Marine Germany, Imtech Schiffbau-/Dockbautechnik, Radio Holland Group, Imtech Marine & Offshore, Royal Dirkzwager and Van Berge Henegouwen Installaties. Next to hall B6, Imtech Marine Group member Schiffbau-/Dockbautechnik also has a presentation in hall B5.

L-3 ELAC Nautik (Hall B6/Stand 340) will present the multibeam echo sounders SeaBeam 3050 and SeaBeam 3030, the Multipurpose Sonar SUBEYE and the Navigation Echo Sounder LAZ 5100. The SeaBeam 3050 and SeaBeam 3030 Multibeam Echo Sounders collect bathymetric, corrected backscatter, sidescan and water column imaging data in medium depth and deep waters over a wide swath in excess of 140 degrees, meeting all relevant survey standards. Due to its depth performance (3,000 m) in combination with wide coverage (3,500 m), SeaBeam 3050 is an ideal hydrographic sensor for mapping the continental slope. The Multipurpose Sonar SUBEYE offers protection against threats lurking beneath the water surface. The system scans under water and detects approaching dangers up to a distance of 3.000 m, thus maximizing the vessel's safety during travelling as well as while anchoring. SUBEYE has had solid inroads to the big yacht market, as the system can be delivered in different configurations and can be modified ac-

From Left to Right:

Hall A4/StandFG 03
NG2 will debut its PLUG (Power Generation during Loading & Unloading) system.

Hall 6, Stand EG.262
Bakker Sliedrecht exhibits its electrical engineering prowess.

Hall B4 stand 4 (French Pavilion)
Four companies from the Bretagne Pôle Naval cluster.

(Photo: Copyright STX Europe)

cording to specific project requirements. As a new feature a passive detection parallel to the active scans has been implemented into the system. This feature allows the detection of fast approaching speedboats by identifying the typical noise signature of these vessels. Thus such boats can be detected and tracked even if they are not visible on the radar. SUBEYE completes the total spatial surveillance systems of ships with high safety requirements. The LAZ 5100 is the latest navigation echo sounder of L-3 ELAC Nautik, available as single- or dual-frequency unit. Various transducers with frequencies from 24 kHz to 200 kHz can be operated, the maximum measuring range is 2000 m.

NSI (Hall B6/Stand 455) announced that its 106-key backlit keyboard has recently been tested compliant to IEC 60945 fourth edition, this test is required for use with Marine applications. The keyboard has a multi-functional layout with separate numerical- and control keypads and an integrated 50mm industrial trackball. Both key legends and key contours are backlit using high brightness LEDS. Using low power LED's enables NSI to assure an extended life time for the backlighting. An external power supply is not necessary; the power from the USB keyboard port being sufficient. The illumination intensity is controlled using dedicated UP and DOWN keys. It features an intelligent brightness control for the NUM and CAPS lock LEDS, depending on the ambient light conditions and brightness settings.

Navis Engineering (Hall B6/Stand 232) launched a new generation of the whole company's product line including the AP4000 autopilot (AP3000 in the previous generation), the JP4000 Joystick Control System/Autopilot (previously JP3000) and the NavDP4000 Series Dynamic Positioning System. The AP4000 autopilot has undergone a substantial redesign. The front panel has been given a more modern outlook, materials and technology and a 6.5' high contrast and resolution color display with the 150º viewing angle. Besides, the level of front panel protection has been increased from IP44 up to IP67 which makes the AP4000 suitable for outdoor installations (at flybridge or port/starboard wings). The user-friendly GUI complies with all the industry ergonomic standards and is very easy to read and operate. Day and night color palettes are available. The software part of the autopilot has also been greatly upgraded. The functionality of network control transfer between up to 5 network connected control panels has been added. To facilitate the fine-tuning of the autopilot performance, only one parameter, Sensitivity, is used, which allows for covering all the known yawing, steering and counter rudder settings of the autopilots of other brands. The AP4000 has a built-in Heading Monitor System (HMS) functionality which makes it possible to constantly receive and monitor the data coming from two heading data sources (Gyro+Gyro, Gyro+Magn.Compass, Gyro+Fluxgate etc.). Several speed sources can also be used during operation (GPS, waterspeed log or bottom tracking log). In the Track and Autonav modes the AP4000 acts like a TCS of the "A" and "C" categories respectively.

Klüber Lubrication (Hall A3/Stand 246) will be presenting innovative speciality lubricants for the maritime and offshore industries. This year's focus will be on synthetic lubricants that can contribute sizably to the protection of the seas against pollution and offer a genuine alternative to the widely used mineral-oil-based lubricants. Speciality lubricants of this type support operators in extending maintenance intervals and reducing lubricant consumption and hence help to reduce operating costs. The newly developed Klüberbio MR 2-150 presented by Klüber Lubrication is a non-toxic, readily biodegradable stern tube oil for fixed-pitch and controllable-pitch propellers. These applications below the water line are at the focus of shipowners' demand for eco-compatible alternatives to the mineral-oil-based products predominantly used today. Lubricant engineers have succeeded in making the oil optimally compatible with the elastomer material used for many seals so that the propeller shaft seal's life expectancy remains unaffected. The hydraulic oil Klüberbio HLP 9 to be launched by Klüber Lubrication is also readily biodegradable, providing eco-friendly lubrication now also for hydraulic drives e.g. of cranes, winches or hatches. The new hydraulic oil is available in four different viscosities and highly resistant to oxidation. It offers long service life and a very good viscosity-temperature behavior. Representatives from Klüber Lubrication will also provide information on the white adhesive lubricant Klüberplex AG 11-462, which has been successfully used on many winches and cranes and enables clean lubrication of davits and steel ropes on cruise ships. Klüberplex AG 11-462 excels, among other things, by its very good adhesion even at tropical temperatures and its outstanding lubricity and anticorrosive effect also in contact with sea water.

Lankhorst Ropes (Hall 7, Booth 351) will announce an innovation in rope splicing that reduces the size and weight of the rope's 'eye' splice, making it easier to handle during mooring and towing operations, yet produces a stronger rope. Called A3, the splice has a 100% efficiency, which means there is no loss in rope strength due to splicing. It also makes rope handling easier as there is no doubling of the rope or splice stiffness in the mainline commonly experienced with traditional rope splicing. Moreover, the A3 splice design is less prone to the effect of abrasion on vulnerable areas of the splice covering, thus providing a longer lasting rope. Testing witnessed by Lloyds Register of a traditional splice and the A3 splice with a Lankhorst Strongline braided mooring rope showed the traditional spliced rope had a breaking force of 925 kN compared with 1,140 kN for the A3 splice; demonstrating a 23% increase in breaking force with the A3 splice. The A3 splice will be progressively introduced across the Lankhorst Ropes range over 2010/11.

Totem Colreg Adviser (Hall B6/Stand 271) is a new tool from Totem Plus, to be launched at SMM. The Totem Colreg Adviser automatically analyzes the data of all targets, and advises the OOW on the required action. The module is part of Totem ECDIS, and takes into account the CPA (Closest Point of Approach) of all vessels and the stipulations of the COLREG.

If required (applicable), a "Course To Steer" advice will be given to the OOW automatically. The advice will take into account all the ships in the vicinity, their CPA and TCPA (time to Closest Point of Approach), and their status according to the COLREG.

New Tech on Tap @ SMM

Conrac Displays.

Geislinger's VDAMP

NSI's 106-key backlit keyboard

The dangerous sectors are clearly shown in red on the "Navigable Circle", as well as the Change of course required (24 STBD), the new COG (Course Over Ground) and the new Course to Steer. All the info is calculated automatically and is refreshed continuously. In order to be able to do the computation, all AIS and ARPA targets within the required "Alert Radius" are constantly analyzed for close proximity. The Alert Radius is set by default to 12 miles (open sea) but can be changed by the operator to other values. Same principle applies to the CPA (Closest Point of Approach), which is set by default to 0.4 miles but can also be set by the operator according to the prevailing circumstances. The benefits of the Totem Colreg Adviser are numerous, and are not limited to safety. By taking a proper action in due time, excessive helm and course alterations are avoided and the system is consequently helping to save fuel and keep schedule. The TOTEM COLREG ADVISER is part of Totem ECDIS, a modern electronic chart display and information system.

PYPLOK (Tube-Mac Piping Technologies, Hall A2/Stand 114) fittings are mechanically attached with no welding, no hot work permits, no fire watch and no re-work. The 4-page brochure explains how the system produces permanent, leak-free connection for sizes 0.25 to 2-in. NPS pipe, 0.25 to 2-in. OD tube, and 6mm - to 66 mm Metric tube. PYPLOK fittings are made of various materials to suit your application such as; carbon steel, stainless steel (Type 316, Duplex and Super Duplex) and copper nickel (CuNi 7030). Handheld installation tool cold works the fitting to permanently compress the fitting in seconds and forms a leak-tight seal in combination with VITON O-ring seals. (EPDM and other seal materials available).

L-3 SAM Electronics (Hall B6/Stand 340) will feature a wide range of next-generation ship management systems and sensors for automation, communications, navigation, positioning, propulsion and energy distribution applications. Highlights include live demonstrations of the latest NACOS Platinum series of advanced scalable navigation, automation and control systems featuring common components and operating networks to provide unrivalled modes of integrated functionality for vessels of all types and sizes. The series offers simplified levels of usability while ensuring higher standards of operational safety. Systems have already been commissioned for product tankers, offshore wind vessels, cruise liners and megayachts under construction in Asia and Europe. New exhibits include SAM ConnectNet, a high-speed ship-to-shore assembly that merges vessel communication systems into complete enterprise-wide IT networks; diesel electric propulsion assemblies and energy-efficient shaft alternators are among other exhibits. Additional L-3 capabilities on display include high-end automation and dynamic positioning systems, echosounders and sonars, and control

From Left to Right (from page 48)

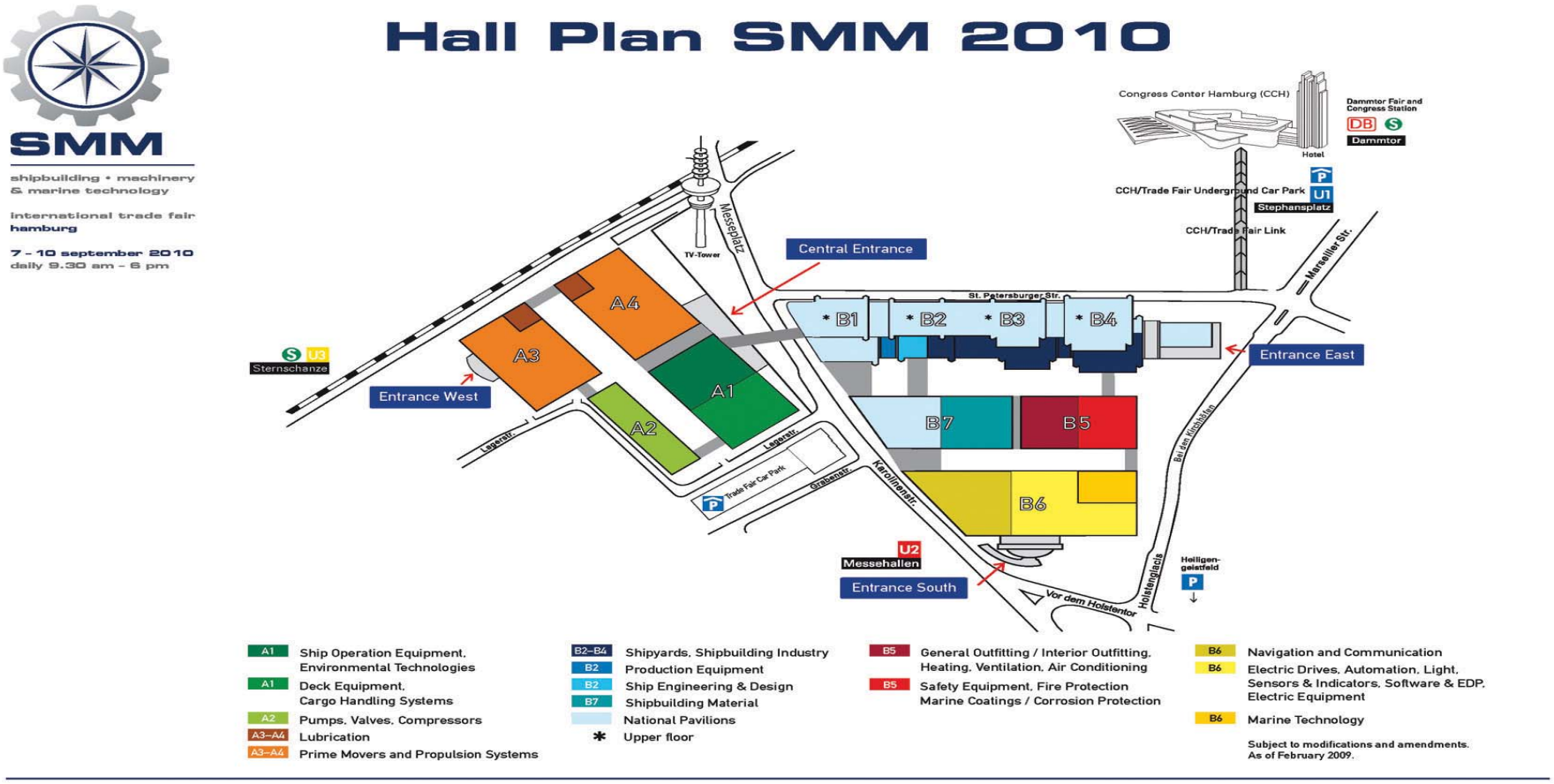
Hall B6/Stand 145
CONRAC debuts Marine Grade Panel PCs.

Hall 3/Booth A3.011
Geislinger will show its Vdamp.

Hall B6/Stand 455
NSI's 106-key backlit keyboard.

Hall A3/Stand 246
Klüber will present innovative speciality lubes.

Hall B6/Stand 340
L-3 SAM Electronics will feature a wide range of next-generation ship management systems.



Company	Booth @ SMM	URL
Alfa Laval	Hall A1/Stand 363	www.alfalaval.com/marine
Bakker Sliedrecht	Hall 6, Stand EG.262	www.bakkersliedrecht.com
Bretagne Pôle Naval	In Hall B4 stand 4 (French Pavilion)	www.bretagnepolenaval.org
Conrac	Hall B6/Stand 145	www.conrac.com
Geislinger	Hall 3/Booth A3.011	www.geislinger.com
Imtech Marine Group	Hall B6/Booth 210	www.imtech.eu
Klüber	Hall A3/Stand 246	www@klueber.com
Lankhorst Ropes	Hall B7/Stand 351	www.lankhorstropes.com
L-3 ELAC Nautik	(Hall B6/Stand 340)	www.elac-nautik.de
L-3 SAM Electronics	Hall B6/Stand 340	www.sam-electronics.de
Navis Engineering	Hall B6/Stand 232	www.navisincontrol.com
NG2	4/StandFG 03	www.Newgeneration@naturalgas.com
NSI	Hall B6/Stand 455	www.nsi-be.com
Raytheon Anschütz	Hall B6/Stand 320	www.raytheon-anschuetz.com
RWO	Hall A1/Stand 340	www.rwo.de
Thrane & Thrane	Hall B6/Stand 333	www.thrane.com
Totem Plus	Hall B6/Stand 271	www.totemplus.com
Tube-Mac Piping Technologies	Hall A2/Stand 114	www.tube-mac.com
Voith	Hall A4/Stand 112	www.voithturbo.com
GEA Westfalia Separator	Hall A3/Stand 240C	www.wsus.com
WR Systems	Hall B7/Stand 91 – USA Pavilion	www.wrsystems.com

components from L-3 Valmarine of Norway, L-3 Dynamic Positioning & Control Systems of the US, L-3 ELAC Nautik of Germany, and L-3 APSS of Italy.

The SAILOR 900 VSAT, a new Ku-band VSAT antenna, will be launched by **Thrane & Thrane (Hall B6/Stand 333)** at SMM 2010. Designed in-house by Thrane & Thrane's engineers, SAILOR 900 VSAT represents a leap-forward in VSAT antenna performance and benefits from the high reliability, build quality and functionality. "SAILOR 900 VSAT is an important milestone in our strategy to support the maritime broadband market with high quality products," comments Casper Jensen, Vice-President Maritime Business Unit, Thrane & Thrane. "It complements our highly successful and market dominant Inmarsat FleetBroadband family, and our recently launched SAILOR Satellite TV systems whilst establishing a strong platform for future developments in the VSAT arena." SAILOR 900 VSAT is designed and built to the exact same standards as Thrane & Thrane's SAILOR terminals for Inmarsat services, which have become the de facto industry standard in the professional maritime industry thanks to their reliability, suitability for the harsh maritime environment and the high-levels of global support offered by Thrane & Thrane.

For pumping off bilgewater at sea, the regulation applies that the residual oil content must not be higher than 15 ppm. **GEA Westfalia Separator** can achieve this with the Westfalia Separator Bilge Master clean design. Without the use of adsorption filters, without chemicals, merely through mechanical separation with the separator. GEA Westfalia Separator can also meet the market demand for only 5 ppm in certain regions with the entire BilgeMaster series in clean design. As an example, GEA Westfalia Separator will be presenting (Hall A3/Stand 240C) at SMM 2010 a BilgeMaster cleandesign D2000 without filter with SafetyMaster as additional protection against undesired pumping overboard of oily bilgewater. Westfalia Separator BilgeMaster cleandesign with maximum oil contents of 5 or 15 ppm in the bilgewater for the entire series. The efforts to secure environmentally-friendly maritime transport and emission optimized ships is entering the next phase. The exhaust gas values of the ships must be reduced further. Sulphur in the fuel, in particular, is in the focus of the supervisory authorities. GEA Westfalia Separator is launching the Westfalia Separator FuelCoolingMaster.

Bremen based **RWO** is a leading supplier of systems for water and wastewater treatment aboard ships and offshore rigs. Its product program covers the treatment of ballast and wastewater, bilge as well as drinking and process water. The company is part of Veolia Water Solutions & Technologies, subsidiary of Veolia Water, a leading design & build company and a specialized provider of technological solutions in water treatment. At SMM, RWO will demonstrate its capabilities in the field of water and wastewater treatment including the recently type approved new sewage treatment plant series WWT-LC and the well known ballast water treatment system CleanBallast. To fulfil the new guidelines for Sewage Treatment plants set by the International Maritime Organization (IMO) Resolution MEPC 159(55), RWO has enhanced its top selling WWT system. Based on this experienced technology together with some important process improvements the WWT-LC represents a reliable, easy to operate and compact plug & play unit. The 3-chamber systems operates with a Mixed Bed Biofilm Reactor (MBBR) providing process stability and excellent effluent results. RWO has developed a modular CleanBallast technology for onboard treatment of ballast water, which is designed to reliably removes organisms, sediments and suspended solids in just two steps: the DiskFilter system for mechanical separation followed by the special EctoSys disinfection unit, which further reduces the number of living organisms.

Hall A4/Stand 112

Voith Equips Special Vessels for Offshore Wind Energy

Wind energy plants are increasingly built offshore. Their installation is carried out by giant special vessels. During the second and third quarter of 2012, two such jackup vessels will be launched in Dubai. They will be the first vessels of this kind fitted with three Voith Schneider Propellers (VSP) each. Approximately 131 meters in length, a width of 39 meters, an input power of 11.4 MW, 5 300 tons maximum load, an operating platform covering some 3 200 square meters and an installation crane capable of lifting loads weighing up to 800 tons up to a height of 24 meters. These are the key data of the two jackup vessels with identical design that will be built by the Dubai shipyard Lamprell Energy. Delivery is planned in May and September 2012. Their future task: transporting and installing offshore wind energy plants, especially in the North Sea. This is their intended end purpose according to their owner, Fred Olsen Windcarrier AS in

Norway. High performance, maneuverability and reliability are the key requirements for the propulsion system. This is why Fred Olsen has decided in favor of a solution with Voith Schneider Propellers: three VSP ensure propulsion and accurate positioning and bring the naval giants to a sailing speed of 12 knots during crossings. Advantages in Maintenance, Maneuverability and Efficiency A typical design characteristic of these vessels are the four columns or "jackup legs", which can be lowered to the bottom of the sea, lift the vessel and turn it into a stable operating platform in the sea. For this process, the vessels have to hold their position with extreme precision. This is where the advantages of the VSP in direct combination with the dynamic positioning system come into special effect. It only takes three seconds for the drives to reverse. This prevents the ship from making leeway, which is normally inevitable due to the swell of the sea. The moment when the vessel is lifted from the water is particularly critical. During this transitional phase of lifting, the VSP delivers significantly better thrust than other propulsion concepts. Wind Turbine Installation Vessel with three Voith Schneider Propellers. The VSP also allow a simple hull shape. These ships can thus be built with an hydrodynamically efficient design, which has a positive impact on consumption figures and emissions. Voith carried out a relevant model test, during which these advantages were successfully demonstrated. Another feature of the jackup vessel is the intelligent Voith Roll Stabilization (VRS).

SMM '10

Shipbuilding, Machinery & Marine Technology

24th International Shipbuilding Fair

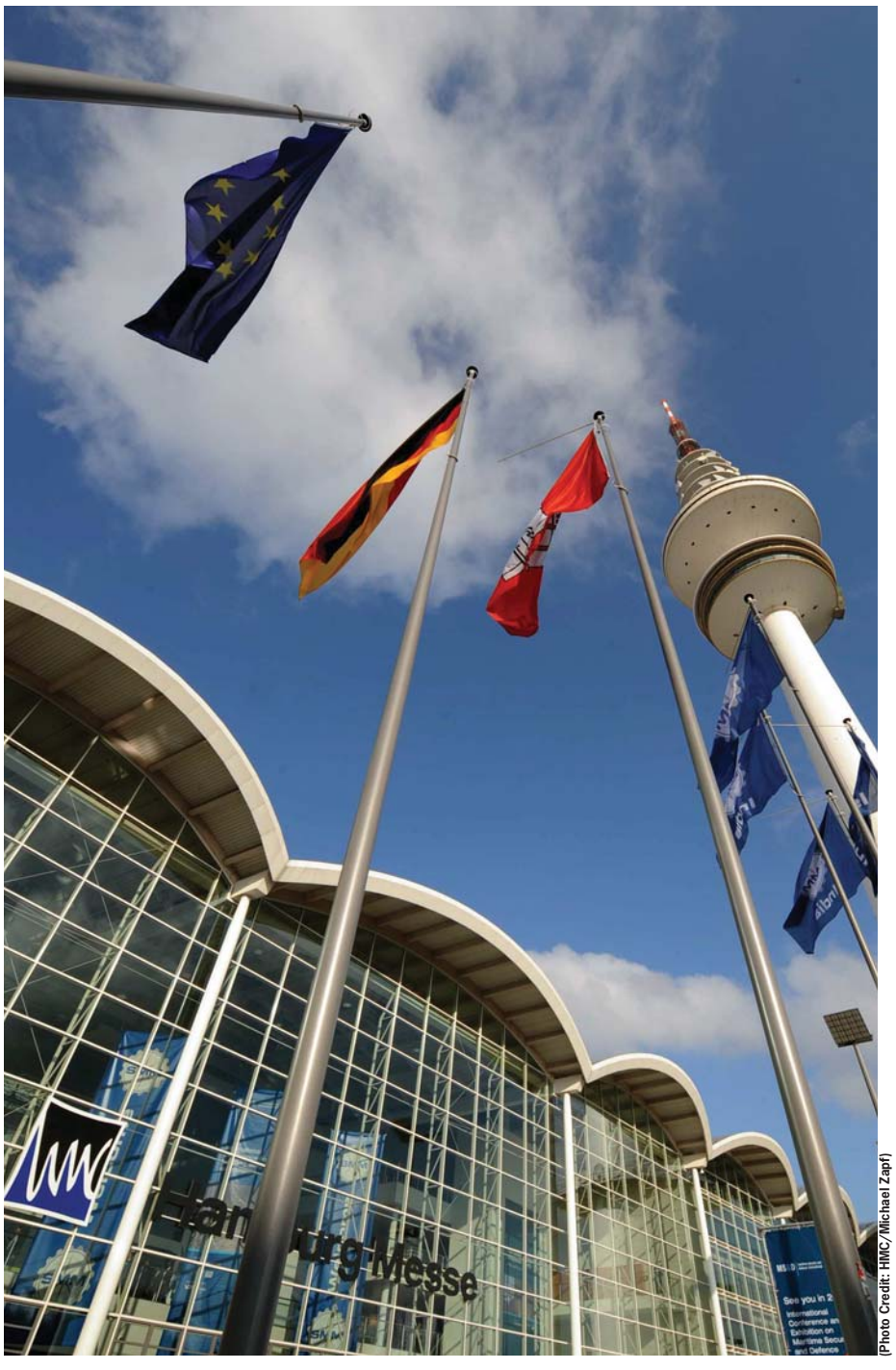
Hamburg, Germany – September 7-10, 2010

SMM 2010, the world's leading shipbuilding, machinery & marine technology exhibition, is once again set to take over Hamburg, Germany, scheduled for September 7-10, 2010. SMM 2010 is the unquestioned king of international maritime trade events, attracting nearly 2,000 exhibitors and more than 52,000 visitors over its four-day run.

"The main theme for the maritime industry at SMM 2010 is undoubtedly green technology, for protection of resources and the environment," said Dr. Reinhard Lüken, Secretary General of the Community of European Shipyards Association (CESA) in an exclusive interview for HMC.

"A whole host of innovative solutions is available from SMM exhibitors," said Dr. Lüken, "some of them giving amazing benefits." The tremendous commitment of the maritime industry in this field is also reflected in the global maritime environmental congress (gmec), which he described as one of the many highlights during SMM 2010.

Recovery is getting under way from the global economic and financial crisis, where the shipbuilding industry suffered a significant drop in demand following years of record-breaking success. Dr. Lüken now sees economic improvements coming up for the maritime industries, even if renewed orders will not be distributed evenly throughout the world. But he notes that "The shipbuilding market remains a long-term growth market in Europe, too. The world population continues to grow rapidly, and the oceans are being used more and more intensively, not only for transport, but also in areas such as generating energy and extracting resources." At the same time, the weakness of demand in 2009 points to disruptions in global structures, and he warns that "the extent of global excess capacities and state interventions in the market gives all market participants cause for concern." A major worry for CESA is the structural difference between the Europeans and market players on other continents. He noted that the average company size in Europe is a great deal smaller, so they have less reserves to get them through lean periods.



(Photo Credit: HMC/Michael Zapf)

That is why, for some time now, European shipbuilders and marine equipment suppliers have looked mainly to special-purpose ship building for their market opportunities. That does not mean certain ship types, but rather all products which are significantly different from the standard designs in the mass markets. "In view of the dynamic rate of innovation, and the rapid changes in framework conditions, such as emission levels and fuel costs, I am convinced that new, smart designs will give good opportunities in many market sectors," says Dr. Lüken. "The possibilities of presenting successful innovative technical solutions and thus gaining new markets have perhaps never been greater than today."

But the opportunities for occupying specific niches are diminishing. For ex-

(Photo Credit: HMC/Michael Zapf)

(Photo Credit: HMC/Michael Zapf)

(Photo Credit: HMC/Zielke)

ample, Asian shipyards have also moved into construction of offshore special-purpose vessels. However, that does not seem to be a major cause for concern for CESA. Dr. Lüken feels that the Europeans "regularly" offer the better products in the offshore sector too, not least thanks to ongoing further development. In order to protect these innovative developments, CESA introduced its GuardSHIP initiative two years ago, with a manual on protection of intellectual property rights of European shipbuilding. There is an enormous problem of illegal copying of new technologies and products, and that includes the shipbuilding and marine equipment industries – the problem is still often underestimated, says Dr. Lüken. "Especially at a time when standard designs are practically impossible to sell, the know-how lead is the decisive factor. If we want to be successful in future, we cannot afford to neglect the protection of intellectual property rights," he warns.

In conjunction with SMM 2010, the first global maritime environmental congress (gmec) will be held on September 7-8, 2010. This conference (see related story on page 54) brings together more than 700 high-ranking representatives from industry, government, academia, navies and environment protection organizations, to elaborate and present practical solutions for environmentally sound, sustainable shipping.

www.gmec-hamburg.com.

For more information on SMM, visit

www.smm-hamburg.com

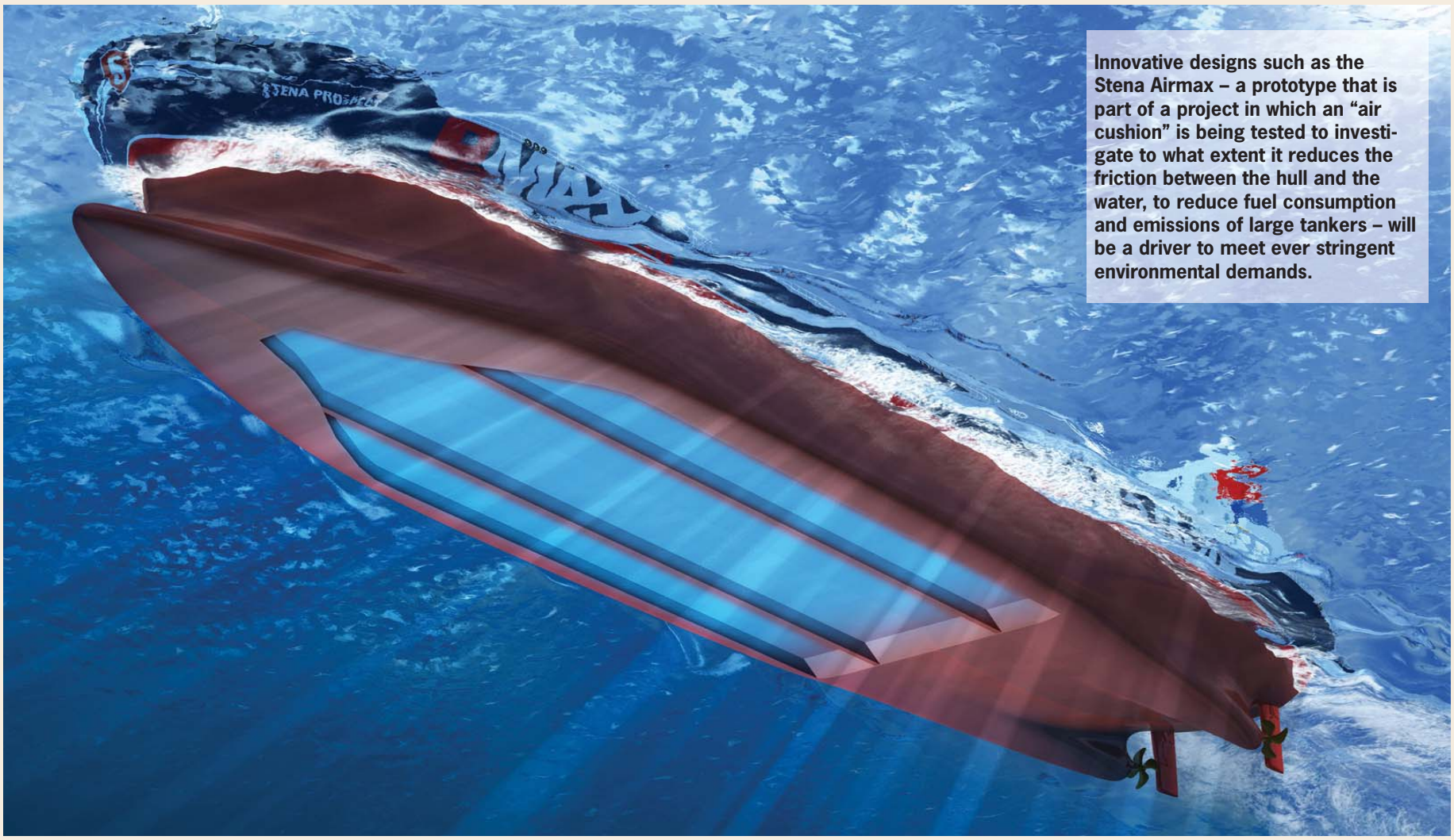
gmec

Innovative environmental technologies becoming a competitive factor

Currently an ever increasing number of shipyards, shipping lines, associations and classification societies are announcing the development of innovative eco-ships, thus reacting to ever more stringent international regulations and fiercer competition. These measures include improved hull shapes; air lubrication systems; use of fuel cells; solar power and wind energy.

There is no means of transport that is as international as shipping – and the environmental regulations for shipping are correspondingly global. From status quo to vision for 2020, the first “global maritime environmental congress – gmec 2010” gives an expert overview of the technical possibilities. The the industry itself is setting ambitious goals: The world's merchant fleet comprised more than 100,000 ships at the end of 2009. And despite the global economic crisis fleet growth continues. The crisis put the brakes on the shipbuilding plans of the owners, but the shipyards still have full order books, with more than 9,000 vessels. Nearly 14,000 newbuildings were launched from January 2005 to December 2009. Spyros Polemis, Chairman of the International Chamber of Shipping, sees the best opportunities for reduction of carbon emissions in new building of green ships. "Remembering that ships have a life cycle of 25 years, we need new ideas for long-term reduction of the carbon footprint of shipping." He goes on to emphasise that the maritime industry often moves faster than government and the industry associations. In the past few years, the companies have introduced many of the necessary measures before the corresponding regulations or legislation have entered into force. For example, the industry is already working on improved hull designs and more efficient propulsion systems.

Other improvement areas Polemis mentions are optimisation of shipboard energy supply, and in general the development of technologies that make the world merchant fleet less dependent on fossil fuels. He also indicates that measures are needed to improve the performance of ships already in service. Developments here include speed optimisation of ships, improved route planning, and more efficient on-board management. "The maritime industry has made enormous improvements in environmental protection in the last 30 years, as a result of their own efforts, and also in close cooperation with the IMO." The IMO has adopted numerous regulations, for example on handling of ballast water, marine



Innovative designs such as the Stena Airmax – a prototype that is part of a project in which an “air cushion” is being tested to investigate to what extent it reduces the friction between the hull and the water, to reduce fuel consumption and emissions of large tankers – will be a driver to meet ever stringent environmental demands.

coatings, and on scrapping of old vessels. Another important milestone mentioned by Spyros Polemis is the introduction by the IMO in 2008 of stricter standards for SOx and NOx emissions. Zero pollution of the environment will remain the long-term goal of the maritime industries.

DNV Require Zero-Ballast Ships

As a speaker at gmec 2010 Tor Svensen, Chief Operating Officer of the classification society Det Norske Veritas (DNV), giving special attention to emissions and ballast water. Although the impact of air emissions from shipping is more in the focus of public discussion, Tor Svensen believes that ballast water should get similar attention. He emphasises that ballast water cleaning, and the development of zero-ballast ships are the technical solutions needed here. Other important issues to be addressed by Tor Svensen are noise emissions from ships, waste water and solid waste management. He will present various solutions and best practice examples at gmec 2010. He divides the various factors that can influence ships' emissions into three categories – energy efficiency optimisation, selection of fuel, and exhaust gas cleaning.

NYK Bet on Air Lubrication Systems

Masahiro Samitsu, Corporate Officer und General Manager of the Environment Group of Japanese shipping line NYK, will talk at gmec 2010 on technical innovations for green shipping from the viewpoint of one of the world's largest shipping lines. The NYK fleet comprises as many as 800 ships – simply the size of this fleet gives great importance to what it does for environmental protection. The NYK environmental expert will present a number of practical measures and potentials for reduction of CO_2 emissions. For example, the NYK Line launched the first two ships with an air lubrication system in April this year. The air is injected between the ship's hull and the water to reduce friction, and this is claimed to reduce energy consumption by 10%. In December 2008, NYK launched a RORO ship fitted with solar panels, and it is currently undergoing trials. The panels contributes 6.5% of shipboard power, with a correspondingly positive impact on carbon emissions. Masahiro Samitsu gives a visionary view of environmentally sustainable innovations of the future at gmec 2010, presenting the "NYK Super Eco Ship 2030". This ambitious project envisages a reduction of up to 69% of CO_2 emissions. 2% of this is achieved by photovoltaic energy, 4% by wind energy, and 32% by fuel cells.

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U.S. Army Corps of Engineers Completes the Extension of the

Dredge Hurley

By James H. Asbury IV, PE – Marine Design Center & Donald V. Mayer – Memphis District, Ensley Engineer Yard

The Corps of Engineers Memphis District Ensley Engineer Yard (EEY), in partnership with the Corps of Engineers Marine Design Center (MDC) in Philadelphia, Pa., completed the lengthening of the Dredge Hurley by 48-feet. The project increased the dredge's length from 305 to 353 feet, making it one of the largest vessels on the river and increased the dredge's dredging depth from 40 to a maximum of 75 feet. This project will enable the Corps' newest dustpan dredge to be better serve the Mississippi Valley Division in its mission to maintain a deep water navigation channel in the southern passes of the Mississippi River.

The Marine Design Center is the Corps of Engineers national center of expertise for Naval Architecture and Marine Engineering, and in partnership with the Philadelphia District's Contracting Division are capable of servicing the USACE districts in all areas of procurement, construction and repair of the USACE fleet. They have recently expanded their mission into all areas of marine engineering including shore side support and harbor maintenance.

The Memphis District's Ensley Engineer Yard is the Corps' only true shipyard facility. Ensley has three floating drydocks, the largest being 320 feet in length, a fully staffed welding and ship fitting shop, and a complete machine shop. In the past eight years, Ensley and the Marine Design Center have partnered to complete four major ship alterations including the installation of new bow thrusters and a ladder hoist system on the Dredge Hurley in 2003, a new main engine cooling system on the Towboat Mississippi in 2005, new kort nozzles and steering system on the Dredge Jadwin in 2007, and a stern swivel connection on the Dredge Potter in 2009.

The Dredge Hurley is operated by the Memphis District and was commissioned in 1993.

Dredge Hurley completed and ready for work.

Originally built to dredge to a maximum of 40 feet, it replaced the 1933-built Dredge Burgess. Shortly after the Hurley entered the Corps fleet in 1993, engineers identified a need for it to be able to dredge up to 75 feet. The project was authorized in 1997, and concept engineering was completed in 1999.

In 2000, the Corps of Engineers received authorization and funding to complete portions of the overall lengthening project with the exception of the actual lengthening of the vessel. MDC and EEY partnered to install new azmuthing bow thrusters, and a new ladder hoisting system consisting of a new A-frame and ladder hoist winch. The hoist winch was sized for the lengthened ladder in anticipation that at a future date, the dredge would be lengthened.

In 2007, after extreme high water on the Mississippi River, leaders realized that a lengthened Dredge Hurley would significantly benefit the nation. Funding and authority to lengthen the Dredge Hurley soon followed. Again, MDC and EEY partnered to complete the largest project Ensley has undertaken to date. MDC provided all engineering support to EEY, handled all major supply contracts to support the yard, provided project oversight and technical support, and resource management support to EEY. MDC performed an analysis of the new power cable runs, checked the cable sizes for voltage drop, and selected the appro-

Hurley Horn Insert being constructed.

Hurley Horn Insert being trasported.

Hurley Horn Insert completed.

Barnhart moving Horn Insert into position.

Barnhart Moving Hurley Bow in Dry-dock.

priate cable sizes.

On behalf of MDC, the Philadelphia District contracted with Edgen Murray to supply the majority of the steel required for project, procured new power cable from Eutex International, contracted with Barnhart Crane and Rigging to supply crane and rigging services, procured a new knuckle boom crane from DMW Marine, shackles for hoisting the dredging ladder, and new deck grating.

In July of 2009, Ensley Engineer Yard started the ladder extension project by fabricating a 49-foot ladder insert that would be installed in one of the existing spare dredging ladders. MDC supported EEY in providing templates for cutting complex angles in the pipe used for the ladder structure, and provided nested drawings with part numbers for easy assembly of the plate steel sections of the ladder insert. Ensley then cut the spare ladder in two sections, and inserted the new section between the existing sections to make the ladder 108-feet long. After completing the ladder insert section, Barnhart Crane and Rigging moved the ladder insert from the fabrication shop to the waterfront, where EEY used one of their cranes to place it on a barge with the existing ladder sections to be extended.

Through the regionalization process, EEY enlisted welding talent from several other districts, including Detroit, St. Louis, and Vicksburg for this project.

The initial plan for extending the hull

was to build the hull sections in place on Ensley's 320-ft dry-dock. Prior to cutting the hull, EEY and MDC determined that building the horn sections in the fabrication shop floor would be more productive than building in place. After EEY ironed out the logistical challenges of building a steel structure of that size, work began on fabricating the horn insert sections. Each horn section was 48 feet long, 20 feet wide and 12 feet high. This decision proved most advantageous to the project because the horn sections were built indoors. This prevented any weather related delays, kept workers right next to their restrooms and break areas, and caused morale in the shop to reach an all-time high. EEY asked MDC to develop a plan to get the horn sections out of the shop and into the dry-dock. Ensley also simultaneously constructed the new A-frame outside the shop. To remove the horn sections from the fabrication shop, EEY also opened their rear shop door to 30-ft by 16-ft, enabling them to handle and remove these sizeable steel sections.

The Philadelphia District issued a contract to procure rigging services, and awarded the contract to Barnhart Crane and Rigging. Barnhart came into EEY's facility with two Goldhofer trailers, lifted the horn sections off the shop floor, set each section onto a Goldhofer trailer, then drove the horn sections to their facility on McKellar Lake. EEY then moved the Dredge Hurley on their dry-dock across the lake to Barnhart's facility, where Barnhart moved the bow sections to their new location, and placed the new horn sections into the dry-dock with their derrick crane.

New Hoist Winch.

New A-frame.

To simplify installation of the horn insert sections, EEY and MDC moved the cutline forward 30 inches from the original design location. This change moved the support for the rear A-frame legs forward of the original design location, and required design of a new structure. MDC's engineers analyzed the structure, came up with several alternatives and presented them to EEY's fabricators. MDC engineers in partnership with Ensley designed a new structural bulkhead that would be inserted through a slot cut in the deck of the new insert that would provide the required structural support for the A-frame. MDC engineers also designed a new foundation for the ladder hoisting winch, as the winch was moving forward with the A-Frame from its original location. After completion of 90 percent of the structural welding, tenders moved the dry-dock back over to Barnhart's facility where they placed the extended ladder and new A-frame on the vessel. The dry-dock then traveled back to EEY's facility, where workers completed all structural welding, pulled new power cables through the new horn sections and reconnected to the loads, and installed new deck grating.

This project was a success thanks to the close partnership developed between the Marine Design Center and Ensley Engineer Yard. This partnership, developed over the past eight years, has resulted in the Corps of Engineers' ability to tackle major ship alterations to capital equipment. Marine Design Center's engineering expertise in marine engineering and naval architecture, and overall project management, coupled with Ensley's production and repair facilities, allows them to tackle almost any floating plant project for the U.S. Army Corps of Engineers.

Ohio Ferry Line adds Capacity Boat Lengthening

Miller Boat Line, based in Put-in-Bay (South Bass Island), Ohio, added capacity to its fleet by lengthening one of its vessels with the help of Great Lakes Shipyard, a division of The Great Lakes Group, in Cleveland, Ohio. This past winter, the company fabricated and installed a new 40-foot mid-body extension for Miller Boat Line's passenger/vehicle ferry the Put-in-Bay, just in time for the 2010 season. "We were fortunate to need additional capacity to accommodate the traffic to the islands and our longer vessel now allows us to do that," said Scott Market, vice president of Miller Boat Line. "We feel blessed to be able to grow our business in these tough economic times."

Miller Boat Line operates four all-steel passenger/vehicle ferries, each approximately 96 ft. long, which run on Lake Erie from Catawba to Put-in-Bay (South Bass Island) and Middle Bass Island, Ohio, popular summer tourist destinations. What started out as a straightforward mid-body extension project grew into a complete rebuild, including replacement of the main engines. During the modification, Miller Boat Line decided to repower the ferry by removing its original engines and installing a pair of new Tier II environmentally sound

New Hoist Winch.


Back in business.

Caterpillar Model C18 diesels engines. The new propulsion engines, which were supplied by Ohio CAT, meet U.S. EPA Tier 2 and EU Stage IIIA emissions regulations and also burn biofuel.

The mid-body extension of the Put-in-Bay increased the length of the vessel from 96 to 136 ft. overall and nearly doubled its carrying capacity, increasing it from 79.9 long tons to 158.5 long tons. With a molded beam of 38 ft. and a maximum mean draft of 5.75 ft., the ferry can now carry double the number of trucks. From a consumer's perspective, the extension of the Put-in-Bay will allow it to carry eight additional cars or 100 more passengers. The work took place with the help of a floating work station on the Cuyahoga River and was supervised by the U.S. Coast Guard Marine Inspection Unit, headquartered in Cleveland.

The eight-month rebuild also included the installation of new articulating rudders, a new steering system, new main engine keel cooling system, generator overhauls and new propellers. During trials, the vessel attained a cruising speed of 11.7 knots and maximum free running speed of 13.8 knots. The project was one of the largest ever for Great Lakes Shipyard, which built a new fabrication and repair facility in 2007. The facility is used for the construction of unique custom-designed marine products, such as the mid-body section, and for tug and barge construction. The shipyard was recently awarded $6 million by the State of Ohio for the acquisition of a new 700-ton mobile boat hoist. In addition to the vessel lengthening, Miller Boat Line has begun using a 10-20 percent biofuel mix in another one of its passenger vessels, the William Market, and has plans to eventually use it in all four of its vessels. Miller Boat Line is one of the only passenger ferry services in the nation using this type of alternative fuel.

APL Retrofits Fives Ships for 'Cold Ironing'

APL has signaled its intention to run a more environmentally benign fleet, recently completing the retrofit of five vessels for cold-ironing, to debut next winter at APL's marine terminal in Oakland, Calif., where APL reportedly will become the first and only carrier or terminal operator at the Port of Oakland to cold-iron ships. By shutting down shipboard generators in Oakland, APL expects to eliminate 50,000 pounds of nitrogen oxide emissions — a leading component of smog — annually. It also expects to eliminate1,500 pounds of particulate matter emissions a year. APL has been equipping its C-11 class vessels with cold-ironing capabilities throughout 2010. The last of the five ships returned to service this month from the Keppel Shipyard in Singapore.

Bollinger Tank Barge Conversion

Bollinger Algiers, L.L.C., and Bollinger Amelia Repair, L.L.C., redelivered the double hull asphalt Barge B. No. 235, a 133,000 barrel (BBL) Oil Pollution Act of 1990 (OPA'90) compliant tank barge and accompanying tug, J. George Betz, a 6140-hp oceangoing tug, back into service for Bouchard Transportation Co., Inc., Melville, NY as an Articulated Tug/Barge (ATB) unit. The Barge B. No 235 was taken out of service and delivered to Bollinger's Amelia facility to install the Intercon connection system and upgrade the barge with a full ballast system. During the conversion, the barge also completed its regulatory docking and permitting process prior to successfully completing builder's trials. Returning to full service as an ATB asphalt capable tank barge, the barge measures 483 x 80 x 36.2-ft. without the tug coupled into the notch. At the same time that the Barge B. No 235 was taken out of service, the accompanying tug, J. George Betz, was delivered to the Bollinger Algiers facility to install the Intercon connection system, upgrade the vessels electronics systems as well as complete regulatory docking and permitting with ABS.

$60m Box-to-Livestock Carrier

Drydocks World entered the livestock carrier conversion sector with a $60m order from Saudi Arabian company Hmood Al Ali Al Khalaf Trading and Transportation Est. The contract is to convert a 2,300 TEU containership into a livestock carrier in line with state-of-the-art technical specifications. The livestock carrier is designed by Denmark-based firm Corral Line, and to be converted at Drydocks World's Pertama yard in Batam, Indonesia.

Chariot Robot Helps Cut Gibdock Schedule

First use of an advanced blasting technology has enabled Gibdock to redeliver three Danish-owned containerships that required full hull blasting and coating ahead of schedule. The Gibraltar yard undertook blasting and painting for all three ships within the owner's time requirements of 29 days. However, Joe Corvelli, Gibdock CEO, said that the introduction of Envirobot Ultra High Pressure (UHP) Robotic System from Chariot Robotics on the third ship made a discernable difference to work-rates. "The way the Envirobots work in any position on the hull offers clear scheduling advantages," said Corvelli. Widely used for high profile cruise ship, oil tankers and above ground storage tanks, the Envirobot developed by Chariot Robotics is equally appropriate across a range of vessels. Operated by an individual, the robot uses magnetic air gap technology which allows it to sweep or full blast, back and forth across the hull's flat bottom, vertical sides, bow and stern shapes equally. The UHP Envirobot was used to blast 2,000 sq. m. of hull underwater in the ship's mid-section, with wetblasting used on the curved bow and stern sections. "The UHP standard is perfect and there is no flash rust due to the combination of vacuum and warming of the steel during the process, which causes the residual water to evaporate quickly," said Corvelli. "What impressed us was the reliability of the Chariot Robotics equipment. This has been an issue with some UHP systems in the past." The System cleans using the energy of water striking the hull's surface, operating at pressures as high 55,000 p.s.i. As no abrasives are used in the process, dust pollution does not occur and the need to dispose of spent abrasives is eliminated. Corvelli said the benefits of using the UHP approach fitted with Gibdock's strategy to adopt environmentally friendly technologies.

"The way the Envirobots work in any position on the hull offers clear scheduling advantages"

Joe Corvelli, Gibdock, CEO

Pacific Ship Repair & Fabrication:

New Precision Water Jet Cutting Services

Pacific Ship Repair & Fabrication (PACSHIP) is offering precision water jet cutting services at its San Diego shipyard and fabrication shop. The ship repair and fabrication contractor is capable of processing complex parts from virtually any material with its new 60,000 psi Jet Edge Mid Rail Gantry water jet cutting system, which features an 8 x 13-ft. work envelope and is capable of maintaining +/- 0.001-in. linear positional accuracy (over 12-in.) and +/- 0.001-in. repeatability (bi-directional). The water jet cutting machine was procured when the shipyard received a Small Shipyard grant through the Maritime Administration, said Bill Carroll, PACSHIP director of business engagement. Since installing its Jet Edge waterjet machine, PACSHIP already has experienced improvements in quality, efficiency and capabilities. "We have greatly increased our capabilities in all types of material cutting, thus reducing the need to outsource precision cutting by keeping the work in house," said PACSHIP's Sheetmetal Department Manager, Dave Whitacre. "We recently accomplished the precision cutting of approximately 1000 SQ.FT of 0.5-in. thick Kevlar armor plating to assist in our ballistic door manufacturing. As far as productivity gains, we can tell you that, for the Sheet Metal Department, the waterjet has significantly reduced the time on task jobs by a factor of five." PACSHIP, which serves both the marine industry and general fabrication customers, uses its water jet to cut many military-use materials such as Kevlar and high-strength armor plating, as well as plastics, carbon fiber, rubber, copper, and stainless steels.

(Photo credit: Pacific Ship Repair & Fabrication)

Material shown is 0.75-in. inch thick bi-metallic ballistic armor plate. The bi-metallic plate consist of one each .375-in. thick. aluminum plate and one each .375-in. thick stainless steel plate.

"We determined that water jet cutting would be the best method for cutting these materials due to its precision and lack of heat affected zones," Whitacre said. "Our method of cutting these materials prior to the procurement of our water jet machine was to plasma cut, torch cut, or saw cut." PACSHIP specializes in aircraft carrier, combatant and auxiliary ship modernization and repair.

New Pipe Welding Technique: A Case Study

Southern Oregon Marine completes more than 7,000 ft of welds with zero defect rate

By Russ Gleason, Yard Superintendent, Southern Oregon Marine

Southern Oregon Marine, of Coos Bay, Ore., is the marine construction and repair division of Sause Bros., whose services also include ocean towing, cargo handling and ship assist. In November 2008, Titan Salvage asked if we could weld 12 jack-up barge pipes to API-2B specifications. The pipes had a finished length of approximately 145 ft, an outside diameter of five ft, 11 inches and were one and a half inches thick. The average single pass weld was 18 ft, four inches long, and each joint required approximately 32 passes for a total of 587 ft of welding per joint.

Using new welding equipment and pipe welding technology from Miller Electric Mfg. Co., coupled with an internal training program, Southern Oregon Marine completed a total of 7,044 ft of weld and achieved a zero defect and repair rate. Compared to our previous process, we saved six to eight man-hours and $500 per pipe by eliminating the need for a chill ring.

Extending the Piping

Titan Salvage, a Crowley company, completed a difficult and well-publicized job with its removal of the New Carissa wreck in Coos Bay in 2008. Titan used our Coos Bay facility as a staging area for its equipment at the end of the job, including the jack-up barges Karlissa A and Karlissa B, which have a combined clear deck space of 20,236 sq ft. Before moving these barges to their next work site, Titan requested that we extend the length of the 12 jack-up pipes from their current 110 to 113-ft lengths to approximately 145 ft by welding on additional pipe sections, which Titan supplied.

Previously, we had never welded pipe with a diameter larger than 42 inches, and we did not have mechanized or submerged arc welding equipment. However, we had recently modernized our welding equipment fleet with the addition of 450-amp multiprocess inverters and two systems with processes designed specifically for pipe welding. These processes, developed by Miller, are called RMD (Regulated Metal Deposition), which is a modified short circuit MIG process used for welding the root pass, and Pro-Pulse, a pulsed MIG process designed specifically for welding the second and subsequent passes on pipe.

(Continued on page 88)

The Q4000 flares off oil and gas as Coast Guard Cutter Resolute approaches the "City at Sea" at the site of the BP oil spill. The Resolute is serving as search-and-rescue, plane, and hurricane guard for the largest oil spill response in U.S. history.

Coast Guard photo by Petty Officer 1st Class John Masson.

"Moratorium" is a

Four Letter Word

While ten letters in all, "moratorium" might as well be the foulest four-letter word in the Gulf of Mexico oil patch right now.

On May 27, the Obama Administration ordered a halt to drilling in water depths more than 500 feet, effectively cancelling 33 drilling projects and reversing a tide of industry optimism in the region. Bill Foret, president of Golden Meadow, La.-based Abdon Callais Offshore LLC, said the company could have placed 50 OSVs to work on April 19 — a day before BP's Deepwater Horizon explosion, which killed 11 crew members and set off a gusher of crude 5,000 feet below the Gulf's surface for more than 80 days.

"The OSV market was showing signs of improving," Foret said. "And OSVs of all sizes were in high demand."

Kurt Crosby, CEO of Crosby Tugs Inc., based in Golden Meadow, La., agreed.

"Things were looking good before this incident," Crosby said. "Obama had approved drilling in the Eastern Gulf, off the East Coast and Alaska. Things were looking really positive. Now, it's just uneasy and unsure. We don't know what will happen next."

More than 100 days after the explosion, BP has capped the well and hopes to kill it for good. **However, what many industry watchers call an overarching political stunt by the Obama Administration threatens an entire industry. According to a study done by Louisiana State University for the American Energy Alliance, the current drilling ban could cost more than $2.1 billion in economic activity and more than 8,000 jobs along the Gulf Coast.** Nationally, the moratorium could cost $2.7 billion and 12,000 jobs, the study found. The "deepwater" ban affected shallow drilling, as well. Deepwater is generally considered depths of 1,000 feet or more, but all drilling permits, even those for shallow waters where blow-out preventers lie above the surface of the water, are falling under more scrutiny and exploration companies are tentative to invest until more is known regarding new federal policies.

"In the last five weeks, there's been only one shelf drilling permit issued [along the Gulf Coast]," Foret said on July 28. "Drilling rigs are starting to leave the Gulf and there will be an excess of equipment in less than 30 days. If we can't find any jobs, we'll be forced to cold stack equipment and consider laying employees off."

Industry leaders contend the Obama administration has set no clear specifics for the moratorium so drilling and offshore service firms have no way to formulate a business plan to cope with it.

"The long-term situation is this creates political uncertainties, which raises doubt among investors," said Otto Candies III, secretary-treasurer of Des Allemands, La.-based Otto Candies LLC, a marine transportation and towing company. "When the big rigs move out, they take the other equipment that supports it with them and it creates a trickle down affect."

Industry groups estimate that for every mariner working on-board a vessel, there are nine shore-side jobs it supports. Beyond the vessel crew, the negative consequences of the moratorium impacts everyone from service technicians working on diesel engines and air conditioning units to the grocery clerks filling the

vessel's galley and typical jobs in the community that provide ordinary services to those employed in the oilfield.

While Administration officials have tentatively set a Nov. 30 date for the moratorium to end, others contend the industry will nose dive way before that.

"If a decision [to lift the moratorium] is not made by Labor Day, thousands of American jobs will be lost overseas and not far behind that will be $4 and $5 gasoline," Foret said. "Industry-wide that will mean tens of thousands of employees and their families will be affected — people who can't pay their mortgages, shop in stores, buy cars, etc."

The immediate impact of the BP disaster was not fully felt by the OSV industry, as many vessels joined BP contracts for response and recovery operations. However, those contracts could be coming to an end soon.

"Everyone is glad the well is capped, but now these vessels are expected to be let off BP contracts and the moratorium will be felt full force," said Ken Wells, president of the Offshore Marine Service Association (OMSA).

Since its inception, the ban has been ensnarled in legal challenges and has twice been rejected by federal courts.

"But the feds have dug in their heels and it appears they will do whatever it takes not to comply with the federal judges' decision to lift it," Wells said. "So far, companies have bent over backwards to avoid cutting crews loose."

However, a recent OMSA survey of its members found between 70 and 80 vessels have been cold-stacked as a result of the moratorium, although Wells said he did not know how many of those vessels picked up BP contracts. Wells said the real impact of the moratorium is currently being felt in the new vessel construction sector.

A Current Buster is towed behind the Pope Benedict XVI in skimming operations. The OSV, owned by Abdon Callais Offshore LLC, is under contract with BP for recovery operations.

Photo courtesy U.S. Coast Guard

Contracted oil clean-up workers aboard the commercial tug "Stephen Dann" prepare to decontaminate a boat that has returned from oily waters off the Florida coast, June 27. Supervised by BM1 Glenn White, a Coast Guard re-servist out of Sector Honolulu (far right), the team sprays down contaminated vessels with high pressure salt water cannons and vacuums up collected oil into a container aboard the ship.

"There are several cases where companies have delayed or cancelled new vessel orders," Wells said. "And there's no discussion of new vessels."

For 13 years Abdon Callais Offshore (ACO) has been in the midst of an aggressive new build program, building more than 50 new vessels.

"ACO has two new OSV's which will be delivered in August 2010 by Master Boat Builders in Bayou La Batre, Ala." Foret said. "We were prepared to invest an additional $125 to $150 million in the next few years on building additional vessels, but we've cancelled our plans. We wanted to invest in our company and our people but the uncertainty and the current administration's detrimental views on the oil and gas industry doesn't support this additional investment."

Crosby said he had no previous new-construction program, "but I definitely would not go that route at this point," he said.

Many Gulf Coast firms could not comment on their affects from the moratorium, due to ongoing litigation filed against BP or the federal government. Rob Vosbein, general counsel for New Orleans-based Harvey Gulf International Marine LLC, said there are a plethora of legal questions still to be answered.

"Harvey Gulf is pretty active in the fight, but everything happens very fast," he said. "There are many questions, 'Do you file a separate lawsuit? Do you join with other companies?' We still have to see what the ramifications are. It's a very, very dynamic situation."

Harvey Gulf has 15 OSVs ranging from 240s to 280s and three 295-foot OSVs under construction.

Callais Offshore's OSV Pope Benedict XVI was retrofitted for recovery operations and contracted by BP.

"We have seen a tremendous fluctuation in our vessel schedules," Vosbein said. "An Alaska project was tabled and we had to find alternative charters for two other vessels. Another was hired by BP to work response. We're keeping vessels working despite the moratorium, but it is a huge concern due to the short-tem nature of the work."

Vosbein said the drilling ban could have the exact opposite effect on safety the Administration is seeking.

"It could actually create a brain drain," he said. "The question is will expertise move overseas? Or, will they stay here and wait or just simply move on to another industry? This could result in an impaired labor pool at all levels from trained mariners and technicians to engineers on up to executives leaving the industry."

And, if the ban goes the full six months, there's no flipping on a switch and everything goes back to normal overnight, he said.

"Just because the ban is over doesn't mean permits will automatically be issued the next day," Vosbein said. "I don't think this is a move by the government where truthfully on Nov. 30 you'll see [drilling] permits being issued. I hope we're wrong."

For now, industry leaders and workers are doing all they can to get the word out regarding the affects of the moratorium on the region and the nation. In July, 15,000 people rallied at the Cajundome in Lafayette, La., to draw national attention to their plight. The Louisiana Association of Business and Industry is leading a coalition of chambers of commerce, industry trade groups and civic groups called Gulf Citizens United, which will engage the issue through federal lobbying efforts. The American Energy Alliance also unveiled its own campaign called "Save U.S. Energy Jobs."

While political activism aims to sway the Administration's thus far firm stance, those on the front line are just trying to preserve what they can.

"We're trying to get the word out about what the impacts will be as best we can and continue to keep working. That's all we can do," Candies said. "We've got 500 employees that depend on us for their livelihood and we take that seriously. We have had no layoffs so far… that's always a last resort for us."

Crosby said it's a waiting game.

"Everyone is really watching to see how it will pan out," he said. "We hope they get it done sooner rather than later so our industry can get back to work."

Foret said ACO has not had any layoffs due to the moratorium.

"However, when Obama took office, the uncertainty within this industry forced us to cold stack 16 OSVs or 31 percent of our existing fleet and in turn we had to lay off 160 people. That's 160 families that were immediately affected just by Obama being elected. If this [moratorium] remains in place, then will it be 200, 400 or more families affected? I don't know. That's our concern."

Wells said the industry and the entire Gulf Coast business community will continue to aggressively fight the ban.

"It's going to be a fight, but so far you don't get the feeling anyone is shying away from that fight," Wells said. "My sense is the people in south Louisiana and along the Gulf Coast are coming together the way they did after [Hurricane] Katrina and they are ready to face this for the long haul."

Websites to get involved:
www.gulfcitizensunited.com
www.SaveUSEnergyJobs.com
www.rallyforeconomicsurvival.com

Vane Brothers, Alban Aid Clean-up


Tug boat Potomac

Vane Brothers closed a deal with British Petroleum to supply six tug boats which would maneuver six 50,000 barrel barges next to the skimmers that are collecting oil from the Gulf before pumping the oil out of the skimmers for transport to a disposal point at an oil refinery. Just three days prior, Vane Brothers had ordered a top end overhaul kit for twin Cat 3516B engines onboard the Potomac. Vane Brothers made a plea with their local Cat dealer, Alban Tractor, to complete the engine overhaul as quickly as possible so they could commit to assistance during the crisis.

To achieve this aggressive goal (the turnaround for an overhaul typically takes 25 days, including lead time for parts), teamwork was necessary between Vane Brothers, Alban, Caterpillar and CDS Transportation. First, the overhaul kit was ordered from Caterpillar Logistics Services in Morton, Ill. for parts to be packaged, shipped and delivered in twelve working days. These parts were immediately transported by CDS Transportation directly to Alban, where the overhaul on both engines was then completed in just eight days, one-third of the normal turnaround time. The overhaul was thus completed in time for the Potomac to be on its way to the Gulf of Mexico, where it arrived in time to join the other Vane Brothers boats in the oil spill response effort.

Resolve's Skimming Ops in Gulf of Mexico

Resolve has deployed its fleet of vessels to serve the pollution prevention and oil skimming operations in the Gulf of Mexico. Resolve has been operating out of its Theodore, Ala. port since the explosion on the Deepwater Horizon oil rig on April 20, 2010. Resolve was initially deployed to support the firefighting effort on the Deepwater Horizon rig and has since deployed more than 50 vessels and floating assets in support of the oil spill skimming and clean-up activities, as a subcontractor to BP. Resolve's primary focus has been the initial logistical planning for the skimming operations, the containment, management and removal of surface crude oil and the prevention of oil reaching beaches .

T&T Marine Provides Gulf Cleanup Response

T&T Marine Salvage has responded with manpower and equipment to help clean the oil spill in the Gulf of Mexico.

"Our crews have been working 24 hours a day, seven days a week to assist in the Gulf of Mexico cleanup effort," said T&T Marine Salvage Vice President Kevin Teichman. "We have flown in personnel and equipment from our response bases around the world for this ongoing project. Although we have a vast amount of assets dedicated to this spill, we also are maintaining readiness in our other areas of operation to ensure our customers are covered." T&T Marine's mobilized equipment includes spill containment boom, response vessels, skimming vessels with a total capacity of more than 20,000 gpm.

Recent Ship Sales

(Source: Shipping Intelligence, New York, NY)

Date	Name	DWT	YB(age)	Price
Bulk Carriers				
05/26/10	AIGIORGIS	17,686	79(31)	$2.2
05/26/10	AV KASTNER	19,075	87(23)	$3.5
05/26/10	COMANDATE	25,855	83(27)	$5
05/26/10	ATLANTIC LAUREL	27,797	99(11)	$21.5
05/11/10	TRI ARROWS	28,442	09(1)	$29
05/26/10	PALAWAN	32,029	07(3)	$28
05/04/10	SIAM PEARL	38,023	83(27)	$7
05/26/10	DA FU STAR	41,093	84(26)	$8
05/26/10	ZAMRUD	41,630	86(24)	$9
05/11/10	MED INTEGRITY	43,381	84(26)	$6.8
05/11/10	WESTERN SEATTLE	45,630	99(11)	$24.5
05/04/10	GRIFFON	46,635	95(15)	$22
05/26/10	CAKE	53,351	07(3)	$32
05/26/10	PAIUTE	69,183	95(15)	$23.5
05/26/10	IRINI	69,734	88(22)	$14
05/04/10	XANADU	72,270	99(11)	$30.5
05/11/10	GEMINI S	75,206	09(1)	$43
05/04/10	ZAGREB	80,300	08(2)	$39.5
05/04/10	PIONEER SKY	81,659	83(27)	$9.1
05/26/10	PB PHOENIX	97,161	89(21)	$16
05/26/10	SILVER CONSTELLATION	146,500	86(24)	$10
05/11/10	DOCECAPE	151,493	86(24)	$10.4
05/04/10	KAZUSA	227,183	88(22)	$22.5
06/09/10	DEFNE Y	4,412	80(30)	$ .8
06/21/10	SIAM EMERALD	10,122	99(11)	$8.2
06/28/10	SAVANNAH BELLE	22,558	82(28)	$2.9
06/02/10	DION	28,510	94(16)	$15.5
06/28/10	GREAT CHANCE	28,701	04(6)	$26.2
06/28/10	EMMANUELA	29,321	97(13)	$18
06/28/10	PAGONA	30,898	84(26)	$7.6
06/02/10	LARISA	30,900	81(29)	$4.5
06/21/10	PORT STAR	31,921	05(5)	$28
06/28/10	FADELSIA	32,145	00(10)	$25
06/28/10	XIN DONG GUAN 6	33,075	08(2)	$22.5
06/02/10	CS SADA	33,562	05(5)	$28.8
06/21/10	ARCADIA PROGRESS	39,338	82(28)	$5.7
06/09/10	JOHN GR	41,938	86(24)	$10.5
06/28/10	BARRA	42,648	98(12)	$22.3
06/02/10	JIN ACE	43,184	85(25)	$11.5
06/09/10	ELEOUSSA	44,950	94(16)	$21.7
06/21/10	BASIC ARROW	48,907	01(9)	$27.7
06/21/10	SKY ANGEL	52,549	01(9)	$28.8
06/21/10	MP PANAMAX 2	55,426	85(25)	$11
06/09/10	TEO	57,015	10(0)	$34.5
06/02/10	AMPHION	63,700	87(23)	$14.2
06/02/10	HELLENIC BREEZE	69,601	93(17)	$21.8
06/21/10	BEILUN SEAL	69,614	97(13)	$28
06/28/10	YK SENTOSA	72,625	00(10)	$32
06/09/10	PIRO	73,700	97(13)	$27
06/28/10	TRENTON	75,264	95(15)	$26.1
06/09/10	HERMES ISLAND	75,615	00(10)	$34.8
06/21/10	CMB ITALIA	76,620	05(5)	$40
06/28/10	SEA EMPIRE	79,800	10(0)	$41
06/02/10	KOYO MARU	86,690	85(25)	$12.6
06/21/10	GLORY SINGAPORE	148,982	87(23)	$15
06/21/10	CHS STAR	150,149	91(19)	$19.7
06/02/10	RUBIN ACE	151,279	96(14)	$29
06/28/10	CHINA FORTUNE	152,011	92(18)	$20.8
06/28/10	GOLDEN FUTURE	176,000	10(0)	$72
Chemical Carriers				
05/26/10	SUNNY HAWK	6,114	91(19)	$2.8
05/04/10	GLOBAL PALLAS	9,141	94(16)	$4.5
05/11/10	GLOBAL MERCURY	9,273	96(14)	$6.2
05/26/10	TROGIR	40,727	95(15)	$11
06/09/10	ISLE GRACE	5,667	08(2)	$12
06/21/10	SUNRISE SUZURAN II	6,536	02(8)	$8
06/21/10	SUNRISE ACACIA	12,489	07(3)	$16.5
06/21/10	BOW WEST	12,503	02(8)	$11.5
06/28/10	SAMHO GLOBAL	17,000	10(0)	$22
Containerships				
05/04/10	AMRUM TRADER	8,081	97(13)	$4
05/04/10	CAPELLA	13,760	07(3)	$15.5
05/26/10	CIELO DI CASABLANCA	13,760	07(3)	$14.5
05/04/10	SPICA	13,979	06(4)	$15.5
05/26/10	CONTI GERMANY	23,465	92(18)	$5.8
05/26/10	CONTI BARCELONA	23,596	91(19)	$5.8
05/26/10	CONTI JORK	23,596	90(20)	$5.8
05/27/10	MOJI TOWER	24,444	94(16)	$7.5
05/27/10	STX ASIA	24,502	91(19)	$5.3
05/27/10	URANUS	29,210	99(11)	$14.5
05/27/10	ARIES	29,266	00(10)	$14.5
05/04/10	NORTHERN FORTUNE	30,685	91(19)	$5.5
05/04/10	MSC NAJWA	52,000	10(0)	$42.5
06/21/10	MEKONG SPIRIT	12,380	96(14)	$7.4
06/21/10	CAPE HATTERAS	12,854	92(18)	$2.9
06/21/10	INGA S	14,464	95(15)	$6
06/02/10	ARKONA TRADER	30,300	98(12)	$16
06/02/10	ODER TRADER	30,360	98(12)	$16
06/28/10	SANTA ALINA	32,299	00(10)	$24.5
06/28/10	SANTA ANNABELLA	32,308	00(10)	$24.5
06/28/10	SANTA ARABELLA	32,321	00(10)	$24.5
06/28/10	SANTA ADRIANA	32,350	00(10)	$24.5
06/28/10	SANTA ALEXANDRA	32,391	00(10)	$24.5
06/28/10	NORASIA ALYA	41,748	04(6)	$30.9
Gas Carriers				
06/21/10	MAERSK JEWEL	29,190	06(4)	$45
06/21/10	MAERSK JADE	29,300	06(4)	$45
Passenger Ferries				
05/27/10	THE AEGEAN PEARL	2,388	71(39)	$19.5
RoRo				
05/26/10	RIJEKA	3,979	84(26)	$1.6
Tankers				
05/11/10	BRO VENTURE	7,475	95(15)	$5
05/11/10	BRO OPTI	7,475	95(15)	$5
05/04/10	MISS CLAUDIA	40,158	06(4)	$27.2
05/04/10	ZAO EXPRESS	45,744	04(6)	$25.5
05/26/10	PACIFIC SERENITY	47,999	03(7)	$24.5
05/04/10	LOCHNESS	90,607	93(17)	$14
05/04/10	TIGANI	97,114	91(19)	$12.4
05/26/10	OLINDA	149,258	96(14)	$19
05/11/10	MARKAB STAR	301,227	94(16)	$23.5
05/11/10	PHERKAD STAR	301,389	94(16)	$23.5
05/11/10	MIRFAK STAR	301,542	94(16)	$23.5
05/11/10	POLARIS STAR	301,569	94(16)	$23.5
05/11/10	SHAULA STAR	301,591	94(16)	$23.5
06/09/10	SUPREMITY	4,430	07(3)	$10.9
06/28/10	LIVIA	105,889	03(7)	$39.5
06/21/10	MARE SALERNUM	110,673	03(7)	$43
06/21/10	LENI P	159,223	07(3)	$70
06/21/10	POPI P	159,966	05(5)	$65
06/28/10	HEBEI TIGER	179,836	85(25)	$13
06/28/10	AROSA	291,381	93(17)	$18
06/21/10	BW HIBISCUS	298,816	95(15)	$42.5
Tweendeckers				
05/04/10	MARIA 1	4,565	85(25)	$1.2
05/04/10	KATERINI	5,207	80(30)	$ .7
05/04/10	SILVANA	6,311	92(18)	$3.7
05/26/10	SEA SAPPHIRE	9,038	95(15)	$14
05/26/10	THOR SKY	16,225	86(24)	$3.5
05/04/10	COLUMBIAN EXPRESS	20,479	86(24)	$6.5
05/04/10	TASMAN RESOLUTION	23,853	88(22)	$5.5

Dubois New CFO at CMA CGM

CMA CGM Group appointed **Olivier Dubois** as Group Chief Financial Officer, replacing Jean-Yves Schapiro. Dubois graduated from ESSEC Business School in 1976 and IEP Paris (Business Administration) in 1978. His experience has spanned over 30 years.

NAVSEA Engineers, Scientists Honored

Four Naval Sea System Command (NAVSEA) warfare center scientists and engineers were among those recognized, July 23, at the annual Top Navy Scientists and Engineers of the Year award ceremony at the Pentagon. The award was named in honor of Dr. Delores M. Etter who previously served as Assistant Secretary of the Navy for Research, Development and Acquisition. **Dr. Christine Michienzi** and **Christine Knott**, NSWC Indian Head Division, Navy Gun Propellant team, were recognized for development of the Navy Insensitive Low Erosion (NILE) gun propellant. **David Moretti**, NUWC Newport, Marine Mammal R&D lead, was recognized for his efforts in the development and application of passive acoustic methods and technologies for the study of behavior of marine mammals exposed to anthropogenic sound. **Dr. Brian J. Hankla**, NSWC Carderock, High Energy Laser programs technical area director, was recognized for his leadership of a multi-disciplinary team that evaluated threats to Navy ships that could be addressed by a high-energy laser capability. The team designed, built and demonstrated a prototype based on solid-state fiber laser technologies.

ACL Names Braman Senior VP, COO

American Commercial Lines said that **William A. Braman, II** has been appointed to the position of Senior Vice President and Chief Operating Officer, Transportation Services. Braman joined ACL in February 2009 as Vice President and General Manager, Transportation Services. At ACL, Braman directs vessel operations, fleet operations, logistics services, maintenance operations, safety and operational development.

Barton Mines Appoints Riggs

Barton Mines, a supplier of garnet abrasives for waterjet cutting and blast media, appointed **Tom Riggs** as Regional Sales Manager for the central region.

Campbell, Baker Joins Bisso

Baker

Campbell

Bisso Marine has added John C. Baker as director of Quality and Compliance. Baker directs and manages the company's ISO 9001:2008 Quality Management System and AWO RCP Safety Management System, including procedural development and auditing for compliance.

Joe Campbell joined Bisso Marine as general manager of Diving and Subsea Services. In his new position, Campbell manages all aspects of diving safety and diving operations for the company.

Roller Named EVP Colfax

Colfax, a provider of fluid-handling solutions for critical applications, said that William E. Roller has been promoted to executive vice president of Colfax Americas. Roller joined Colfax in 1999, as general manager of Imo Pump. Roller holds an MBA from the University of Virginia Darden School of Business and a BS in chemical engineering from Virginia Polytechnic Institute and State University.

NACE Selects Chalker

NACE International, the Corrosion Society, named Robert (Bob) H. Chalker as its new Executive Director. Chalker has served as Managing Director & CEO of ASQ Global, a wholly owned subsidiary of the American Society for Quality, for the past year and half. He is a dynamic leader with a vast background in strategic planning and global development. Chalker earned his MBA at Oakland University (Rochester, Michigan) and completed his undergraduate studies at the University of Cincinnati, where he received a Bachelor's degree in Industrial Engineering.

Arrieta to Head GAC Energy Arm

The recently established GAC Energy and Marine Services LLC (GEMS), a subsidiary of the GAC Shipping (USA) Inc., has appointed Carlos Arrieta as its new President to drive the growth of its integrated logistics services for the oil, gas, marine and mining sectors. His immediate priorities include further expanding its team of professionals and implementing a strategic marketing plan that covers business development; market analysis and research. He will also look at expanding the product portfolio further to better penetrate the energy sector in the region.

Cummins to Expand Product Line, Add 200 Jobs

Cummins is expanding its High-Horsepower Technical Center and high-horsepower engine product line at its manufacturing facility in Seymour. The expansion of the center will provide the company with more opportunities for producing high-horsepower clean-diesel and natural gas engines in the future.

Cummins plans to invest approximately $100m in the expansion at the Seymour plant, which is expected to result in approximately 200 engineering and manufacturing jobs over the next five years. The plant currently employs nearly 450 people.

NASSCO Delivers Product Carrier

On July 13, General Dynamics NASSCO delivered the fourth ship of its State-class product carriers to American Petroleum Tankers, LLC, a joint venture of the Blackstone Financial Group. The ship is named Empire State, the state nickname of New York. NASSCO began constructing the Empire State in January 2009. At a length of 600.4 ft, the double-hulled ship has a cargo capacity of approximately 331,000 barrels. The Empire State will be used initially to carry refined petroleum products for the Department of Defense under a commercial charter.

Aker Launches Tenth Tanker

On July 10, Aker Philadelphia Shipyard launched Ship 014, the tenth product tanker in a series of 12 to be completed in 2011. The 46,000 dwt vessel was floated off of its blocks and was transferred by tug from the Building Dock to the Outfitting Dock.

ZF Marine Mourns the Passing of Tom Katica

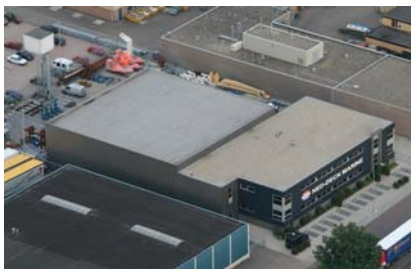
It is with sadness that the ZF Marine Group recognizes the passing of Thomas P. "Tom" Katica, our colleague and long time Account Manager for the Western Region. On July 8, 2010, after a two year battle with cancer, Tom finally succumbed in his home on Whidbey Island, surrounded by family. "This is a great loss, not only for ZF Marine, but the marine industry as a whole," said Wolfgang Schmid, President and General Manager, ZF Marine LLC. "Tom's passion for our business and this industry was clearly evident every single day. His warm smile greeted everyone he met, and his infectious personality created many life-long friendships. We extend our deepest sympathies to his fiancée Sara Jewell and the entire Katica family."

ABB Turbocharging Expands Service Network

ABB Turbocharging responded to strong growth in the global population of its turbochargers - over 190,000 units are currently in the field – by expanding and optimizing its global network of Service Stations. Bringing the total to 110 worldwide, ABB's network of service stations has been augmented by new outlets in Cagua, Venezuela; Barcelona, Spain; Naples, Italy; Douala, Cameroon; Dar Es Salaam, Tanzania; Haifa, Israel; Qingdao, China; and Limassol, Cyprus. In addition, to ensure the highest standards of service technician training, of a new training centre for ABB service technicians was opened at the Service Center in Baden, Switzerland.

Palfinger Grows

The Palfinger Group took another step towards growth by acquiring a 75-percent interest in the Dutch company Ned-Deck Marine B.V. (NDM). NDM is one of the leading manufacturers of rescue boat davits, a special application of marine cranes. The company is headquartered in the Netherlands and has another production facility in Vietnam. It is among the world market leaders in the standard segment of davit systems (A-frame davits and liferaft davits) and posts steep growth in special applications for the Navy and Coast Guard. The existing management team will stay in place to safeguard the continued success of the company. To further expand its ship crane business Palfinger is already planning another acquisition. The favored target is the marine crane division of Palfinger systems GmbH, which is owned by the Palfinger family and includes a business with a staff of approximately 150 generating approximately EUR 30 million in revenues. The due diligence of the business to be acquired will start in July. "We have been interested for quite some time in re-integrating the marine crane business into Palfinger AG as a meaningful and profitable supplement to our strategy," said Ortner.



Torm to Install IMOS6

Veson Nautical, provider of Maritime Enterprise Resource Planning (Maritime-ERP) solutions and services, announced that Copenhagen based Torm A/S, ranked by Tanker Operator as one of the world's top 30 leading carriers of refined oil products, will install version 6 of Veson's Integrated Maritime Operations System (IMOS). Veson Nautical's software will manage chartering, operations and accounting related functions for TORM's fleet. TORM's product tanker fleet numbers approximately 140 vessels, which vary in size from 37,000-110,000 dwt. The company is a carrier of refined oil products such as gasoline, jet fuel, naphtha and diesel oil. Torm's Copenhagen office manages tanker operations, covering all time zones 24 hours a day, seven days a week.

UK Recertifies MPS Courses

Maritime Protective Services announced the recertification for another five years of their training courses in the United Kingdom. The Maritime and Coastguard Agency (MCA) has again, reapproved their Ship Security Officer(SSO) and Company Security Officer(CSO) training courses, while the reaccreditation of their Port Facility Security Officer(PFSO) training course has again, been reapproved from Transportation Security Directorate (TRANSEC) of the Department for Transport.

www.mpsint.com

Naval Engineering Education Center Kick Off

Naval Sea Systems Command (NAVSEA) celebrated the kick off of the Naval Engineering Education Center (NEEC), launching a three-day conference at the University of Michigan, July 26-28. NEEC is a new partnership between NAVSEA and a consortium of 15 top colleges and universities as well as two engineering professional societies focused on developing the Navy's future science, engineering and acquisition workforce. The NEEC Consortium will increase the number of students who graduate with an accredited degree; provide world-class faculty specialized in naval engineering; coordinate employee development opportunities to retain naval engineering talent for the Navy; and increase the availability of naval engineering education programs and courses across universities and colleges. A key part of the NEEC is using project-based education to provide naval engineering experience to students. NEEC project teams from the universities, along with a NAVSEA engineer or scientist assigned to the team, will tackle current and future technical challenges, including the use of alternative energy sources, energy conservation, total ownership cost reduction, use of unmanned vehicles, advanced ship design methods and maintenance reduction. Through NAVSEA internships and at-sea opportunities on U.S. Navy ships, students will receive relevant, hands-on naval engineering experience. "This is a great day for science and engineering, our naval enterprise, and in providing infinite opportunities to build our future leaders to take on the responsibility to bring fresh, innovative ideas to our nation's shipbuilding missions," said Rear Adm. Thomas Eccles, NAVSEA Chief Engineer and Deputy Commander for Naval Systems Engineering.

One of the highlights of the Kick-Off event was the SeaPerch competition and awards presentation by Rear Adm. Eccles to five high school and college-bound students from across the nation.

Alfa Laval Names Thölin GM

Joakim Thölin has been appointed General Manager, Segment Marine & Diesel at Alfa Laval AB, effective as of April 1, 2010. He will be based in Tumba, Sweden, and he replaces Peter Carlberg who has taken up the position as Managing Director of Alfa Laval KK, Seoul Korea.

Eight Contracts to Brazil

STX Norway Offshore AS and partner PJMR Empreendimentos Ltda has through its subsidiary Estaileiro Promar S.A entered into contracts valued at approximately $536m for building of eight LPG Carriers at the new shipyard in Brazil. On July 9, 2010 Estaleiro Promar S.A. signed eight contracts to build LPG Carriers for Transpetro, the shipping arm of the Brazilian oil giant Petrobras. These vessels are part of the PROMEF 2, the second phase of the ambitious Transpetro's Fleet Modernization and Expansion Program and are scheduled to be delivered within Q3 2013 to Q4 2015.

W&O Opens Vancouver Facility

W&O, supplier of marine valves, pipe, fittings, engineered products and valve automation systems, is now incorporated in Canada and has opened a new facility in Vancouver, BC Canada. The new facility will directly service Canadian customers and support W&O's overall growth in the Canadian maritime market. The new Vancouver facility and dedicated staff develop customized maritime solutions for ship owners/operators, shipyards and marine engineers. With a comprehensive product offering similar to W&O's U.S. branches, the Vancouver branch offers Lloyds-approved pipe, valves and fittings along with American Bureau of Shipping (ABS)-certified and Japanese Industrial Standards (JIS)-certified marine products.

www.wosupply.com

New ClassNK Surveyor Office

Nippon Kaiji Kyokai (ClassNK) announced the official opening of a new surveyor office in Cardiff, U.K. The new office becomes the fourth new office to be opened by the Society this year, following the establishment of new offices in Malaysia, Syria, and Peru earlier this month.

ZF Marine Opens Technical Training Center

ZF Marine announced the official opening of its new Technical Training Center, located at ZF Marine LLC's new North American headquarters facility in Miramar, FL, providing ZF Marine's authorized North and Central American service partners with comprehensive training modules on all of ZF Marine's family of products. "Expanding our training capabilities was one of the priorities when we were building our new headquarters facility. Our rapidly expanding product offering combined with the ongoing expansion of our independent service network made sending factory training personnel into the field inefficient," said Tim McFarland Aftermarket Segment Manager.

The new facility is comprised of two parts, a classroom for theoretical training, and a fully equipped, dedicated shop area for practical training. The modern, multimedia friendly classroom is capable of accommodating 24 students. Factory trained bilingual instructors allow ZF Marine to host courses in both English and Spanish for the benefit of non-English speaking technicians coming to ZF Marine LLC for training. ZF Marine LLC is also considering offering basic maintenance courses for captains and boat owners in the future. Interested parties can contact ZF Marine LLC's Training Manager, Charlie Podoloff at 954-441-4034

Wärtsilä Wins Slow Steaming Upgrade Kit Orders

Wärtsilä signed a major contract with the A.P. Moller Maersk Group (APMM) covering the installation of Wärtsilä Slow Steaming Upgrade Kits to 34 more of the company's large container vessels, following the successful installation and testing on one of the fleet's sister vessels in late 2009. The 34 ships to be fitted with Slow Steaming Upgrade Kits are powered by Wärtsilä RT-flex96C and RTA96C main engines with 10, 11 and 12 cylinders. Applied to the Wärtsilä low-speed main engines, the Upgrade Kits will produce major savings in the ships' fuel consumption while also cutting CO2 emissions. The Upgrade Kits will be fitted by Wärtsilä as fully engineered solutions, with the company supplying all necessary material, labour, ship-specific engineering and full project management. It is anticipated that as a result of installing the Wärtsilä Slow Steaming Upgrade Kits, these vessels will achieve fuel savings of between 3% and 7% with the engine running at low load. These savings are in addition to those attained through reducing speed to slow steaming operation.

Axel Maersk is one of the vessels to which the Wärtsilä Slow Steaming Upgrade Kit will be fitted.

(Source: A.P. Maersk-Moller Group)

More ShipConstructor Promef Projects

Brazil's largest shipyard, Estaleiro Atlântico Sul (EAS), has started project-detailing on five Promef-related Aframax tankers with the help of ShipConstructor CAD/CAM Software. In May, EAS launched the Suezmax tanker, João Cândido, the first vessel in the massive Promef shipbuilding expansion program for Brazil's state-sponsored oil company, Petrobras. EAS is now using ShipConstructor to design and detail three separate Promef-related projects simultaneously: the five Aframax Tankers, 10 Suezmax tankers, plus a P-55 offshore semi-submersible hull.

www.shipconstructor.com

Dockwise Wins $45M in Contracts

Dockwise Ltd. announced four awards for Heavy Marine Transport (HMT) Projects that include an FPSO, two jack-up rigs and a power barge. Total revenues for these various commitments are almost $45m. Dockwise was awarded a contract with HHI (Hyundai Heavy Industries Co., LTD.) for the transport, loading, and discharge of Goliat, a 58,000 metric ton, cylinder shape Sevan 1000 design, fully integrated FPSO (Floating Production and Storage Offloading). Transport of the Goliat from Ulsan, Korea to Hammerfest, Norway is scheduled for 2013. The Goliat is 367.5 ft in diameter and 246 ft high. Dockwise has also been selected as the contractor of choice by Seadrill Offshore AS for the transport, loading, and discharge of their newbuild CJ70 jack-up rig. Transport will be from Singapore to Norway and is scheduled for 2011. In addition, Dockwise will be transporting the Ocean Scepter, a jack-up rig for Diamond, from the Gulf of Mexico to Brazil and a power barge to Maracaibo in 2010.

Signet Acquires Colle

Signet Maritime Corporation, a marine transportation and logistics company, continues to grow with its recent purchase of Colle Towing Company's assets and business operations. Since 1878, Colle Towing Company Inc., Pasacagoula, Miss., has been providing offshore, harbor and intracoastal marine towing on the Mississippi Gulf Coast. Assets and personnel in Pascagoula will begin operations immediately under the new name, Colle Maritime Company, a Division of Signet Maritime Corporation. The company operates tugs for the Port of Pascagoula in both the Bayou Casotte and Pascagoula River Ports and operates a full-service shipyard and 600 ton Travelift for repair of vessels and barges. Signet and Colle were recently awarded a twenty-year contract to provide marine services to Angola LNG Supply Services (ALSS) in the Port of Pascagoula, Miss.

EVTN Receives Order to Trial its Underwater Voraxial Separator

Enviro Voraxial Technology received a purchase order to deploy the underwater version of EVTN's high volume Voraxial 4000 Separator. EVTN envisions its underwater design as the core technology for an advanced generation of skimmer vessels to facilitate the Gulf clean-up effort. The new Underwater Voraxial oil recovery method allows the operator to separate oil from water in the ocean. By conducting the separation in the ocean, the vessels can skim oil for 10 times longer since the amount of water collected in the holding tanks is reduced by 90%. The collected oil will be discharged into a holding tank while the clean water remains in the ocean.

VLCC Contract for OceanSaver

OceanSaver announced that Dalian Shipbuilding ordered ballast water management (BWM) systems for six VLCCs thus lifting the company's order book to approximately $45m.

New LNG Carrier Gets Intersleek

The application of International Paint's (IP) premium foul release coating, Intersleek 900, to the hull of the 173,400 cu. m. Sevilla Knutsen, a new liquid natural gas (LNG) carrier built at Daewoo Shipbuilding and Marine Engineering (DSME) in South Korea for Norwegian owner Knutsen OAS Shipping, is an important milestone, according to International Paint.. "This is important for us," said John Willsher, Intersleek Market Manager, "because it demonstrates that the very latest hull coating technology can be applied effectively at the newbuilding stage. In the past," he continues, "some shipbuilders have resisted the application of latest generation hull coatings in their shipyards on the grounds that they require specific application procedures. This project again illustrates that the world's leading shipbuilders can apply the latest generation hull coatings. Daewoo in fact, completed their first Intersleek application in 2005."

Johannes Brynjulvsen, Knutsen's project manager for the newbuilding LNG vessel commented: "This was the first time for us to use International Paint for any of our newbuilding vessels. It was not an easy decision to select Intersleek 900 because of the large investment involved but we believe the product fits very well with our determination to be an environmentally responsible company. The investment will be more than recouped by fuel savings in service."

Such has been the resistance from some shipyards in the past that owners wishing to use Intersleek have been forced to re-dock their vessels soon after delivery to apply Intersleek coatings. "Some owners wishing to apply Intersleek have sailed their ships straight from the construction yard to a suitable repair yard in Singapore or Dubai for the foul release coating to be applied," said Willsher. "Clearly this is an expensive and unnecessary use of fuel and material costs."

"Now that Daewoo has again shown that the application of Intersleek at the new construction stage is feasible, we are hopeful that more of our clients will insist on our top-of-the-range fouling protection at the time their ships are built. This will save time, deviation, extra bunkers and emissions and, of course, money, making our coatings even more cost competitive," said Willsher.

IP: New Singapore Marine Laboratory

International Paint's ongoing program of investment in R&D continues with the opening of a new, worldwide product development laboratory in Singapore. Opened by Bob Taylor, Managing Director of International Paint's Marine and Protective Coatings Business Unit in May 2010, the new lab will focus on the development of the next generation antifouling and foul release technology. "The opening of this laboratory is the latest in a 20m R&D investment program that has seen us build a global network of Marine R&D centers across Asia, Europe and America," Taylor said.

13,800-TEU Containership Delivered

CMA CGM Group took delivery of the CMA CGM Amerigo Vespucci, a 13,830-teu containership built by DSME (Daewoo Shipbuilding and Marine Engineering). The second of a series of eight vessels named after the great explorers, the vessel is the sister ship of the CMA CGM Christophe Colomb, and measures 365 x 51.2 m, with a 15.5-m draft. CMA CGM Amerigo Vespucci is equipped with a combination of innovative environmental features, including:

- An electronically controlled engine,
- Double-hull protected bunker tanks,
- The Fast Oil Recovery System, which enables bunkers to be rapidly recovered at any time, hence significantly limiting the environmental consequences should there be an incident at sea.

Another distinctive characteristic is the position of its superstructure, located in the front, which maximizes space utilization and guarantees a better visibility from the bridge. The vessel will be operated on FAL 5 service (French Asia Line) linking Asia to North Europe.

(Photo Copyright CMA CGM)

First Lady Christens National Security Cutter

Stratton is the third of eight planned National Security Cutters being built at Northrop Grumman Shipbuilding in Pascagoula for the U.S. Coast Guard. With its 418-ft length and 4,700 ton full load displacement and state-of-the-art command and control systems, the NSC is the largest and most technologically advanced of the new multi-mission cutters. "Here in Pascagoula, you've been building ships for centuries," said Mrs. Obama. "It's in your blood—a proud tradition passed from generation to generation. Your hands have given us some of the greatest ships in the United States Navy and Coast Guard. So whether you're a welder or a fitter or a burner—whatever your craft—today is also a tribute to you and your families, and America thanks you."

Stratton is named in honor of Captain Dorothy C. Stratton (1899-2006), the U.S. Coast Guard's first female commissioned officer and director of the SPARS (Semper Paratus - Always Ready), the U.S. Coast Guard Women's Reserve during World War II. SPARS mainly replaced men in shore stations during most of the war; however as the war progressed SPARS were placed in charge of greater areas of previously male-only control—including as parachute riggers, aviation machinists' mates and air control tower operators. Several former SPARS attended the ceremony.

In his ceremony remarks, Northrop Grumman Shipbuilding president Mike Petters recognized all of the shipbuilders who are building Stratton and added, "Captain Stratton was truly a trailblazer – and I know that her passion and energy will be embodied in this great ship named for her, built by the best shipbuilders in the world."

U.S. Coast Guard Capt. Bruce Baffer is the ship's prospective commanding officer and will lead a crew of 120 U.S. Coast Guard sailors.

"Christening of Stratton is an important step in advancing our Coast Guard mission," said Admiral Robert Papp, Commandant of the U.S. Coast Guard.

The Legend-class National Security Cutter (NSC) is capable of meeting all maritime security mission needs. Powered by a twin propeller combined diesel and gas turbine power propulsion plant, the NSC is designed to travel at 28 knots maximum speed. The cutter includes an aft launch and recovery area for two rigid hull inflatable boats, and a flight deck to accommodate a range of manned and unmanned rotary wing aircrafts. It is the largest and most technologically advanced class of cutter in the U.S. Coast Guard, with robust capabilities for maritime homeland security, law enforcement, marine safety, environmental protection and national defense missions. This class of cutters plays an important role enhancing the Coast Guard's operational readiness, capacity, and effectiveness at a time when the demand for their services has never been greater.

USNS Charles Drew

USNS Charles Drew, the 10th ship in the Lewis and Clark-class of dry cargo/ammunition ships, was delivered to Military Sealift Command last month. "As our 10th ship in the T-AKE class, USNS Charles Drew is another milestone for MSC," said Capt. Jerome Hamel, commander, Sealift Logistics Command Pacific, MSC's office in San Diego. "The T-AKE program is a continued example of MSC's commitment to support the Navy." Built by General Dynamics NASSCO shipyard in San Diego, Drew is named for Dr. Charles Drew, an American physician regarded as the father of the blood bank who researched and developed methods of blood collection, plasma processing and storage. Drew's research in blood storage first benefitted soldiers in the field during World War II, but has continued to save the lives millions of people worldwide.

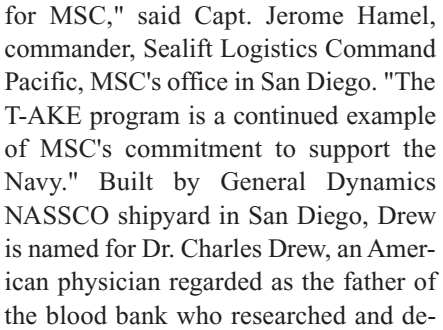
Rickmers Christens Four

Last month marked a unique event: the quadruple naming ceremony at HHI's Ulsan shipyard on July 2, Rickmers Group christened four ultra-large container ships (ULCS) of 13,100 TEU each. Each of the four ships: Pearl Rickmers, Ruby Rickmers, Aqua Rickmers and Coconee Rickmers, has a service speed of 24.3 knots. They have been chartered longterm to Maersk Line and will join Maersk's "E-class" as Maersk Edinburgh, Maersk Emden, Maersk Eindhoven and Maersk Essen.

The naming ceremonies were attended by more than 100 guests including Dr. Wolfgang Reitzle, Chairman, Linde AG, spouse of Nina Ruge, Thomas Eckelmann, Main Shareholder, EuroKai/Eurogate, spouse of Cecilia Eckelmann-Battistello, Wolf Peter Schneider, Real Estate Developer/Architect, spouse of Vigga Schneider and Hans-Ulrich Seidt, German Ambassador to South Korea, spouse of Marita Seidt.

Also present were amongst others Claes Devantier, Vice President, Maersk Broker, Morten Engelstoft, Senior Vice President & COO, Maersk Line, BW Oh, President & CEO, Hyundai Heavy Industries, OH Kim, Executive Vice President Shipbuilding Division & COO, Hyundai Heavy Industries, Andreas Ostern, Vice President Shipping, DNBNor and Torsten Temp, CEO, HSH Nordbank.

Containers are carried 17-wide below deck and 19-wide on the hatchcovers. The maximum capacity of each ship is 7,074TEU on deck and 6,018TEU below deck, making 13,092TEU in total. Based on a homogeneous container weight of 14 tons per TEU, the maximum capacity is 9,080TEU.



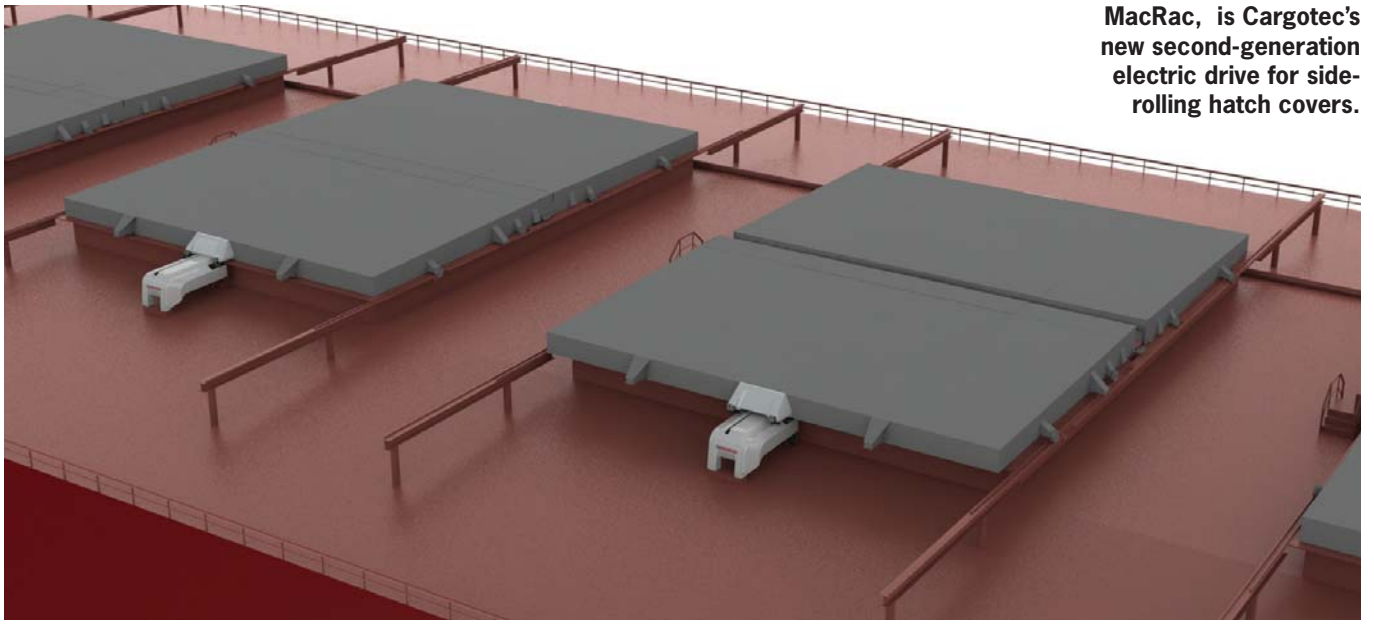
R&D to Secure a Sustainable Future

Electric drive technology is making its mark in service and can meet the marine industry's growing need for a reliable 'green' alternative to hydraulic systems

Cargotec identified a need in the market for electric-drive products several years ago, and created a development policy focused around three main aims: compared with hydraulic versions, electric-drive systems had to be environmentally-friendly, they had to provide equal or better performance, and they had to cost the same. Many ideas were created and considered through combining this policy and technical feasibility. Development work on the electric-drive side-rolling hatch cover, for example, started as a three-year project in 2001.

Electric drives offer many advantages to shipowners and shipbuilders compared with hydraulic versions. The main advantages are that hydraulic oil leakages are eliminated, there is no need to fit hydraulic pipework on board, electric drives are easy to maintain, and they offer energy savings. It is also relatively easy to condition-monitor electric drives through the use of all electric components and this data can be used as part of a MacGregor Onboard Care maintenance agreement.

This is a maturing technology which is now being proven in service. Cargotec has numerous references and is seeing pivotal moments such as Viking Odessa entering service, the first ever ship with all electrically-driven internal RoRo equipment – including hoistable car decks, access and hoistable ramps – and the launch of the company's new second-generation electric drive for side-rolling hatch covers, MacRack.



MacRac, is Cargotec's new second-generation electric drive for side-rolling hatch covers.

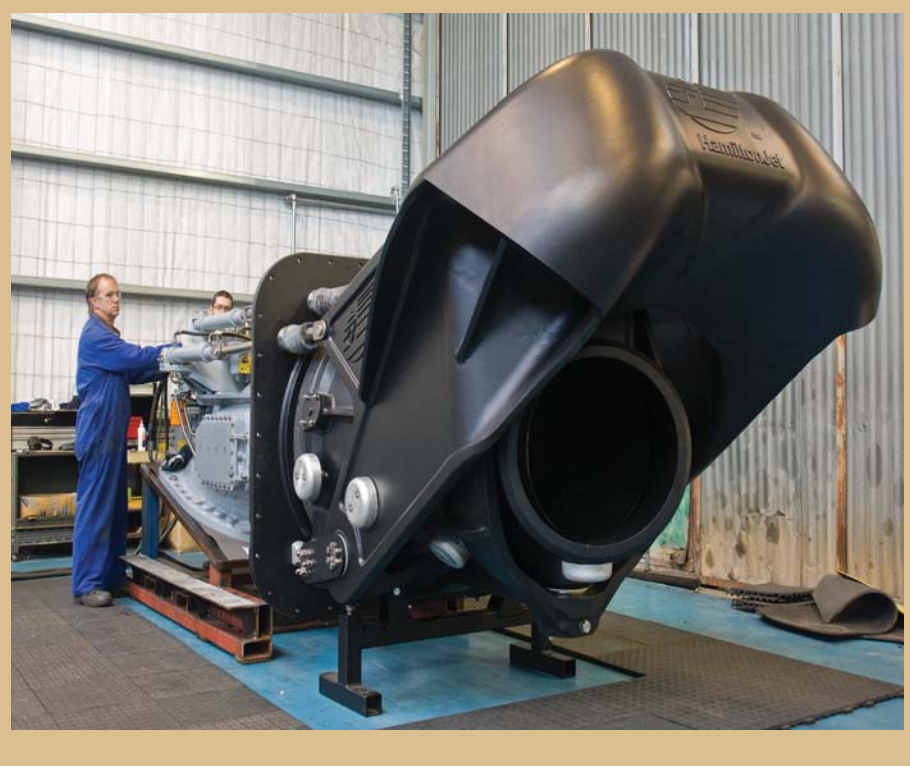
Cargotec can offer electrically-driven:

- RoRo equipment including stern and side ramp/doors, hoistable car decks with access ramps internal ramps and doors
- Variable frequency drive (VFD) electric cranes, which are based on proven designs but combine improved operability with a lower environmental impact
- MacRack, a new economical, competitive and environmentally-friendly drive system that combines drive and lift operations for side-rolling hatch covers
- MacPiler, which is an innovative gantry crane developed to handle lift-away hatch covers that can hoist, carry and stack lift-away hatch cover panels (two at a time) both on the weatherdeck and tweendeck
- Active heave-compensated (AHC) winches for both umbilical and wire that sets new standards for performance, noise levels, reliability and power consumption; this critical equipment intended for remotely-operated vehicles (ROVs) and deep sea load handling
- Dry bulk cargo handling equipment.

HamiltonJet Completes HT Series of Waterjets

HamiltonJet completed production of the first of its new HT900 model. This 900mm diameter waterjet completes HamiltonJet's HT series, along with the HT1000 and HT810 models. The HT900 offers several innovations designed to simplify installation and maintenance of the units. A cartridge system allows internal anodes to be inspected and if necessary replaced without disassembling the jet and a new narrower reverse duct has retained the efficiency of the HamiltonJet split duct design but with reduced overall width of the unit making for simpler installation. As with the other HT models HT900 impellers are cast as a single piece.

"Many of the new design features of the HT range will also flow into the existing HamiltonJet models," said Keith Whiteley, HamiltonJet's Managing Director , "and conversely the HT range retains many of the distinctive features from our HM and HJ series." A transition duct is supplied to eliminate the need for the builder to fabricate the intake shape and this also transfers thrust loads directly to the hull bottom, the hydraulic controls and cylinders are all mounted inboard to ensure high durability and the hydraulics are integrated onto each jet itself, facilitating simple installation of a single package and greater system redundancy. Installation assistance is offered by the company to any yard requiring it, and all of these features are included in the standard scope of HamiltonJet supply. The first shipset of four HT900 waterjets is to be installed in a 58m (190ft) fast supply vessel designed by Incat Crowther and Gulf Craft in the U.S. Each of the HT900s will be driven by a 2560kW (3434bhp) MTU engine, providing a maximum speed of over 30 knots and a service speed of 25 knots.



CPEX Confirms Cost, Time Benefits

ABB Turbocharging's Service Network reported a good reception for its CPEX "Customer Part Exchange" program, which aims to reduce service downtime and costs via faster replacement of parts for turbochargers on diesel and gas engines in both marine and stationary applications. The CPEX program was launched by ABB Turbocharging in late 2008 and involves the exchange of certain used parts from ABB turbochargers against original ABB reconditioned parts. The program presently covers:

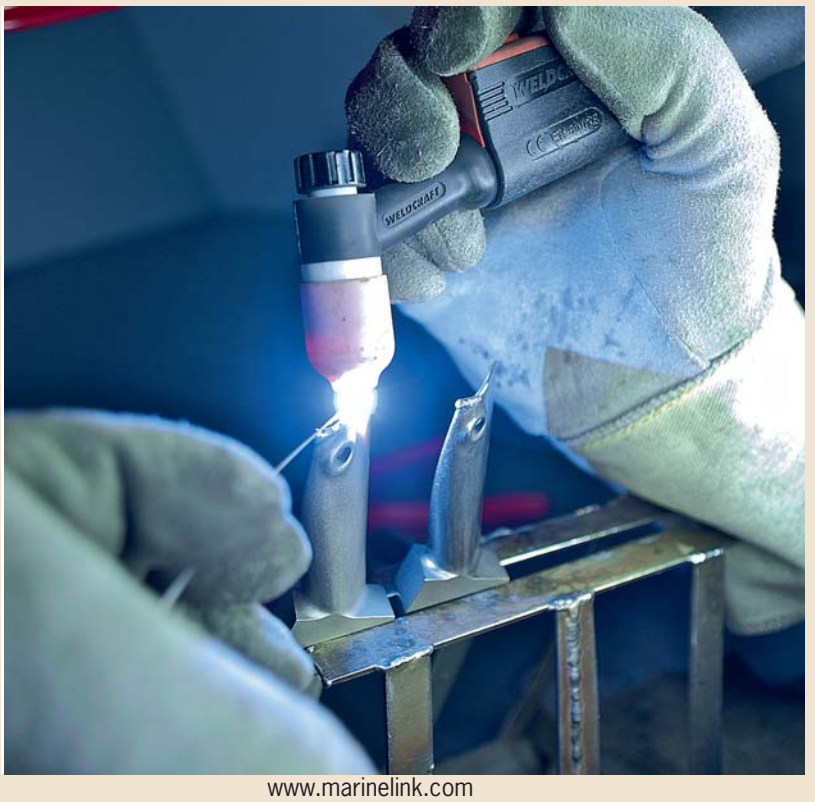
- Shafts and bearing casings for the TPS turbocharger sizes TPS 48, TPS 52 and TPS 57 installed on specific engines
- Turbine blades for TPL turbochargers
- Turbine blades, bearings and pumps for VTR and VTC turbochargers
- VTG modules for TPS and TPL turbochargers.

Arne Brand, General Manager End User Sales at ABB Turbocharger Service in Baden reports that more parts will be added to the CPEX program in due time. Explaining the fundamentals of the program he notes that safety and reliability are paramount in the choice of the parts to be reconditioned and the reconditioning process itself.

Above: Close attention to compressor and turbine geometry is essential to restoring turbocharger performance during overhauls. To ensure this, CPEX reconditioned parts are refurbished according to the same specifications as original parts.

Right: Parts currently eligible for exchange under the ABB Turbocharger CPEX program: TPS shaft; TPS bearing casing; TPS and TPL VTG modules; VTR bearing; VTR pump; VTR and TPL blades

Below: CPEX reconditioned exchange parts are refurbished at ABB Turbocharging's main works in Baden, Switzerland and at selected locations in ABB's worldwide service network.



SIKO

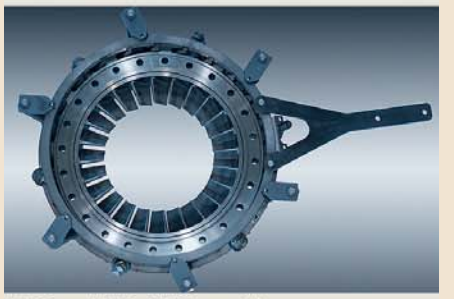
The SIKO concept, on which this CPEX eligibility criterion is based, was developed by ABB to support customers' efforts to coordinate and optimize their maintenance schedules by identifying the ideal time to exchange key turbocharger components. At its core are exchange intervals defined by ABB which aim to ensure that safety and reliability are maximized and that service costs are kept as low as possible over a turbocharger's lifecycle. Turbocharger running hours are logged in ABB Turbocharging's central ATURB databank, located at the Baden Service Center. In the case of turbochargers serviced exclusively by ABB, ATURB contains complete detailed service event and operating hour histories.

The CPEX program applies to turbochargers on both diesel and gas engines in both marine and stationary applications and as well as the economic attractions of reconditioned parts, CPEX parts are stocked with an assurance of ABB Turbocharger's standard 48 hour spare parts availability to minimize engine downtime. "Crucially, also, CPEX reconditioned exchange parts come with the ABB global service warranty, " Brand said. "Customers are assured of the highest quality and reliability, since all reconditioning work is done at ABB Turbocharging headquarters in Baden or at selected locations in ABB's worldwide network. We use the very latest technologies and equipment – and of course the know-how exclusive to the OEM."

CPEX product overview

TPS shaft

TPS bearing casing



TPS und TPL VTG module

VTR bearing

VTR pump

VTR and TPL blades

NG: Maritime Laser Demo System Proves Capabilities

Northrop Grumman last month completed a series of tests of the Maritime Laser Demonstration (MLD) system, moving high-energy lasers a step closer to deployment aboard U.S. Navy ships. According to the company, shore-based tests at the Naval Surface Warfare Center (NSWC) in Port Hueneme proved the MLD system's ability to track small boats at long ranges and in a marine environment. "Tracking tests were part of a larger program designed to demonstrate laser weapon system capability for fleet defense," according to Steve Hixson, vice president of Space and Directed Energy Systems for Northrop Grumman Aerospace Systems. "Such lasers would complement other defensive systems to address certain threats more effectively and at lower cost than traditional weapons."

Managed by the Office of Naval Research (ONR), the MLD program has a goal of demonstrating how high-energy laser weapons can be adapted for naval operations, specifically to engage targets such as swarms of enemy fast patrol boats. "The program places a high value on experiences gained through technologies recently matured through other Defense Department development efforts," said Dan Wildt, vice president of Directed Energy Systems for Northrop Grumman Aerospace Systems. "For MLD, lessons learned were taken from the success of the Northrop Grumman-developed Joint High Power Solid State Laser, a compact, high-brightness laser. We also applied precision tracking experience gained from the Tactical High Energy Laser test bed at White Sands Missile Range, N.M., which has destroyed 46 rockets, artillery and mortar rounds in flight." The Port Hueneme tests, conducted by ONR, demonstrated the ability of a Northrop Grumman laser system to acquire and track the threat representative small boats, he noted.

"This and previous tests are critical steps leading to the first-ever demonstration of a laser weapon at-sea. The bar for performance and safety is very high for a system that will be going onto a ship. Our approach has been to carefully plan, test and verify the system at every step, which separates MLD from just another technology demonstration," said Wildt.

Air Supported Monohull Features Pod Propulsion

Effect Ships International of Sandefjord, Norway launched its first Air Supported Vessel (ASV) monohull with pod propulsion. The ASV technology is the result of more than eight years of dedicated R&D, and Ulf Tudem of ESI, and the company is excited to have a full scale 20 x 5.4 m test-vessel. According to the designer, the ASV Mono represents a technological breakthrough, as up to 80% of the vessel's operational weight is supported on a cushion of pressurized air. Wetted surface area and friction between hull and water is reduced significantly. The size of the engines to propel the ASV's can be reduced compared with conventional vessels of same size and performance: whereas 2,400 to 2,720 hp is the norm for 65 ft. pleasure boats with cruising speeds of around 30 knots, the ASV Mono test vessel needs only 870 hp for propulsion, plus approximately 80 to 120 hp, depending on sea conditions, to power the lift fan.

In addition, the designer claims significant fuel savings too, with a consumption at approximately 30 knots of 5.7 liters in total (propulsion and lift fan power). The ASV mono test vessel is using two small Volvo Penta IPS 600s. Pod propulsion combined with the new patented air supported vessel configuration is an ideal match. The installation of the driveline and lift fan system is extremely compact and requires modest space, leaving more than normal volume and space free for interior accommodation. The new ASV's handles very well, the air cushion systems dampens the ride in waves and secure very good onboard motions. In harbor no bow thrusters will be required; the joystick operated pod propulsion can handled the vessel in most situations. The 20 m ASV Mono test vessel is located in Turkey and will be available for testing and demonstrations to yards and other interested parties.

Email: ulf.tudem@brygga.no

First mile to last mile

WWS Seeks to Overhaul Ships Spares Logistics

In what could best be described as a multi-media extravaganza, Wilhelmsen Ships Service (WSS) briefly 'stole the show' in Athens earlier the summer with a high octane presentation of its plans to, in its words, revolutionize the way ships spares logistics are handled. The show in question was Posidonia, held in early June 2010 in Athens, Greece. Despite a stalled global economy and acute financial pressures in Greece, coupled with a decimated shipping market, the organizers of Posidonia 2010 did a remarkable job of ensuring that key decision makers were out in force at this bi-annual event.

Hege Raade Solstad, Business Director Maritime Logistics, WSS

Regulars to the trade exhibition circuit are closely in touch with the hyperbole that generally surrounds product and service introductions, yet the WSS plan, on its surface, appears to be quite significant in content and scope, as it includes:

- A new single point of contact for shipping spare parts from supplier to the vessel;
- Communication with own offices in thousands of world ports facilitates logistics;
- Advanced IT system access to contract customers to track orders;
- New Freight Forwarding Center in Sittensen/Hamburg, Germany;
- First mile to last mile: ISPS cleared ship agents cover the last mile, delivered to the ship; and (perhaps most importantly)
- Predictability of logistics cost through fleet contracts

The Plan

Central to the WSS plan is the sheer scope of its operations, which includes 320 offices in 72 countries servicing 2200 ports. Wilhelmsen Ships Service introduced at Posidonia its unique new efficiency plan to its customers in the form of a Ships Spares Logistics offer with a single point of contact for managing the delivery of spare parts from manufacturer to vessel, with total visibility on data and associated prices. The new service combines the establishment of a central Freight Forwarding Center with an online service which provides its contract customers with the ability to see the location and status of their orders as well as offering a number of reporting features. The Freight Forwarding Center is located at Sittensen, near Hamburg in Germany, at the center of some of the biggest manufacturers of ships spares. The location has good access to the European ports, as well as to some of the main international airports reaching the whole world. The Freight Forwarding Center will support the ships service network with specialist knowledge and will manage, control and optimise the transport of ship spares from the supplier to the vessel.

"The main task of the Freight Forwarding Center is to manage, control and optimize the transport of ship spares from the supplier to the vessel," said Stephan Bennfeldt, who has 18 years experience of handling ships spares. "The system will maximize the benefits of our global network which we will be able to pass on to our customers." The company's IT communications system is used for tracking and optimizing the spares logistics with 318 offices serving 2,200 ports worldwide and its products and services. This system will operate the online reporting service to which contract customers have access. These reports include information such as the logistics cost per fleet or per vessel per month, and the supplier due date versus actual release date of spares. Pricing is not only standardised but it is also predictable and transparent. "Our offices and agents around the world are already heavily involved in networking activities, as they coordinate ships agency services, the delivery of Unitor products, technical services and maritime logistics," said Hege Raade Solstad, Business Director Maritime Logistics. "As these activities have grown over the years, they have established efficient communication links with the Head Office and with each other. These strong links enable us to make the delivery of ships spares a seamless and reliable process."

www.wilhelmsen.com/shipsservice

Steel Fabrication Technology for the Meyer Shipyard

The company Meyer Werft Laserzentrum GmbH, Papenburg, has put into operation a new plant for the production of ship deck sections. The so-called TWP-system (Tailor Welded Plates) was built and installed by the company Gräbener Maschinentechnik GmbH & Co. KG, Netphen-Werthenbach, Germany, who already installed a similar but smaller construction at Meyer Shipyard in 2001.

The new system allows the manufacturing of ship deck sections with a width of up to 30 m and a size of up to 750 sq. m. (versus the old system: 20 m and 400 sq. m.). Plate panels of various materials and thicknesses are joined by welding. The TWP®-system is part of the Meyer shipyard's investment package worth 80 million Euros for the extension of the steel pre-fabrication. And it is the basis of the new extended pre-fabrication plant in hall 10 of the Meyer shipyard. Individual plates arrive, are milled as a first step and then joint to large steel plates using a fully automated welding process.

The system weighs approximately 1,400 tons and covers a surface of approximately 2,300 m². According to Gräbener Maschinentechnik, the technological challenge was the design and the manufacturing of the two laser traverses in longitudinal direction. Each of these traverses has a length of 43.5 metres and consists of three parts in order to facilitate transport and assembly. Despite their individual weight of 73 tons each, the two traverses only show a deflection of 0.75 mm under operating load.

Laser Hybrid Process

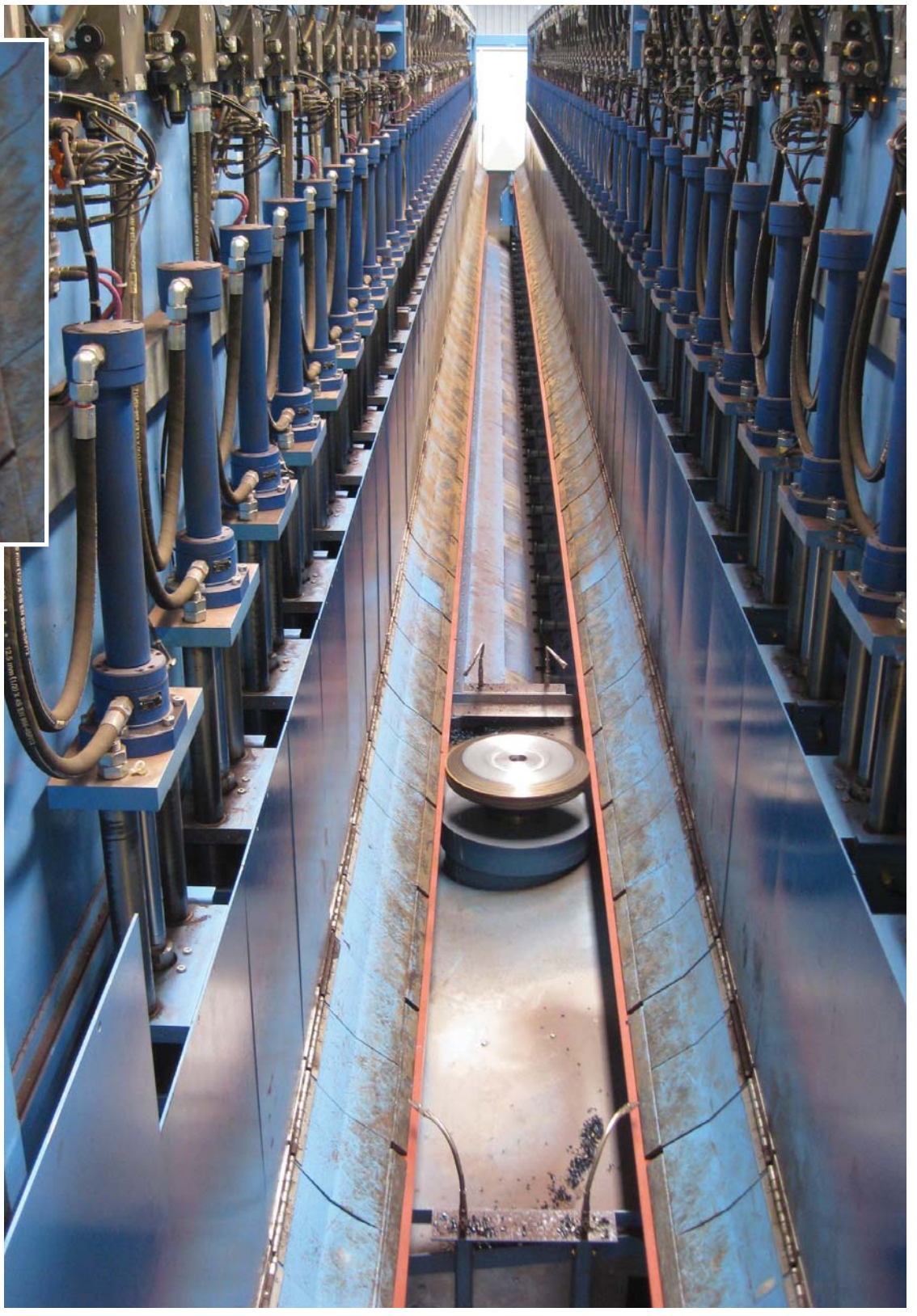
Per year, 1,300 km laser seams are welded by all systems at the Meyer shipyard with a total power of 104 kW. For this purpose, the shipyard uses the so-called laser hybrid process. With the help of a MIG burner the seam edge is melted. At the same time, additional material is introduced. Due to the penetration welding effect, the trailing focal spot of the class 4 laser carries out the melting down to the root. The laser creates a welding joint with small aperture angles so that the plates now only have to be welded from one side. Unless the welding can be done in one step the panel has to be flipped which means significant additional efforts. According to the company, the laser hybrid process has the advantage that the welding speed is much higher than with simple MIG welding and even simple laser welding processes. The laser ensures an application of the MIG welding power source for the energy input in areas close to the surface only for the penetration welding. Thus the energy costs are reduced to almost 50% compared to the simple laser welding process. Furthermore, the flange angle can be reduced to 6 degrees due to the penetration welding effect, which leads to a reduction of the quantity of additional welding wires in comparison to conventional welding processes. Finally, the reduction of the angle results in a reduction of the energy input and thus the offset at the finished panel.

Milling Technology

Raw plates with a width of up to 3,300 mm and a length of up to 12,000 mm and various thicknesses are processed. The TWP®-system provides an ideal welding edge preparation by processing two plates at the same time with a speed of up to 8 m/min and creating a perfect transition between the individual plates. The first plate is transported through the cross milling machine to the outfeed side where it is positioned and clamped using 3D camera systems. A second plate is similarly positioned and clamped on the infeed side so that the milling had can process both plates. This ensures an exact weld seam preparation. After that, both plates are moved together and joined by means of the laser hybrid welding process.

Plate edge milling machine as well as laser welding unit are each equipped with an individual PC control system. These systems are connected to each other via Ethernet with the transmission control / internet protocol (TCP IP). Again using Ethernet, both systems are also connected to the sub-control system of the Meyer shipyard which provides all important parameters for the milling and welding process. The welding parameters have

The TWP-system covers a surface of approximately 2,300 sq. m. When set on the machine the plates are small (top left of the photo), when they leave the TWP-system they have a size of up to 750 sq. m.



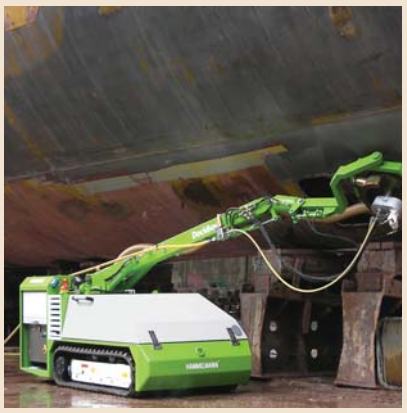
The TWP-system is designed to provide an ideal welding edge preparation by processing two plates at the same time.

been determined by comprehensive tests and are recorded in the machine control as a type of technology database. On the one hand, the sub-control system contains information from the process planning of the customer, which deduces these parameters from the CAD drawings of the ship to be built. On the other hand, the computers process the milling or welding orders to the system.

After several plates have been joined to a longer strip the longitudinal milling machine is applied similar to the cross milling machine in order to join these individual strips with a length of up to 30 metres to deck sections with a size of up to 750 m² and a weight of up to 90 tons. Since the challenge for the TWP®-system was to weld plates of multiple variations and combinations, the support tables and clamping units as well as the milling and welding head can be adjusted to the contour and thickness of the respective plate to be processed. The milling process can generate several seam types (for example I, Y, V seams) as well as a chamfering for the compensation of possible plate thickness variations, however does not introduce heat into the plate, thus avoiding tensions in the workpiece. Due to the metallic bright surfaces after the milling process, the weld seams are perfectly prepared for the laser hybrid welding process. Still a revolution in shipbuilding.

www.graebener-group.com

Ultra High Pressure Dockboy



Hammelmann has added an ultra high pressure (UHP) unit to its Dockboy range, and evolution of a waterblasting system which debuted in the mid-1970s. The UHP Dockboy is an especially developed, job specific, hydraulically powered marine industry work vehicle primarily for fast, efficient surface preparation on ship hulls in conventional and floating dry docks. The completely self contained vehicle only requires a connection to an ultra high pressure pump unit to be ready for work. The Dockboy is built to operate in saline atmospheres and in a temperature range of between + 115° and 5 F It utilizes ultra high pressure water at up to 43,500 psi and its advantage is that it does not pollute the surrounding atmosphere. At operating pressures between 40,000 and 43,500 psi up to 700 sq. feet an hour of surface can be prepared to NACE/SSPC WJ 1/SC-2 standards.

www.hammelmann.de

SHIPLINK from Nexans

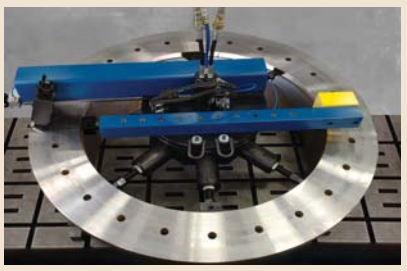
Nexans launched SHIPLINK as the new brand identity for its range of cable solutions and services for shipbuilding and offshore installations, including power, data and control cables. The Nexans hybrid MV (medium voltage) ship-to-shore connection cable is designed to enable ships berthed in port to cut their engines and plug in to the local power grid. Nexans' ICEFLEX technology is also applied to SHIPLINK cables that are needed for ultra-cold Arctic temperatures, down to –50°C. **www.nexans.com**

The Anti-Drift Turning Roll

Koike Aronson, Inc./Ransome, introduces the Anti-Drift Turning Roll, which uses patent-pending Eccentric Axle Design to minimize vessel drift. The Anti-Drift Turning Roll allows for a lower vessel centerline height and holds the vessel on rolls axially in position within + .04 in. (1 mm). It automatically compensates for vessel irregularities and roll misalignment, making corrections quickly and with little force.

www.koike.com

Portable Flange Facers



Climax Portable Machine Tools' new line of flange facers are designed for in-situ repair and on-site machining of flange surfaces. Developed for use in shipbuilding as well as repair and maintenance, the operating power and rigid design enable fast and accurate metals removal. The machines are designed to let operators adjust the feed rate while the machine is still running.

Email info@cpmt.com

Process Controller

ESAB Welding & Cutting Products introduces the A2-A6 Process Controller PEK system. This controller is adapted for use with ESAB's automatic power sources LAF 631/1001/1251/1601 and TAF 801/1251 and can be used for submerged arc welding, GMAW welding and arc gouging. The control system is connected to the power source via a control cable and incorporates a CAN bus system for data transfer.

www.esabna.com

ShipConstructor 2011

ShipConstructor Software announced the release of ShipConstructor 2011, the newest version of the company's AutoCAD-based CAD/CAM application for the shipbuilding and offshore industries. The new release incorporates several enhancements that are based upon input to SSI's Product Management team members who collected feedback and analyzed needs from shipbuilders around the world. For instance, in ShipConstructor 2011, the Product Hierarchy Module has been enhanced to now allow users to organize their project in various ways. Multiple hierarchies can now be used to generate production output as well as for analysis. This new feature also empowers shipbuilders to generate multiple build strategies for construction of vessels at different locations. To ensure that the ShipConstructor SQL database is always optimized for maximum performance, ShipConstructor 2011 now provides a simple method for scheduling database maintenance operations including the cleanup of unused data, compacting of database files, and the re-building of database indexes. This powerful feature can be scheduled to run during down-time, providing the design team with the most well organized and efficient database possible when they return to work.

www.shipconstructor.com/SC2011

Wet Sand Blast System

Water Cannon's new Wet Sand Blasting System is designed to remove unwanted surface contamination such as rust, scale, loose paint, barnacles, and debris. The sand andhigh pressure water work together using venturi siphon technology to more safely clean metals, concrete, and other similar surfaces. The Water Cannon Wet Sand Blast System simply quick connects to the end of a commercial pressure washer wand. This draws sand automatically through a 26-ft. reinforced lightweight feed hose by using an engineered self venting pickup tube. The venturi siphon technology eliminates the need for an air feed system or other heavy and bulky equipment.

EMail: sales@watercannon.com

Data Logger

Omega's new line of differential pressure and temperature data loggers operates in real time. This CE marked product features three channels: Internal Ambient Temperature, Remote Temperature (Thermocouple) and Remote Pressure. This product's high speed downloading ability makes data retrieval quick and easy. Accepted thermocouple types: J, K, T, E, R, S, B, and N. Measures differential pressures & temperature in ducts, pipe or tank. **www.omega.com**

Ultra-Cut Systems

Ultra-Cut High Precision Plasma systems deliver high precision cutting performance on carbon steel and non-ferrous materials. For precision aluminum or stainless steel, Thermal Dynamics systems use the Water Mist Secondary (WMS) process to achieve high precision cut quality. The WMS process uses nitrogen as a plasma gas and water as the shield. The water in the shield stream is divided into its principal components during the cutting process (hydrogen and oxygen). The hydrogen creates a reduced atmosphere in the cut zone, isolating it from contaminants. The result is a clean, dross-free cut surface that is ready to weld.

www.thermadyne.com

Wipers Provide Clear View

Solarglide added a range of marine window wipers to its product line, including: Class 50 – A wiper designed for the power vessels where space is limited; Class 80 – Designed for larger windows for 24/7 performance; Class 80 Compact – The gear box of the Class 80 Compact has been reduced by 50mm; and Pantograph Class 110 – Designed to drive super sized arms and blades.

www.solarglidemarinewipers.com

Increasing the Life of Synthetic Lines

Fluoron's patent pending Maritime Application Rope Savers (M.A.R.S.), bridge the gap between new, high-tech synthetic lines and worn or corroded deck equipment. Synthetic lines are safer, lighter, faster, and can have the same tensile strength as wire rope. However the synthetic lines can be damaged by weathered and worn deck equipment. M.A.R.S. essentially covers directly over worn and weathered deck equipment. The M.A.R.S. product is custom manufactured to fit each individual application, i.e., Fairlead Rollers, H-Bits, Sidebits, a Bull nose and many other applications found on the deck of maritime vessels. Testing of this product proved that it would withstand over 100,000 lbs of tension from the line.

Email mars@fluoron.com

Universal Bending Machine for Shipbuilding

Switzerland's Stierli Bieger AG offers the new 300-ton pressure frame bending machine, which has an operating range as follows:

- profiles up to 340 mm,
- T- steel bar up to 400x 200 mm,
- angles up to 200x 200 mm
- pipes up to G 3"

The machine also can be used for straightening or restraightening of formed/bent pipes. Each rotator control can be selected individually. With the etablished Stierli – shutdown system, NC or CNC- control, the machine can be installed according to the requirements.

Email: sales@stierli-bieger.com

Scupper Plugs

Blohm + Voss, founded 1877, is one of the major German shipyards and part of ThyssenKrupp. Its ship repair business is extensive and involved in work from major vessels from across the globe. These include container ships and heavy goods carriers up to 210m long A particular problem arises during external painting of ships hulls when it becomes necessary to prevent water and other contaminants exiting from scuppers on the decks and running down the outside onto the newly painted surfaces. Blohm and Voss has found a simple and effective solution. Engineers simply seal the scuppers with expandable plugs supplied by Huntingdon Fusion Techniques (HFT) in the UK. HFT manufactures a very wide range of expandable plugs, covering diameters from 12 to 1500 mm (0.5 to 60 inches).

www.huntingdonfusion.com

Stainless Steel Chocks for T-AKE

Smith Berger Marine delivered Stainless Steel Chocks to the Military Sealift Command for installation on the T-AKE Dry Cargo Carriers Amelia Earhart and Lewis and Clark. The Smith Berger Stainless Steel Chocks have highly polished contact surfaces and are designed for use with the ever increasing list of synthetic mooring and towing lines in service today. The Stainless Steel Chocks for T-AKE are replacing the existing four roller fairleads which were not providing enough protection against chafing of the mooring lines. Having no moving parts, no maintenance requirements and better performance protecting the mooring lines, the Stainless Steel Chocks are proving to be an ideal tool for mooring and towing all types of vessels.

www.smithberger.com

Flange Pulling System

Tentec offers a new hydraulic Flange Pulling System (FPS) as part of its recently launched Optimus 6 range. Designed to withstand the requirements of divers working in harsh conditions, as well as the FPS, the Optimus 6 family comprises bolt tensioning tools, subsea hose reels and pumps. The FPS cylinders are designed to pull with a force up to 259kN and up to four cylinders can be used together to achieve a total pulling force of 1036kN.

E-mail: sales@tentec.net

Sound Damping Sandwich Steel

Sweden's Antiphon AB introduced a new product for structure borne sound damping; antiphon MPM (metal-polymer-metal) foiled, a sheet metal laminate with a thin foil on one side. The core material is two zinc coated sheet steel laminated with an acoustic inner layer to obtain the best structure borne sound damping. MPM foiled makes it possible to use laminated sandwich systems in more visible environments and also to choose MPM foiled deliberately as a decoration material where sound damping is wished for. MPM foiled is used when the demands for appearance as well as function are high. Aluminium is also an option as core material. MPM foiled is delivered in format sizes of maximum dimension 1250x3000 mm.

www.antiphon.se

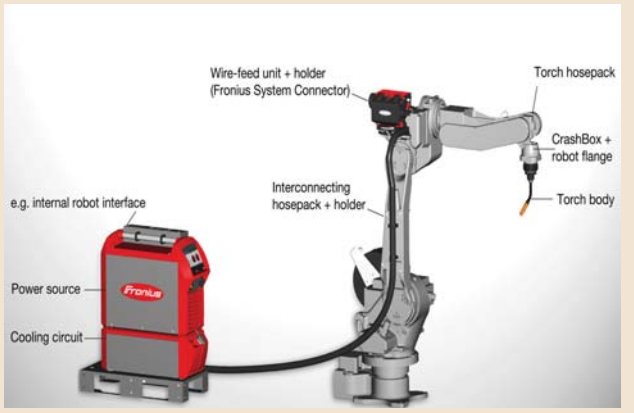
Stud Welding Gun

Doncasters Group developed a motorized stud welding hand gun designed specifically for the shipbuilding and transportation industries. Manufactured at Nelson Stud Welding, one of Doncasters' Fastener Systems facilities in North America, the NS-50M offers guaranteed precision resulting in improved manufacturing efficiency. The NS-50M is a programmable gun lift with plunge presets. This gun enables a manufacturer to weld up to a half inch diameter stud weighing as much as two pounds.

www.doncasters.com

Robotic Welding System

Standard interfaces for all standard welding robots, low interference profiles, innovative solutions for media transfer and wire-feed units - just some of the advantages of the new Fronius robotic welding systems. Developers of the new TransSteel Robotics system have focused on robotic steel welding. The Steel Transfer Technology and the fully digital TransSteel inverter power source form the basis of a new robotic welding system. TransSteel Robotics is available in the 350A and 500A categories. They reach these values at 40% DC, or 250/360 A at 100% DC. In addition to the advantages of the power source for manual use, TransSteel Robotics offers users a range of additional features.



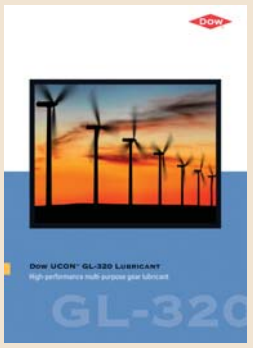
www.fronius.com

Coating Measurement

The Deltascope FMP30, Isoscope FMP30 and Dualscope FMP40 coating thickness instruments feature strategies for measurement capture, more memory and extensive graphical and statistical evaluation capabilities. These units are designed with application specific settings to meet the requirements set forth by SSPC-PA2, IMO PSPC and others.

Email: info@fischer-technology.com

Lubricant Brochure



The new Dow UCON GL-320 lubricant is intended for Wind Turbine Gearboxes, and a new brochure is available. The new Dow UCON™ GL-320 is a PAG (Polyalkylene Glycol) based lubricant that was developed based on Dow's experience manufacturing PAG based products. UCON™ GL-320 is available in bulk, drums, or 20 L containers and can be obtained by emailing

WIND@dow.com

New Hi-tech Conduit Sleeves

Beele Engineering extended its dynamic sealing system DYNATITE with conduit sleeves for application in harsh environments and salt water. Specially developed for application in the columns of semi-submersible rigs, the DYNATITE system can be used in many hazardous areas as blast walls, explosion proof areas, subsea applications and all those situations where a (sudden) substantial pressure might arise and a high degree of (instantaneous) tightness of the sealing system is required. The conduit sleeves are available in three types that can be welded (new installations), bolted or screwed (existing installations) to the partition or wall. A retainer flange at the back of the conduit sleeves functions as a hold for the DYNATITE sealing plug to allow compression of the plug inside the conduit sleeve. The DYNATITE plugs can easily withstand shock pressure loads of more than 210 psi (15 bar) and will return to their original shape after shock pressure. The dynamic compression of the plug is based on the high-tech rubber grade and the engineered profiling. **Email: info@beele.com**

New Pipe Welding Technique: A Case Study

(Continued from page 65)

We explained the benefits of these new technologies to Titan, showed them what our procedure would be and assured them that the work would be done to API-2B specifications, which included ultrasonic testing.

Welding Procedure

The beveling was accomplished using a wrap-around, track-mounted cutting torch with acetylene gas and a #1 cutting tip. The pipe was beveled at an angle of 30 degrees with a root face of 1/16 inch. The finished root opening after fit up was 1/8 inch and tacked and welded using the RMD and Pro-Pulse processes (now available in the PipeWorx Welding System) and a SuitCase 12RC feeder. Pipe cutting and beveling tolerances had to be held to within 1/16 inch per foot of diameter, with a maximum allowable deviation of 1/4 inch, measured with a square and straight edge across the end of the pipe.

The extension pipes varied in length, allowing us to match longest existing jack-up pipe with the shortest extension pipe and vice versa to achieve the desired length the customer requested. Each extension pipe was placed on the rollers and aligned to achieve the proper face-to-face fit up for match burning. The existing longitudinal welds were rolled to position so that they were no less than five ft apart. After set-up, the pipes would be marked, cut and re-aligned and verified for straightness and fit-up before welding.

Additional work included removing lifting eyes and four-inch blow-down pipes for displacing sand or mud while driving pipes into the sea floor. We installed lifting eyes and new watertight plates in the extension pipes and sealed the holes where the blow-down pipes existed.

Welding Results

Using the RMD process allowed us to bridge the 1/8 inch root gap, as well as any deviation in the bridge height without the need for a backer plate or ring, greatly speeding up the weld process and minimizing interior cleanup or re-work. We estimate eliminating this task saved six to eight hours in time, plus material costs. Total savings on the root pass alone is estimated at $500 per joint compared to welding the root pass with conventional short circuit MIG or Stick.

Because the RMD and Pro-Pulse processes use the same filler wire and shielding gas (in this case ER70S-6- .035 wire and C-10 gas), we could continue welding the next two passes using Pro-Pulse without any changes, saving an estimated 15 minutes of time compared to our old methods (which required changing consumables and polarity or changing machines).

We dedicated a two-man crew to welding with the RMD and Pro-Pulse processes, each welding half of the pipe from the bottom up. After three weld passes, this crew moved to the next pipe and a second two-man crew performed the fill and cover welds using Miller's XMT 456 inverters paired with SuitCase X-Treme 12VS-suitcases' running .052-inch diameter Hobart Brothers' Excel Arc 71 flux cored wire with 100% CO2 shielding gas. The average single pass weld was 18 ft, four inches long and each pipe required approximately 32 passes for a total of 587 ft of welding that took two days to complete. All welding was done in position without use of pipe rollers. Using four two-man crews, welding continued 24 hours a day to keep the pipe at temperature to reduce concerns related to hydrogen cracking.

Ready for Testing

Each weld was ground flush with no undercut or cupping allowed in preparation of non-destructive testing to satisfy API-2B specifications. The first and second completed pipes were subject to 100% testing of each girth weld. As no defects were found, the remaining welds were subject to 45% testing in locations randomly chosen by the inspector. The inspector found zero defects and zero causes for repair on all 12 pipes, and he commented on how unusual it was for a job to have no rework at all.

We believe that without the use of the Miller equipment it would have been a lot more challenging. However, the RMD process worked as promised, easily overcoming gap or alignment variations and making a weld with a smooth transition.

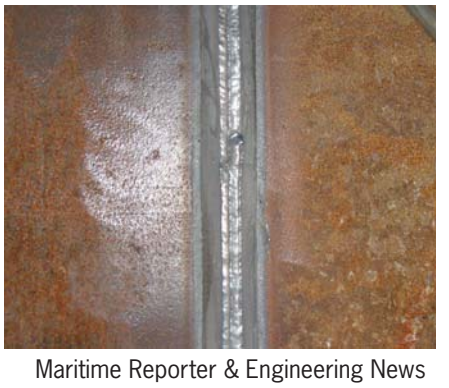
Completed pipes were moved to a pier side area using our 4000 and 4100 Manitowoc 200 ton cranes, with one and a half inch thick pad eyes welded to pipes. Each pipe was transferred from pier side to the deck of the Karlissa A using Titan's 300 ton Ring Crane. The pipes were stacked six per side in a pyramid shape anchored by three 16 inch wide A-frames. Steel dogs were welded on one end of the pipes to tie them all together.

The teamwork of Sause Bros., Titan Salvage and Miller welding equipment made this job seamless and produced a satisfied customer ready to take on its next job anywhere in the world.

The jack-up barge Karlissa A, positioned at sea for wreck recovery

The pipes shown on this jig stand are ready for extension pipe fit-up.

Pipe cutting and beveling tolerances on the project had to be held to within 1/16 inch per foot of diameter with a maximum allowable deviation of 1/4 inch.



Shown here is the welding of a root seam and cover pass created with Miller's PipePro 450 RFC and the Regulated Metal Deposit (RMD) technology.

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

AUTOMATION AND COMMUNICATION SYSTEMS

L-3 Maritime Systems, 9 Malcolm Hoyt Drive, Newburyport, MA 34232, USA

AUTOPILOT SYSTEMS

AG Marine, 5711 34th Ave NW 2nd floor, Gig Harbor, WA

AZIMUTH CONTROLS

Prime Mover Controls, 3600 Gilmore Way, Burnaby, BC V5G 4R8, Canada

BOAT BUILDING AND DESIGN

Rivolta Group, 1765 Ringling Blvd. Suite 300, Sarasota, FL , tel:941 954-0355, fax:941 954-0111, Rrivolta@rivolta.com contact: Renzo Rivolta, www.rivolta.com

Textron Systems, 1010 Gause Blvd., Slidell, LA , tel:985 661-3621, fax:985 661-3631, dmirelez@tmls.textron.com contact: Daniel Mirelez, www.textron.com

BOATBUILDER

Washburn Doughty, P.O. Box 296, E. Boothbay, ME 04544, USA

BOW AND STERN THRUSTERS

Omnithruster Inc., 2201 Pinnacle Parkway Twinsburg, Ohio 44087, Cleveland, OH 44139, USA , tel:330 963-6310, fax:330 963-6325, widmer@omnithruster.com contact: Kurt Widmer, www.omnithruster.com

BRAKE SYSTEMS

Hilliard Corporation, 100 West 4th Street Elmira, New York 14901-2148, NY , tel:607 733-7121, fax:607 732-8979, rdoud@hilliardcorp.com contact: Rob Doud, www,hilliardcorp.com

BRONZE VALVES

William E.Williams Valve, Inc., 3852 Review Avenue, L.I.C., NY , tel:718 392-1660, fax:718 729-5106, sales@williamsvalve.com contact: Kevin Cole, www.williamsvalve.com

BULKHEADS/MJ DOORS

Advanced Structures Corporation, 235 W. Industry Court, Deer Park, NY , tel:631 667-5000, fax:631 667-5015, advstrcorp@aol.com contact: Susan Stark, www.AdvancedStructuresCorp.com

CAD/CAM SYSTEMS

Autoship Systems Corp.,, 409 Granville Street Suite 1451, Vancouver, BC V6A 1E1, Canada

CENTRIFUGES

Westfalia Separator, Inc., 100 Fairway Ct., Northvale, NJ , tel:201 784-4395, fax:201 767-3416, Francis.Kennedy@geagroup.com contact: Frank Kennedy, www.wsus.com

CHARGE AIR COOLERS

3 Star Atlantic Radiator Ultra Sonic Cleaning Division, 4358 N.Dixie Highway, Oakland Park, FL 78634, USA , tel:954 566-7403, fax:954 561-5946, MCross9241@aol.com

CONTROL SYSTEM-MONITORING/STEERING

Omega Engineering, One Omega Dr., Stamford, CT 06907, USA , tel:203 359-1660, fax:203 968-7192, kkwait@omega.com contact: Dan Jackson, www.omega.com

CORDAGE

Yale Cordage, 77 Industrial Park Road, Saco, ME , tel:207 282-3396, fax:207 282 4620, info@yalecordage.com contact: Dick Hildebrand, www.yalecordage.com

CRANKSHAFT REPAIR

In-Place Machining, 3811 N. Holton St., Milwaukee, WI 53212, USA

DECK MACHINERY- CARGO HANDLING EQUIPMENT

Coastal Marine Equipment, 20995 Coastal Parkway, Gulfport, MS 39503-9517, USA , tel:228-832-7655, fax:228-832-7675, sales@coastalmarineequipment.com

Smith Berger Marine, 7915 10th Ave. S., Seattle, WA 98108, USA

DIESEL ENGINE- SPARE PARTS & REPAIR

Goltens Worldwide, PO Box 1176, Marion, MA , tel:508 728-3128, fax:508 536 6025

Motor-Services Hugo Stamp, 3190 SW 4th Avenue, Ft. Lauderdale, FL 33315, USA , tel:954 763-3660, fax:954 763-2872 , www.mshs.com

DOOR LOCKS

The Brass Works Inc., P.O. Box 566, Deland, FL , tel:386-943-8857, fax:386-943-8810, info@marinedoorandcabinethardward.com

DOORS- MARINE & INDUSTRIAL

Walz & Krenzer, Inc, 91 Willenbrook Rd.Unit B4, Oxford, CT , tel:203 267-5712, fax:203 267-5716, sales@wkdoors.com contact: Melissa Shepstone, www.wkdoors.com

ELECTRIC PROPULSION

Avtron Industrial Automation, 7900 E.Pleasant Valley Road, Independence, OH , tel:216 642-1230/ext 1263, fax:216 642-6037, mduskey@avtron.com contact: Mark R. Duskey, www.avtron.com

ELECTRICAL SERVICES

PMI Industries, Inc, 5300 St. Clair Avenue, Cleveland, OH

ELECTRONICS/NAVIGATION COMMUNICATIONS SERVICE AND

Mackay Marine, 921 Seaco Avenue, Deer Park, TX 27616-1851, USA , tel:281 478-6245, fax:212 500-0013

EPIRB

Whiffletree Corporation Inc., PO Box 27, Bridgton, ME , tel:207 647-3300, fax:207 647-3700, glcl@bellatlantic.net

FENDERING SYSTEMS/ BUOYS - DOCK & VESSEL

Schuyler Rubber Co., 16901 Woodred Rd.NE, Woodinville, WA 98072, USA , tel:425 488-2255, fax:425 488-2424, Greg@schuylerrubber.com contact: Greg Armfield, www.schuylerrubber.com

FILTRATION

Boll Filter, 9822 General Drive. Ste. 180, Plymouth, MI 48170, USA , tel:734 451-4680, fax:734 451-4681, Latorre@bollfilterusa.com contact: Michele Latorre, www.bollfilterusa.com

FURNITURE

Wright Computer Products Inc., PO Box 565, Woodbury, NJ

GALLEY EQUIPMENT

Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd Ave., Boca Raton, FL 33431, USA

Maritime Associates International, 3832-010 Baymeadows Rd. #407, Jacksonville, FL 32217, USA

US Outfitters, 10752 Deerwood Park Boulevard South Waterview II Suite 100 Jacksonville, FL 32256, Jacksonville, FL

HATCHES & DOORS

Maritime Associates International, 3832-010 Baymeadows Rd. #407, Jacksonville, FL 32217, USA

US Outfitters, 10752 Deerwood Park Boulevard South Waterview II Suite 100 Jacksonville, FL 32256, Jacksonville, FL

HORNS/WHISTLES

Kahlenberg Brothers Co., P.O. Box 358, Two Rivers, WI 54241, USA , tel:920-793-4507, fax:920-793-1346, EKahlen@Kahlenberg.com contact: Erick Kahlenberg, www.Kahlenberg.com

HVAC

Jamestown Metal Marine Sales, Inc, 4710 Northwest 2nd. Ave., Boca Raton, FL 33431, USA

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L-3 Maritime Systems, 9 Malcolm Hoyt Drive, Newburyport, MA 34232, USA , tel:978 462-2400, fax:978 462-4497, Jon.Miller@L-3com.com contact: Jon Miller, www.L-3com.com/MPS

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Thermax Marine-Panel Specialists, Inc., 3115 Range Rd., Temple, TX 76501, USA , tel:813 340-3940, fax:813 264-2507, thermax@panelspec.com contact: John Hutchinson, www.thermaxmarine.com

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ExxonMobil Marine Lubricants, 3225 Gallows Rd, Fairfax, VA , www.exxonmobilmarinelubes.com

Kobelco Eagle Marine, Inc., 366 Fifth Avenue, Suite 712, NY, NY 10017, USA

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METEOROLOGICAL INSTRUMENTS

R. M. Young Company, 2801 Aero Park Drive, Traverse City, MI , tel:231-946-3980, fax:231-946-4772, vsherman@youngusa.com

PARTS LOCATOR SERVICE

Inventory Locator Service, 8001 Centerview Parkway Suite 400, Memphis, TN 38018, USA

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Westfalia Separator, Inc., 100 Fairway Court, Northvale, NJ 07647, USA , tel:(201) 784-4335, fax:(201) 784-4399, Klaus.Brinkrode@geagroup.com contact: Klaus Brinkrode, www.wsus.com

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Kahlenberg Brothers Co., P.O. Box 358, Two Rivers, WI 54241, USA , tel:920-793-4507, fax:920-793-1346, EKahlen@Kahlenberg.com contact: Erick Kahlenberg, www.Kahlenberg.com

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Wing Inflatables, P.O. Box 279, 1132 Samoa Blvd., Arcata, CA 99521, USA

SATELLITE COMMUNICATIONS

Intellian Technologies, 9261 Irvine Blvd., Irvine, CA , tel:949 916-4411, fax:949 271-4183, sales@intelliantech.com contact: John Minetola, www,intelliantech.com

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Kobelco Eagle Marine, Inc., 366 Fifth Avenue, Suite 712, NY, NY 10017, USA , tel:212-967-5575, fax:212-967-6966, hawkins@kobelco-eagle.com contact: David Hawkins, www.kobelco-eagle.com

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Maritime Instructor Coordinator
Job Location: USA, Green Bay Wisconsin

*Required online application available on website: www.nwtc.edu

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Position Summary: Faculty hired to teach at NWTC are hired for their expertise in the subject matter and the profession in which they will prepare our learners. An instructor is responsible for providing instruction to students within the assigned instructional department and in accordance with the vision, mission, goals, policies, and procedures of the College. The instructor is responsible for engaging students in the learning process and preparing the student to be successful.

GENERAL QUALIFICATIONS

•Bachelor's degree from an accredited college and two years of successful, directly related work experience or an equivalent combination of education and work experience*.

•Maritime/shipbuilding industry experience with a strong working knowledge of maritime/shipbuilding construction practices, methods and terminologies.

•Must be eligible for certification under the Administrative Code of the Wisconsin Technical College System (WTCS).

•Previous teaching experience with adult learners is desirable.

•Ability to work in a team environment.

•Ability to develop relationships with staff at maritime organizations.

•Ability to work non-standard hours including evenings and weekends.

*Experience in the following is preferred:

•Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.

•Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.

•Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

•Monitor Processes, Materials, or Surroundings - Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

•Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).

•Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.

•Assembling, dismantling, or reassembling equipment or machinery

•Erecting machinery in marine or maritime setting

•Inspecting machinery or equipment to determine adjustments or repairs needed

•Maintaining or repairing ship/boat engine, machinery or equipment

•Monitoring production machinery/equipment operation to detect problems

•Operating auxiliary power plant equipment

•Operating lathes

•Operating power generation equipment

•Overseeing work progress to verify safety or conformance to standards

•Performing hydraulic plumbing

•Performing safety inspections in transportation setting

•Reading blueprints, technical drawings , work orders, instructions, formulas, or charts

•Repairing commercial transportation equipment

•Selecting ship repair method

•Set up and operate variety of machine tools

•Understanding technical operating, service or repair manuals

•Using acetylene welding/cutting torch

•Using combination welding procedures

•Using engine diagnostic equipment

•Using hand, power tools or pneumatic tools

•Using precision measuring devices in mechanical repair work

•Using two-way radio or mobile phone

•Using weighing or measuring devices in transportation

GENERAL DUTIES AND RESPONSIBILITIES

•Responsible for managing the instructional process, associated curriculum review and development and stu-

dent advising within the area of instruction.
•Provide educational leadership and work effectively with applicable advisory committees, community groups, faculty, administration, maritime organizations, and campus support staff including workplace learning services to perform contract work.

Human Resources
Northeast Wisconsin Technical College
2740 W Mason St
Green Bay WI 54313 USA
Email: hr@nwtc.edu
Web: http://www.nwtc.edu

Sales Manager & Project Management Support
Job Location: USA, Petaluma, California

Primary Objectives:
This position has been created to expand Moose Boats external sales and marketing
efforts while simultaneously ensuring greater continuity from contract receipt to vessel
delivery.
To lead the development of Moose Boats sales and marketing functions. The Sales Manager will be primarily responsible for:
1) Product sales, marketing and sales administration.
2) Development and nurturing of long-term client relationships with both public and
private entities requiring Moose Boat products.
3) Partnering with the Management Team to identify organizational goals and to
hold one another accountable for performance.
4) Preparation and implementation of an annual comprehensive Sales Plan with
specific targets identified for key metrics to be defined collectively by senior
management group.
5) Assist General Manager in maintaining Federal Supply Schedule contract.
6) Other special projects as determined by the Company.
In addition to a sales role, responsibilities around project management support will ensure
continuity from the contracting period through the delivery stage. Project Management
support responsibilities include:
1) Share production of and updates to project work orders under the supervision of
the Production Manager.
2) Coordinate communication, as directed by General Manager, between Moose Boats design & production staff and customer throughout vessel construction to
better facilitate adherence to contract, clarify technical requirements, and update
customers as needed on construction progress.
3) Develop and maintain database of Warranty and After-Sales-Support history on
each delivered boat under the supervision of the General Manager.
4) Develop and maintain a promotional image catalog for Marketing use under the
supervision of the Design Director.
KEY TASKS
• Work collectively with the Management Team to develop the Sales Plan, to keep
it updated on an ongoing basis, to push the implementation of the plan, and to
monitor and report on progress toward the plan.
• Adhere to goals for key metrics such as: quantity of monthly new client contacts,
volume of client follow-up calls and annual sales targets as designated in Sales
Plan.
• Conduct adequate market research to determine where potential lies for new
business, target specific customers and identify the competition and incorporate in
the plan above.
• Call on target customers, end users in the plan, and effectively present Moose
Boat products and equipment. Work with the customer's management, technical
and operations staff to identify and develop applications and projects.
• Maintain and continue to develop ongoing customer contacts to enhance and
extend sales networks and to promote and close equipment sales and to ensure
repeat sales.
• Monitor all active projects and quotations in a timely manner, including reporting
to management.
• Understand thoroughly and stay informed on the customer decision-making
process and the customer budgeting/capital approval cycle to direct effectively
sales efforts, presentations, competitive responses and enhance forecast accuracy.
• Participate, as directed by President and Vice President, in negotiating a selling
price to the customer, complete with payment terms, that is acceptable to Moose
Boats.
• Collect all relevant project details (financial, technical, and competitive), keep the
sales database up-to-date accordingly and generate needed quotations and
proposals.
• Work closely with the Management Team to maximize efficiency in travel and
time and expenses by planning trips to product shows, existing customers and to
target customers identified in the new business development plan.
• Negotiate delivery quotations acceptable to the customer and Production Dept. in
conjunction with the Management Team.
• Identify marketing shows and meeting beneficial to Moose Boats and ensure a
favorable presence at targeted venues throughout the U.S.
• Work closely with the General Manager and other members of the Management
Team to share responsibilities, as required, to market and sell product, including
initial customer contact, attendance at shows, handling customer inquiries, when
needed, and assisting with customer follow up and service, as needed.
• Support Production and Design staff in translating contracts into work orders for
incoming projects.
• Enhance strong customer relationships and manage customer requests for
changes.
Qualifications:
• A proven track record in the selling of capital equipment items (minimum value
US $200,000) or high-end maritime product sales is essential;
• Familiarity with the marine industry, civil and law enforcement sector is highly
desirable;
• Military or law enforcement background a plus;
• A sound engineering background with an understanding of controls systems is
preferable;
• Excellent interpersonal, communication and sales skill desirable;
• Experience in maintaining and customizing SalesForce databases;
• Ability to share effectively a lead role as a member of the Management Team in a
small organization with a hands-on approach to getting things done.

To Apply:
Please direct of letters of interest and resumes to Abbie Walther – Vice President &
General Manager abbie@mooseboats.com or via fax 707-778-9827.

Abbie Walther
Moose Boats
274 Sears Point Road
Petaluma CA 94952 USA
Phone: 707-778-9828
Fax: 707-778-9827
Email: abbie@mooseboats.com
Web: http://www.mooseboats.com

Ocean Freight Sales Manager
Job Location: USA, Houston

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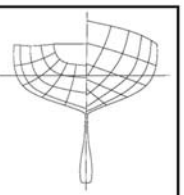

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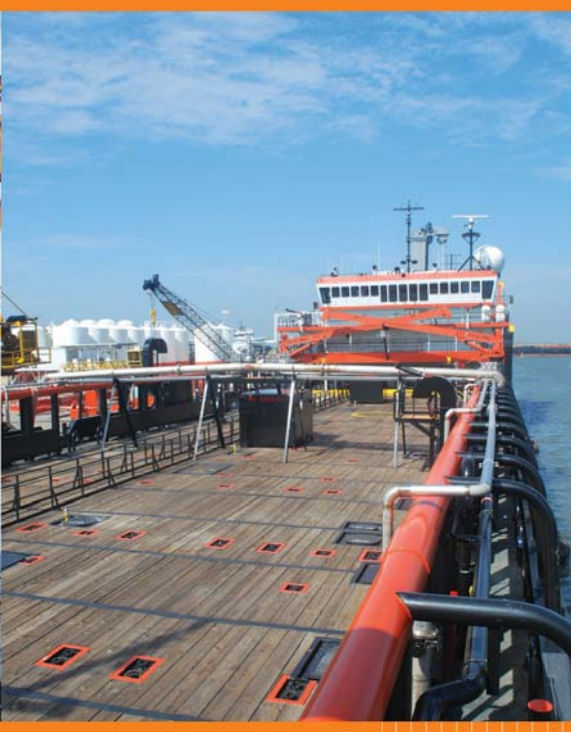

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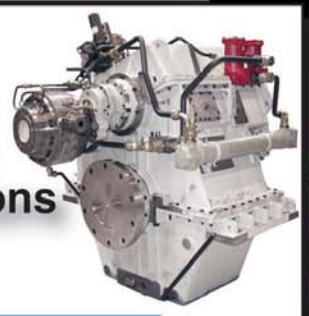

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