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MARCH 2014

USCG Annual
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Arctic Tasks
Coast Guard Challenge

MR @ 75
The Transformational Leader Thad Allen

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Chasing America's Cup Boats

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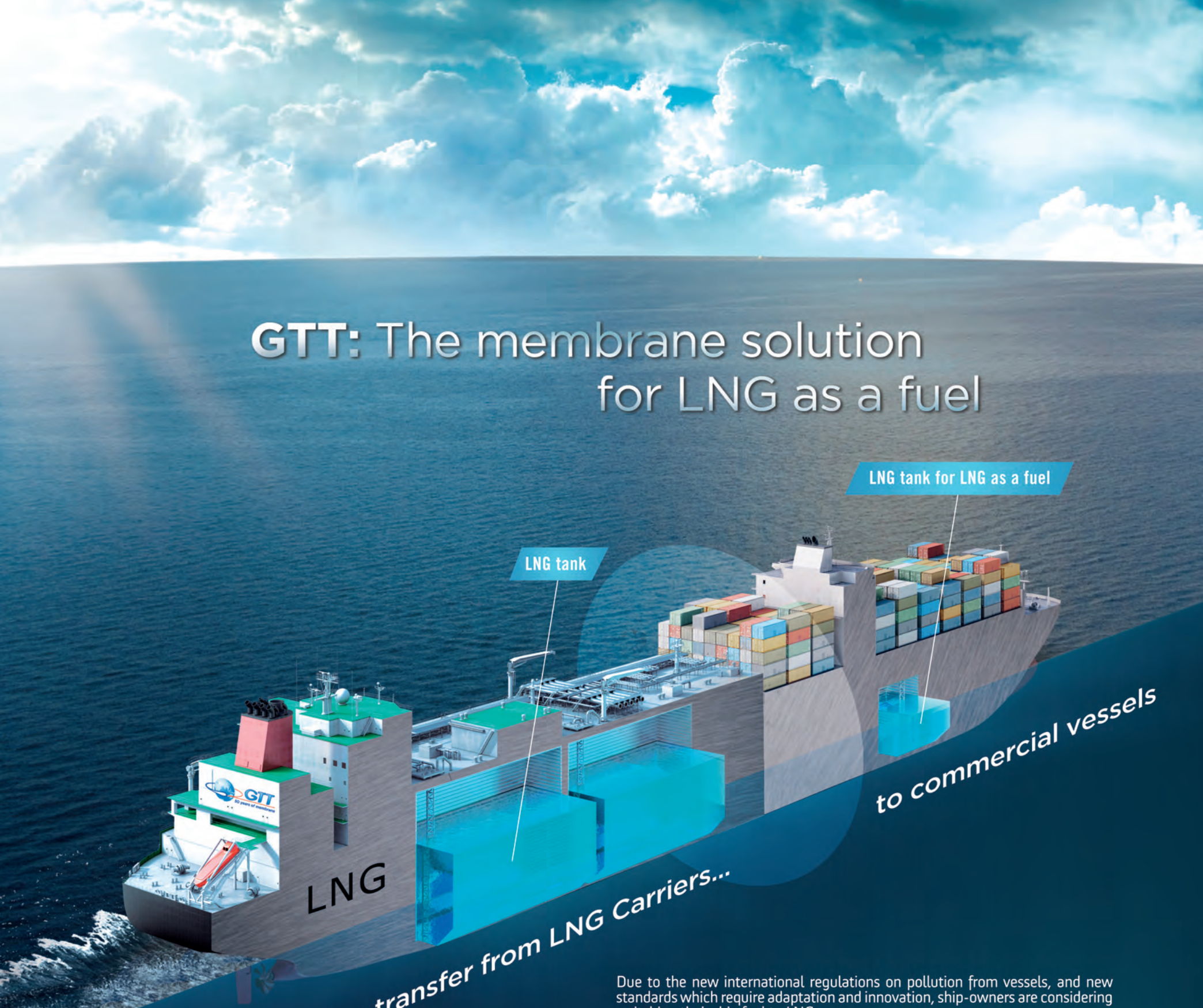
GTT: The membrane solution for LNG as a fuel



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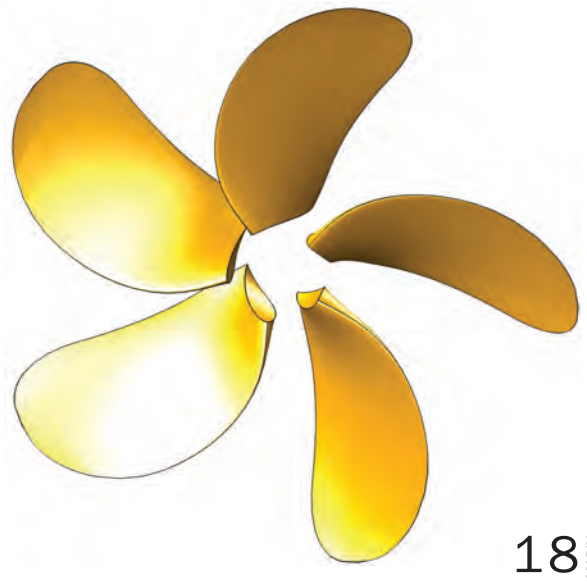
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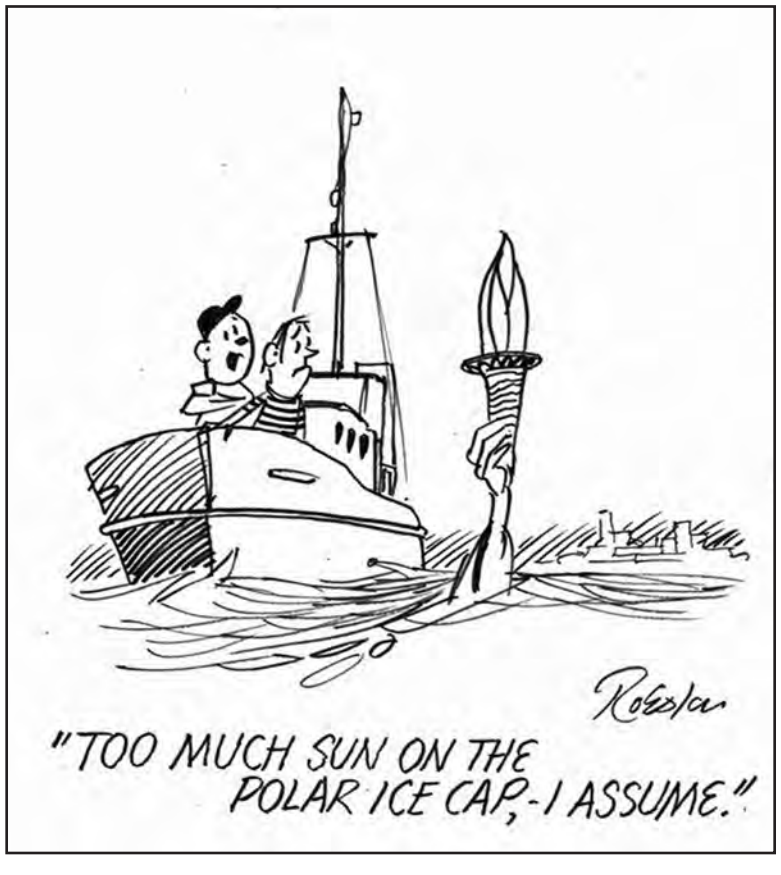

THE COVER

Pictured on this month's cover
The Umpire Boat for the 2013 Americas Cup. The Willard Marine 43 Assault was developed for military use from a Scarab offshore racing design and can achieve speeds over 60 knots. The 43 ft. (13m) high speed craft was initially prototyped in response to a request by the U.S. Navy for a high-speed combat mission boat. The U.S. took on all challengers to retain the Americas Cup as AC72 sailing boats hit speeds over 40 knots in San Francisco Bay.

Story starts on page 46.
(Photo Credit: Willard Marine)

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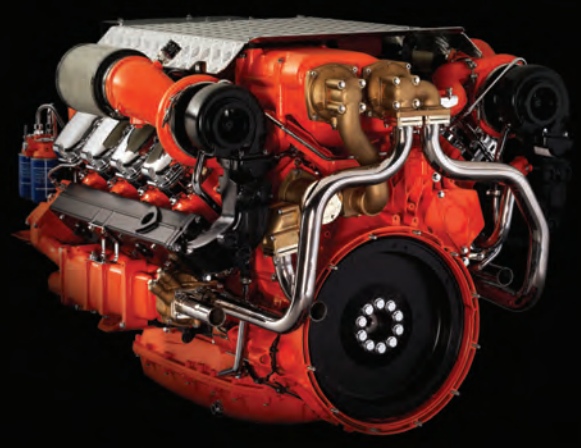

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USCG ... Past, Present & Future

GREG TRAUTHWEIN, EDITOR & ASSOCIATE PUBLISHER

Ebeneezer Scrooge would be proud. This is our annual United States Coast Guard edition, and it could best be dubbed the "Christmas Carol" edition as we examine USCG Past, USCG Present and USCG Future.

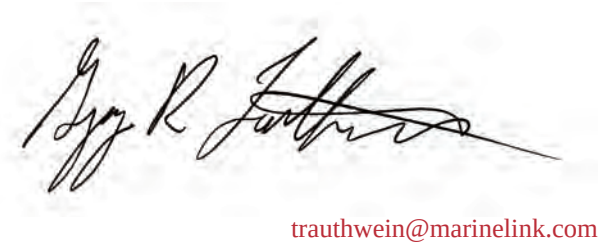
First looking back (but not too far back), and in step with our continued celebration of *Maritime Reporter & Engineering News'* 75th Anniversary, Patricia Keefe takes an insightful look at the times, tribulations, leadership and legacy of **Thad Allen**, past Commandant of the U.S. Coast Guard. Allen is widely considered to be one of the transformational leaders in this position of all time, and by any measure he is the definition of the word 'leader,' proven by a steady hand through disasters, both natural and man-made, across two Administrations. Allen was a natural choice for profile in this edition, and the story starts on page 32.

Today, as many of you are well aware, the Coast Guard continues its evolution under the guidance of USCG Commandant **Admiral Bob Papp**, who just a few days ago delivered his final "State of the Coast Guard" address.

As Edward Lundquist reports starting on page 28, the Coast Guard is in the midst of a massive rebuilding of its fleet with 91 new cutters at an acquisition cost of about $21.1 billion. The Offshore Patrol Cutter Program (OPC) has gotten much ink of late, with a planned 25 ships under the OPC acquisition project. The contest is now down to three contractors, led by Bollinger Shipyards, Eastern Shipbuilding and General Dynamics Bath Iron works.

Looking to the USCG Future is Dennis Bryant in his article starting on page 20, *"Arctic Taskings for the Coast Guard."* Earlier this year the White House released the Implementation Plan for the National Strategy for the Arctic Region, which sets forth the methodology, process and approach for executing the strategy. In total there are 36 identified taskings, and the USCG is front and center on more than half of them. Will this renewed attention on the importance of the Arctic finally mean a newbuild strategy for the Coast Guard icebreaking fleet? I cannot say for sure, but it certainly should.

Finally, I am grateful to John Haynes for his article *"Chasing America's Cup Boats,"* this month's cover story (which is in no small way due to lobby by Haynes himself). For those of you who do not know him, John Haynes is both fanatical and an incredible source of knowledge on the topic of fast craft, particularly in regards to the human-machine interaction. His article, starting on page 40, examines the unique challenges faced by the power boat sector in keeping pace with the America's Cup catamarans which can accelerate to 40 knots in seconds, and how this challenge was met by Willard Marine (on this month's cover); Naiad Inflatables (Team USA) and Morrelli & Melvin, ENZ and Salthouse Boatbuilders (Team New Zealand).



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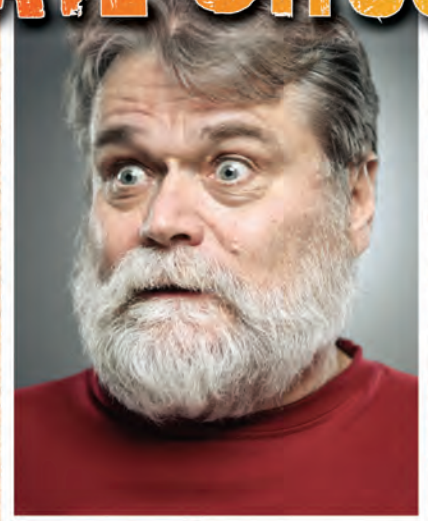
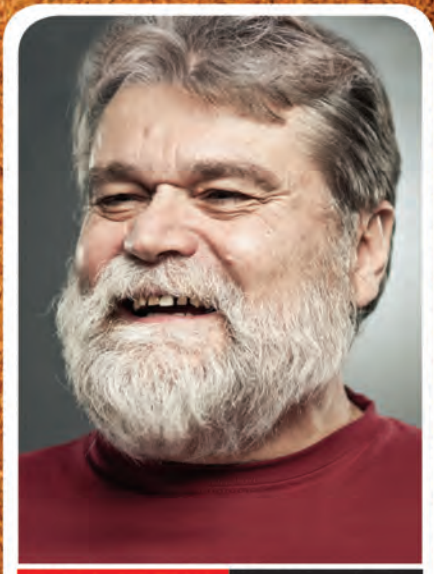


STAGE 1 - SHOCK: "No way! I've never seen a rebate this BIG!"

STAGE 2 - DOUBT: "$1,500 bucks back on ONE display, that must be a mistake?!"

STAGE 3 - REALIZATION: "Wait... this program is super-simple!"



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Bits & Pieces from the Cheap Seats

Something for Everyone; Laughter, Tears & a Shake of the Head

BY JOSEPH KEEFE

This week, President Obama said that he would call on Congress to appropriate as much as $300b for repairs and upgrades to the nation's aging roads and railways. Conspicuously absent from that discussion was any mention of ports and inland waterways. On the latter front, there are any number of initiatives underway, notably the long overdue WRRDA bill that maritime stakeholders hope will be pushed through in the near future. It wasn't too long ago, you may remember (apparently the current administration does not) that we had our much-ballyhooed National Maritime Symposium, intended to push forward a real national maritime strategy. That effort will take money, too.

DOT Secretary Anthony Foxx warns of the "transportation cliff" coming late this summer when the Highway Trust Fund, which finances federal highway and transit projects, is predicted to run out of money. One way to solve that problem is to raise the gasoline tax that funds all of it. But that's a temporary band aid. The irony of the situation is that motorists and consumers and over-the-road transportation companies have for decades been exhorted, by the government and environmentalists alike, to reduce their energy consumption and green their environmental footprints. Well, they've done just that. Along the way, they are driving fewer miles than we as a nation have done in decades and as a result, the gas tax isn't bringing in enough revenue. What's a mother to do?

The real solution lies in moving the freight off the highways to the maximum extent possible and onto the nation's waterways. But, we can't do that because there isn't enough money for that effort, either. But until Washington understands that the maritime mode is part of the intermodal equation, we are doomed to endure substandard infrastructure – on the roads and in the water. Anybody know when the next National Maritime Symposium will take place? I hear the sandwiches were pretty good.

Rubbing Salt in the Wound

Like everyone else, I've watched the latest assault on the Jones Act with great interest. In case you just got back from a Caribbean vacation, let me bring you up to speed. The state of New Jersey ran out of road salt during this, one of the worst winters in memory. Seems like we had some right here in America, but the Garden State didn't want to pay Jones Act rates to get it down into position for deployment. They accordingly applied for a waiver from MarAd, who promptly denied it. And, the blame game was on. In the end, the salt got transported to New Jersey – on an American bottom, and I guess the roads are safe there once again.

In this case, it was poor planning on the part of the state that got them into a pickle; not the Jones Act. If the good folks from New Jersey have anyone to be mad at, they should look internally at their elected officials. To that end, Jones Act advocates and stakeholders everywhere rose up and let their voices be heard. From Tom Allegretti (chairman of the American Maritime Partnership and the AWO) to U.S. Senator Menendez (D – NJ) and a dozen more like them, the outrage became clear and at least on this one occasion, we as an industry did a pretty good job of holding the line against, in this instance, an unwarranted use of the waiver rules. Even Marad did their job. But, the situation also got me to thinking about the Jones Act in a macro sense, as well. When I look around at the Jones Act players and stakeholders, there are plenty that hold fast and true to all of the tenets of the concept of coastwise shipping and cabotage. But not everyone. Some think it is okay to perform repairs and alteration work overseas on their "Jones Act" tonnage. And, that, according to the Coast Guard, is perfectly legal. It seems to me that these operators want it both ways. Indeed, they can. By the same token, they shouldn't be surprised when cargo interests and shippers want the same thing. Food for thought.

As for the federal government, if someone at the U.S. DOT or MarAd is looking to me for a pat on the back, they'll need to look elsewhere. Denying a Jones Act waiver in this case doesn't get them a pass, especially for those who work for the same administration which has collectively issued more Jones Act waivers in the past five years than were granted in the previous 30 or 40 combined. Someone call me on that, if I've got it wrong. This is the same crew who gives out grant money for ship work that will likely take place overseas, and has responsibility for supervising a 60-ship maritime security fleet of U.S. flag, but foreign built hulls. That they purport themselves to be the nation's "maritime cheerleaders" is preposterous. This week was a good one for Jones Act advocates. I believe in the Jones Act. It has its place, value and has demonstrated time and time again, its utility to the country that fosters this kind of cabotage law. I'm also mindful that its application in practice is uneven – from both sides of the equation. A little like your 'crazy Uncle Harry' who disrupts the family reunion every summer. That's the take-away that we should all be looking at, long after the spring thaw and April rains wash the road salt away.

ADM Papp Steps Down in May

In my first one-on-one interview with U.S. Coast Guard Commandant ADM Bob Papp more than three years ago, he made it clear to me that if I was looking for fireworks and earthshaking changes in the nation's fifth uniformed and military service, then I had come to the wrong office. Instead, he promised a steady hand, a sincere effort to bring to fruition the myriad efforts of those who had come before him, and to improve the lives of every Coast Guard team member. On May 30, he will step down as he hands the baton to his successor in the Change of Command ceremony in Washington. From my perspective, I think he will be missed.

Like Tom Collins who succeeded the charismatic Jim Loy, Papp also had the unenviable task of following a tough act. Thad Allen, perhaps the most well-known Commandant in the history of the Coast Guard (see page 32), also earned that reputation through superb leadership in any number of crises during his term as commandant, and the time leading up to it. Certainly, he left the Coast Guard a better organization than he found it. The mainstream media eventually dubbed him 'the Rock Star Commandant.' In his own quiet way, Papp was every bit as impressive. Like every Commandant that came before him and all that will follow, Papp will leave unfinished business at USCG HQ. Inland marine stakeholders, for example, probably won't see the long anticipated subchapter "M" towboat rules enacted before the end of May, but that won't be Papp's fault, either. A lumbering and excruciatingly slow regulatory review process in Washington is largely to blame. We can only hope that four years from now, we're still not waiting for that important rulemaking to get the final "okay." Anyone who has gone to sea for any length of time knows that sometimes, it's just a one degree change of course or perhaps a minor easing of the throttle that produces the best, but often not the most dramatic results for the ship. I think that's an excellent metaphor for Admiral Bob Papp's tenure as Commandant and his accomplishments.

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Floating Production

Floating Production inventory continues to grow; 27% higher than five years ago

BY JIM MCCAUL, IMA

The number of floating production systems continues to grow; 349 floating production units are now in service, on order or off-field/being remarketed. This inventory is 5% higher than a year ago, 27% higher than five years ago.

Current Inventory: Of the total, 320 units are used for oil/gas production. Included in this figure are 211 FPSOs. They are the most common type system, comprising 65% of the existing systems and 72% of the systems on order. The remaining consists of 10 production barges, 48 semis, 23 spars and 28 TLPs.

Another 29 units are floating LNG processing systems. This figure includes four liquefaction floaters (FLNGs), all of which are on order, and 25 regasification terminals (FSRUs) . Several of the 11 active FSRUs are interim regas units being used until the long term unit is delivered. In addition, 102 floating storage units are in service, on order or available. (See Chart Below).

FPSO Owners

There are 66 owners of FPSOs, but this overall figure disguises a relatively high concentration within a few companies. The top six FPSO owners own 95 units, or 45% of the FPSOs in service, available or on order. The remaining 55% is spread over 60 owners, more than half of which own only one FPSO. Field operators own 52% of the FPSOs. Petrobras is clearly the dominant player. It owns 28 units, 13% of the total FPSO inventory. Other field operators with large FPSO ownership are CNOOC (14 units), ExxonMobil and Total (each seven units), and BP, Chevron and Shell (5 units each).

Leasing operators own the remaining 48% of the FPSOs. SBM is the largest leasing company. It owns 17 units, 8% of the inventory. Next in line are BW Offshore and Modec (each 13 units), Teekay (10 units), Bumi Armada (7 units) and Bluewater (5 units). In terms of control of FPSOs, Petrobras is the gorilla in the sector. Counting both owned and leased units, Petrobras has 52 FPSOs under its control – 25% of the FPSOs inventory.

A list of the top FPSO owners is, right. The full list on www.imastudies.com.

Production Floater Orders

Sixty-eight production floaters are currently on order. The figure includes 36 FPSOs, 14 other oil/gas production units and 18 LNG processing units. In the later are four floating liquefaction plants and 14 regasification terminals. The order backlog has remained around 70 units since mid-2012. But the composition of orders has changed. In the current order backlog are significantly fewer FPSOs (49 on order in mid-2012 vs. 36 now) and more regasification floaters (9 on order in mid-2012 vs. 14 now).

Fewer FPSOs on order reflects the slowdown in FPSO contracts during the past year. Only 11 FPSOs were ordered in 2013, down 20% from the average ordering pace over the past 10 years. FSRUs on the other hand have been hot items. The current backlog of FSRU orders is more than 50% higher than in mid-2012. Included in the current order backlog are six speculative FSRUs being built without a use contract, reflecting the bullish market for regasification terminals.

The market over the first two months of 2014 has picked up a bit. Three production floater orders were placed in January/February.

- **Petronas ordered a second FLNG** for use on the Rotan field off Malaysia. The $2+ billion EPC contract was awarded to Samsung/JDC. Delivery is scheduled in 2018.
- **ENI ordered a production barge** for use on the Jangkrik field off Indonesia. The $1.1 billion EPCI contract was awarded to Saipem/Hyundai/Chiyoda/Tripatra. Delivery is to be at end 2016.
- **Exmar/Pacific Rubiales ordered**

Number of Floating Production and Storage Units In Service, On Order or Available for Reuse

(As of March 1, 2014)

	Total	Active	On Order	Available
Oil/Gas Production				
FPSO	211	156	36	19
Production Barge	10	8	2	0
Production Semi	48	40	4	4
Production Spar	23	18	4	1
TLP	28	24	4	0
Total	320	246	50	24
LNG Production				
FLNG	4	0	4	0
FSRU	25	11	14	0
Storage Systems				
FSO	102	91	10	1

Top FPSO Owners In Terms of Number of FPSOs Owned

(As of March 1, 2014)

Owner	Type	In Service	Available	On Order	Total
Petrobras	FO	15	1	12	28
SBM	LC	9	3	5	17
CNOOC	FO	11	2	1	14
BW Offshore	LC	12	1	-	13
Modec	LC	9	-	4	13
Teekay	LC	8	1	1	10
Bumi Armada	LC	5	-	2	7
ExxonMobil	FO	7	-	-	7
Total	FO	5	-	2	7
Bluewater	LC	4	1	-	5
BP	FO	3	1	1	5
Chevron	FO	5	-	-	5
Shell	FO	5	-	-	5
Woodside	FO	4	-	-	4
ENI	FO	2	-	1	3
Fred Olsen	LC	3	-	-	3
OSX	LC	1	2	-	3
Petrofac	LC	2	1	-	3
Statoil	FO	3	-	-	3

Legend: LC = Leasing Contractor; FO = Field Operator
Note: Some units jointly owned with other companies

a regas barge in anticipation of using the unit on a future terminal project. Wison Nantong will build the hull and handle the unit integration. Delivery is scheduled in late 2015.

Two other production floater contracts appear to have reached an advanced stage of negotiations. Premier is about to contract for a leased FPSO for the Catcher field in the U.K. North Sea. Premier has selected the preferred bidder and BWO looks like the winner. Premier also appears to have earmarked Teekay to supply a cylindrical FPSO for the Bream field in the Norwegian North Sea. Despite the pick-up in orders in early 2014, it still looks like the production floater market is in a temporary slow period. The sector lacks the vibrancy of previous years. Causing the slowdown is a mixture of cost escalation, inefficiencies caused by local content barriers, supply chain bottlenecks, oil companies pulling back on upstream investments and better financial returns from shale/tight oil and gas investments.

236 floating production projects are in various stages of planning as of beginning March. Of these, 57% involve an FPSO, 15% another type oil/gas production floater, 22% liquefaction or regasification floater and 6% storage/offloading floater. Brazil and Africa are the major locations of floating production projects in the visible planning stage. We are tracking 51 projects in Africa, 48 projects in Brazil – 42% of the visible planned floating production projects worldwide.

In terms of future production floater requirements, Brazil is clearly the leader, as several Brazilian projects will require multiple production units (up to 12 FPSOs in one project). When these large projects are taken into account, Brazil represents almost 30% of the visible floating production system orders in the planning stage.

For this reason the downsized business plan just announced by Petrobras should cause concern in the floating production sector. In late February Petrobras said its five-year capital spending plan for 2014/18 would be almost 7% lower than the five year plan announced last year.

Planned Projects Type of Production System Required

(As of March 1, 2014)

Type of Required	No. of Projects
FPSO	134
Other FPS	36
FLNG	30
FSRU	23
FSO	13
Total	236

The Author

IMA provides market analysis and strategic planning advice in the marine and offshore sectors. Over 40 years we have performed more than 350 business consulting assignments for 170+ clients in 40+ countries. We have assisted numerous shipbuilders, ship repair yards and manufacturers in forming a a plan of action to penetrate the offshore market. Our assignments have included advice on acquiring an FPSO contractor, forming an alliance to bid for large FPSO contracts, satisfying local content requirements and targeting unmet requirements through technology development.

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Historic LNG FSRU Named

Hyundai Heavy Industries Co., Ltd. (HHI) held a naming ceremony for the world's first newbuilding LNG floating storage regasification unit (LNG FSRU), ordered from Höegh LNG in June 2011. The 170,000 cu. m. LNG FSRU, measuring 294 x 46 m with a 26 m depth, with the storage capacity of 70,000 metric tons of chilled natural gas. It will be chartered to Lithuania's Klaipedos Nafta under a long-term contract. The naming ceremony of the LNG FSRU, Independence held in Ulsan, South Korea was attended by Dalia Grybauskaite, President of Lithuania; the sponsor of the ship, Leif O. Höegh, Deputy Chairman of Höegh LNG; and 130 other guests.LNG FSRU receives liquefied natural gas from offloading LNG carriers. The installed regasification system provides gas send-out through flexible risers and pipelines to shore. LNG FSRU take a year less and cost half as much as an onshore LNG terminal to complete.

CSS Olympia Delivered

GranEnergia took delivery of the Compact Semi-Submersible (CSS) Olympia from MAC Offshore. STXM and partners in CSS Designs Ltd. developed the CSS design over the past five years. Built by Fujian Mawei Shipbuilding in China, the CSS Olympia is 84.25m long with a capacity for 500 people. The primary function of the Olympia is to act as a floating accommodation unit for rig personnel, and the vessel has a DP-3 rating and will remain connected to an offshore facility via a telescopic gangway system. Other features include a 12.8 ton rated helideck, and a 150MT telescopic boom crane. There are currently a further 6 CSS vessels under contract with deliveries planned over the next two years.

New Interceptor 48 Pilot Launched

Safehaven Marine launched an Interceptor 48, self righting all weather pilot boat. It is fitted with Volvo D13 500 hp engines which provide the vessel with an operational speed of 25 knots light and 24 knots fully loaded. The vessel provides seating for two crew and up to five pilots on CAB 500 series suspension seats with full harnesses in the main cabin. Its design also features a large forward cabin and accommodation area featuring a full galley, dinette seating for up to six; a large berth, separate heads compartment and a dedicated electrical compartment is positioned as is access to her engine compartment via a watertight bulkhead door. Internal furnishings are designed to provide a warm comfortable environment.

Deck safety is provided by a full length, black twine wrapped for extra grip, and an inboard safety rail is augmented with a Hadrian safety rail. Bow railing and pilot boarding grab rails are provided at the boarding area as well as an aft cockpit enclosure railing, fitted with closable gates. MOB recovery is via a new 2014 version of a tried and tested transom mounted recovery platform, featuring a new low level design to improve rear ward visibility and incorporating a standard stern gear protector for casualty safety during recovery operations.

Ample proving grounds for this "All Weather" pilot boat.

Fendering comprises a 150 x 150 mm, 30mm wall thickness main fender, a large lower fender and multiple diagonal fenders, together with a unique shoulder fender. A 3.0 kW 240V generator supplies AC throughout the vessel and it has the provision for being fitted with air conditioning for operations in hot climates. The vessel is equipped with a very comprehensive navigation and radio communications package, based on Garmin commercial range of 19 in. displays, featuring HD radar, GPS plotter, sonar, Sailor DCS VHF radios. Four-zone CCTV cameras are fitted covering engine room, aft view, forward view and cabin.

The vessel is 'self righting,' designed to recover from a 180 degree roll over. The boat was built under survey of Bureau Veritas.

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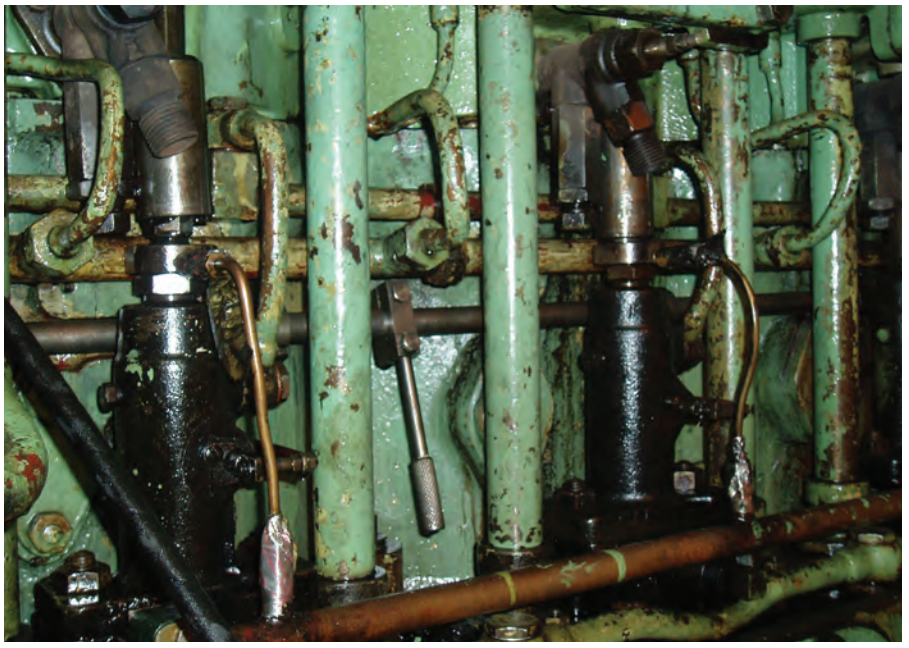
Old Ships & Dirty Machinery

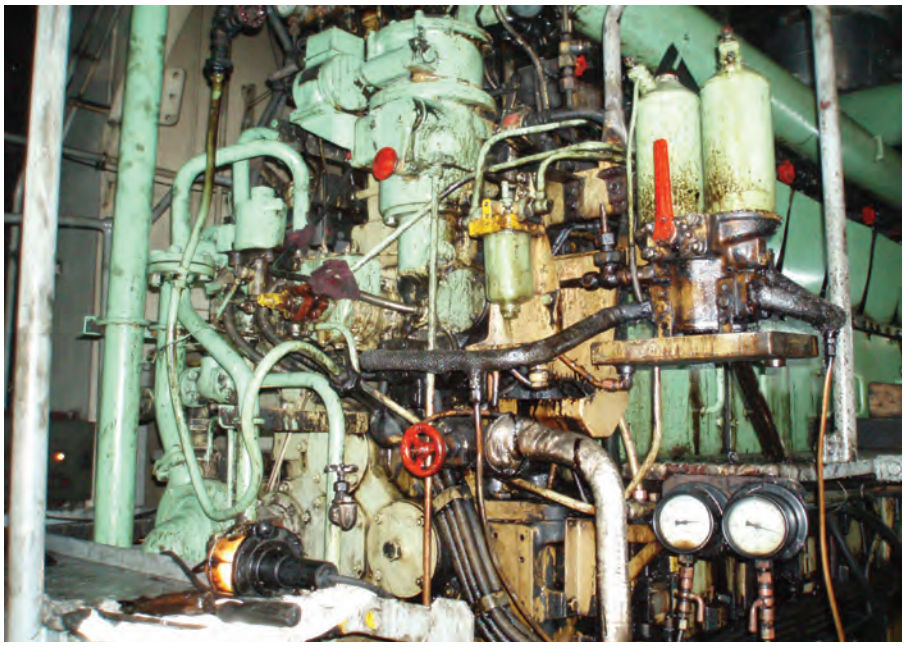
Propulsion and Auxiliary Machinery: A Matter of Concern on Older Ships

54

% of detentions involved ships 20+ years old



Machinery on a bulk carrier, keel laid 1980.



General cargo/multipurpose ship, keel laid 1976.

Preliminary results from the Concentrated Inspection Campaign (CIC) on Propulsion and Auxiliary Machinery, carried out between September 1 and November 30, 2013 in the Paris MoU region show that:

- 68 ships (41% of all detentions) were detained over the 3 month period as a direct result of the CIC for deficiencies related to propulsion and auxiliary machinery. Problem areas included the propulsion of the main engine, cleanliness of the engine room and emergency source of power/emergency generator.
- In previous years deficiencies related to propulsion and machinery installations accounted on average for 7% of the total number of deficiencies within the Tokyo and Paris MoU´s, ranking number six in comparison with all the deficiencies by categories statistics. Reason enough for the Paris MoU to concentrate attention to this area during a CIC.
- More than half (54%) of all CIC-topic related detentions involved ships of 20 years or more. This category had a CIC-topic related detention rate of 3.6%, which compares unfavorable to the overall 1.8% CIC-topic related detention rate. “This outcome illustrates that wear and tear of propulsion and auxiliary machinery remains an issue, which should be adequately addressed by ship owners”, said Richard Schiferli, Secretary General of the Paris MoU on PSC.

The CIC questionnaire was completed during 3,879 inspections on 4,126 individual ships. A total of 1,105 CIC-related deficiencies were recorded and 68 ships (1.8%) were detained as a direct result of the CIC. 41% of the detentions during the CIC-period were CIC-topic related. Other statistics of note include:

- 1270: During the campaign most inspections concerned general cargo/multi-purpose ships with 1,270 (33%) inspections, followed by bulk carriers with 805 (21%) inspections, container ships with 458 (12%) inspections, chemical tankers with 343 (9%) inspections and oil tankers with 272 (7%) inspections.
- 34 (50%) of the detained ships were general cargo/multipurpose ships, 9 (13%) were bulk carriers and 9 were (13%) container ships. Among the other detained ships were 6 oil tankers, 4 chemical tankers and 3 refrigerated cargo ships.
- 20%: Analysis of the recorded deficiencies shows that most deficiencies relate to propulsion main engine (20%), cleanliness of the engine room (18%), emergency source of power/emergency generator (12%) and emergency lighting/batteries/switches (12%).
- 495: Most inspections were carried out on ships under the flags of Panama with 495 inspections, Liberia with 322 inspections, Malta with 317 inspections and Antigua and Barbuda with 246 inspections.

The flags with the highest number of CIC-topic related detentions were Tuvalu with 1 CIC-topic related detention during 1 inspection, Tanzania with 6 CIC-topic related detentions during 27 inspections, Curacao with 2 CIC-topic related detentions during 16 inspections and Togo with 4 CIC-topic related detentions during 35 inspections. The CIC was a joint campaign with the Tokyo MoU.

20

% of deficiencies that were related to the main propulsion engine

495

Most inspections were carried out on ships under the Panama flag

Marine Casualty Report

So you think you know when to make a marine casualty report?

BY JONATHAN WALDRON

There has been a lot of confusion over the years as to when to make a marine casualty report with regard to certain incidents. Yet, although the Coast Guard constantly urges industry to make required reports, it has never promulgated national guidance to promote consistency in reporting based on uniform interpretation of the regulatory standards – until now.

Specifically, the Coast Guard issued a Notice of Availability and Request for Comments (Notice) on January 14, 2014 on a draft Navigation and Vessel Inspection Circular (NVIC) to provide guidance for the identification and reporting of marine casualties and provide clear policy interpretations to facilitate compliance with marine casualty reporting requirements. 79 Fed. Reg. 2466 (January 14, 2014). The Notice is available at: http://www.gpo.gov/fdsys/pkg/FR-2014-01-14/pdf/2014-00443.pdf. The draft NVIC is available at: http://www.regulations.gov/#!documentDetail;D=USCG-2013-1047-0002. Comments are due by April 14, 2014.

Marine Casualty Reporting Today

The Coast Guard has broad authority to immediately investigate a "marine casualty" to determine the cause, whether a violation of law has occurred, whether the offender should be subject to a civil or criminal penalty and whether there is a need for revised or new laws or regulations to prevent the recurrence of a similar casualty. Under the general maritime reporting provisions of 46 C.F.R. part 4, the owner, operator or person in charge of a vessel must report casualties involving grounding, allision, losses resulting in reduced vessel maneuverability, impacts to vessel seaworthiness or fitness for service or route, loss of life, injury requiring professional medical treatment, property damage in excess of $35,000 or significant harm to the environment. 46 C.F.R. § 4.05-1. Within five days after the immediate initial notice is provided, the owner, agent, master, operator or person in charge must submit a follow up written report of the marine casualty to a Coast Guard Marine Safety Office or Marine Inspection Office on Form CG-2692 (Report of Marine Accident, Injury or Death) supplemented as applicable by appended form CG-2692B (Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident). These standards have been in existence for years, but there is currently no substantive written official guidance that has been published by the Coast Guard Headquarters detailing its policy interpretation of its marine casualty regulations as to when to report certain marine casualties. Unfortunately, that has been the situation for years despite the Coast Guard's emphasis on making marine casualty reports. This has led to confusion in the marine industry as to when certain marine casualties need to be reported. In many cases a particular Coast Guard Sector has developed its own ad hoc interpretations of reporting requirements which are inconsistent with industry expectations and which are not supported by regulation or any national uniform Coast Guard interpretation.

Discussion of the Draft NVIC

The stated purpose of the NVIC is to provide specific guidance for the identification and reporting of marine casualties to promote compliance with marine casualty laws and regulations. In addition, the NVIC is aimed at clarifying terminology and phrases within the regulatory context, draw attention to helpful regulatory citations and provide concise policy interpretations to assist involved parties in the casualty reporting process. In short, the NVIC is intended to serve as a common framework of understanding for both Coast Guard and maritime industry personnel. Noting that "marine casualties occur among a wide range of vessel types and operations" the NVIC was issued in the interest of supporting a "consistent national framework" that establishes expectations and reduces confusion for both Coast Guard and maritime industry personnel. Based on years of experience in providing advice on the reporting of marine casualties, I would like to highlight some of the key reporting areas which have proven problematic in finding common ground due to differing interpretations in various Coast Guard Sectors around the country and industry itself.

• *Immediate Reports and Who Should Receive Reports:* Defined as without interval of time. Delays caused by the need to address resultant safety concerns will be considered valid. Specific guidance as to who should, and who should not receive such reports, is included.

• *Loss of Main Propulsion, Primary Steering or Other Component/System that Reduces the Maneuverability of a Vessel:* This is an area fraught with differing opinions and in the eyes of the Coast Guard redundancies do not alleviate the need to make a report. Loss of maneuverability is defined as a reduction in the range of speeds in which a vessel is capable of operating and/or a reduction in the ability to make turns and/or other navigational maneuvers compared to the vessel's expected maneuvering capability as certificated by a Flag-State or by its operational design and/or intended function.

• *An Occurrence Materially and Adversely Affecting the Vessel's Seaworthiness or Fitness For Service Or Route:* Another minefield at sea. Seaworthiness is defined as the condition of being properly equipped, sufficiently constructed and watertight in order to withstand stress of the wind, waves and other environmental conditions that the vessel might reasonably be expected to encounter. Fitness for service is defined as the condition of the vessel and its equipment being such that it meets or exceeds minimum safety standards and is safe and reliable to operate in one or more particular types of service and in the locations in which it will be used.

• *An Injury that Requires Professional Medical Treatment and, for Individuals Employed on the Vessel, that Renders the Individual Unfit To Perform Routine Duties:* Generally defines injury as damage or harm caused to the structure or function of the body as a result of an outside physical agent or force to a passenger or non-crewmember. Damage or harm caused exclusively by animal/insect bites/scratches is excluded. With regard to professional medical treatment the Coast Guard adopts OSHA definitions. The Coast Guard broadly defines engaged or employed on a vessel to include even visiting contractors.

Conclusions and Recommendations

The promulgation of a Coast Guard uniform national guidance document in the area of marine casualty reporting is long overdue and should be generally welcomed by industry. The NVIC provides valuable insight going forward as to what the Coast Guard expects from industry, as well as from its own inspectors, as to exactly when a marine casualty report is triggered in certain areas in which there currently is confusion. This guidance, once finalized, should achieve the goal of ensuring that both industry and the Coast Guard are on the same page with regard reporting standards.

However, now that the NVIC has been published, even in draft form, the bar has been raised to a new standard in the sense that the Coast Guard will be expecting reports consistent with the interpretations outlined in the NVIC even though reports may not have been made in the past when such incidents occurred. Failure to make reports consistent with this NVIC, will likely result in the Coast Guard pursuing penalty action even though industry may disagree that a report should be required as proposed by the Coast Guard in its NVIC.

Accordingly, owners, operators and other stakeholders should review closely the draft NVIC, not only to assist in ongoing compliance with reporting requirements, but also with an eye to providing comments to the Coast Guard on areas in which they disagree with the Coast Guard's interpretation as outlined in the Draft NVIC. Now is the time to be heard or you will have lost your chance to influence the ultimate reporting standard when the NVIC is finalized. So submit your comments by April 14, 2014. And remember, in any event, it is better to over report than under report. In other words, err on the side of making reports to ensure that the Coast Guard does not second guess your decision to make a marine casualty report.

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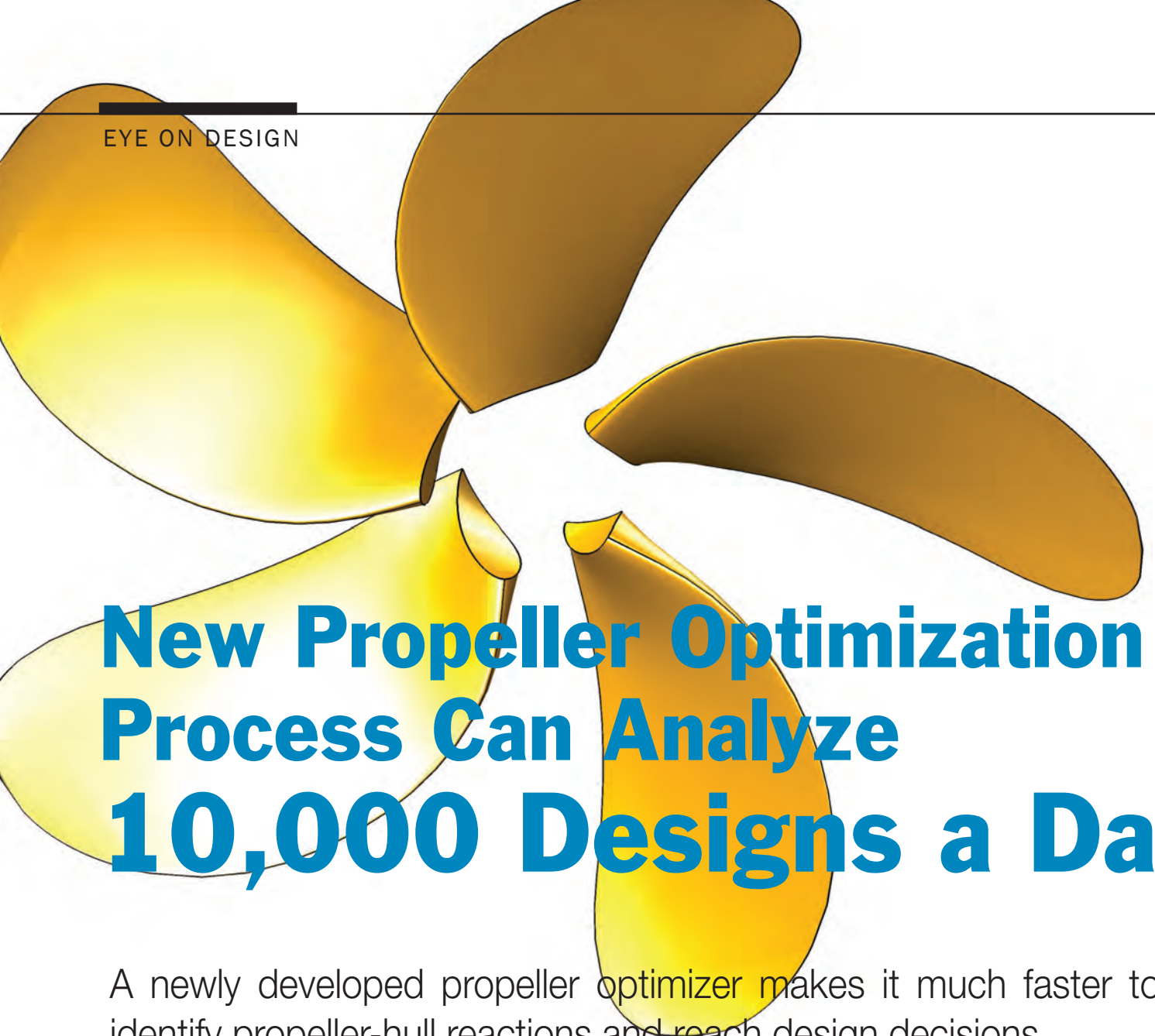


BY EVERT-JAN FOETH

New Propeller Optimization Process Can Analyze 10,000 Designs a Day

A newly developed propeller optimizer makes it much faster to identify propeller-hull reactions and reach design decisions

In the EU project STREAMLINE the fuel efficiency of a chemical tanker was improved by optimizing the hull form and propeller. To this end, MARIN used its hull optimization program PARNASSOS EXPLORER and a newly developed propeller optimizer. The hull form itself was optimized for low resistance and for having a wake field as rotationally symmetric as possible, while simultaneously maintaining the displacement and sufficient space for the engine room. Meanwhile, the propeller was required to deliver the right thrust at the same ship speed and engine rate of revolutions.

Normally, the propeller designer starts when the hull lines have been set and the main propeller parameters have been decided upon.

These parameters follow from series analysis, such as the Wageningen B-Series, plus hands-on experience and rules of thumb to estimate the effect of propeller-hull interaction. For instance, the sector knows that the best propeller diameter in a wake field is smaller than given by the propeller series. Once the main dimensions are selected, the designer continues to mold the geometry until the efficiency is high and the hindrance from cavitation is as low as possible. This is a time-consuming process that is particularly ill-suited to finding the best propeller when considering 500 hull form variations can be generated, as was the case here. It was clear that a tool that can quickly cover a wide range of design choices and return ballpark figures for efficiency, including the propeller-hull interaction effects, was required.

When a large number of propeller geometries are to be generated, the range should be as large as possible but certainly not by including every imaginable shape.

Therefore, the propeller blade geometry was built up from radial distributions for the pitch, chord length, skew, rake, camber and thickness, and these distributions were described by newly developed parametric functions.

In order to remain close to the shape of real propellers, MARIN analyzed more than 1,200 unique propeller designs in its database and used the results to train the parameters. Not only could the majority of propellers be well captured, the generation of a new blade by randomly changing the parameter values nearly always resulted in a plausible blade outline.

Avoiding the Generation of Unsuitable Propellers

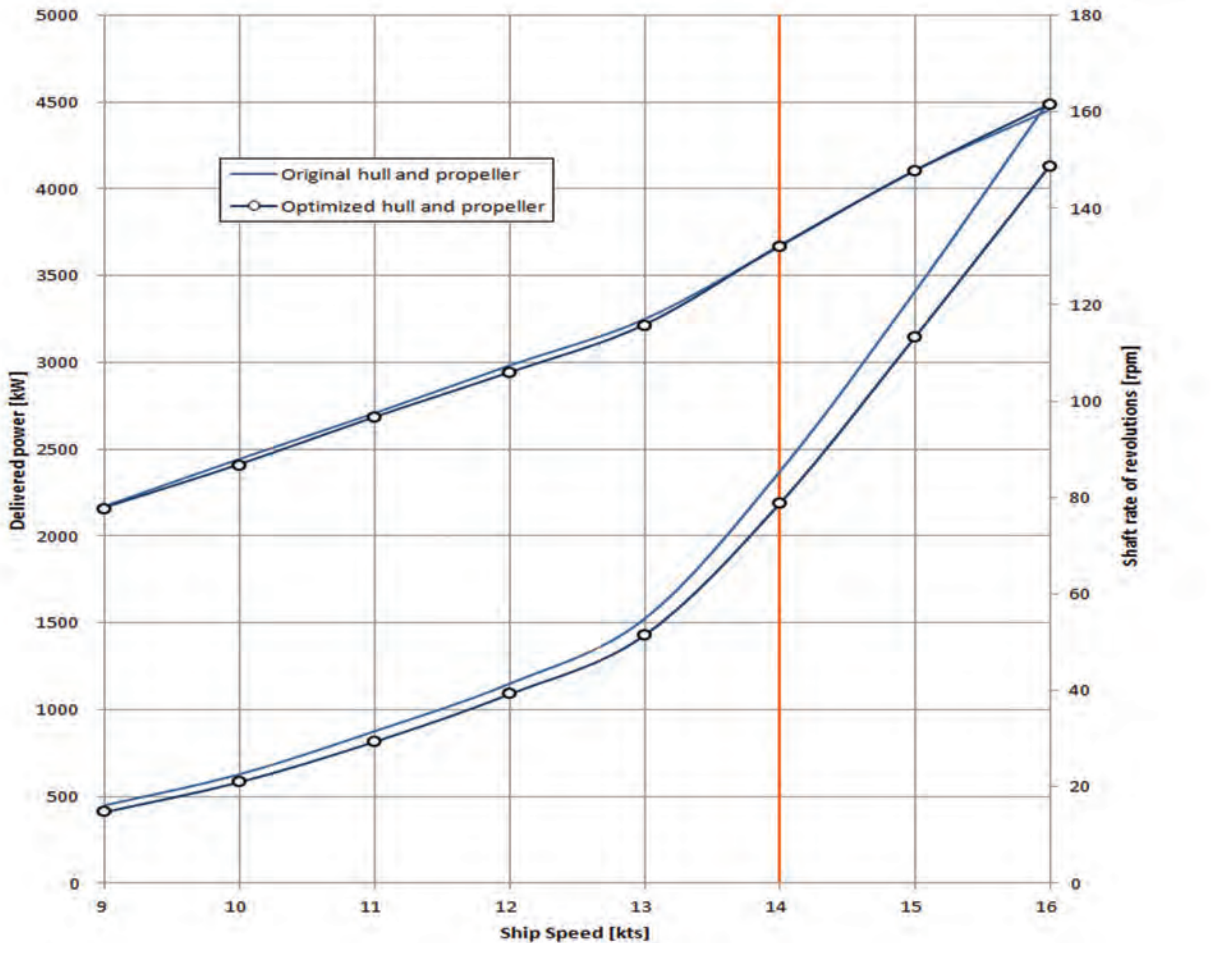
Naturally, the proof of the propeller is in the computing. For STREAMLINE, all propeller geometries were analyzed with MARIN's Boundary-Element Method PROCAL. Although each propeller was unique, differing in blade shape as well as blade area ratio, diameter or blade number, they all generated the same thrust at the same ship speed and shaft rate of revolutions by automatically adapting the effective pitch. This last requirement avoids the generation of 'trivial' propellers that operate at a lower rate of revolutions and nearly always have a better efficiency, masking the effect of improved blade design and introducing a bias in the comparison.

Using MARIN's computer cluster, it was possible to generate and analyze more than 10,000 new designs per day. The best propeller-hull combination was tested for its performance by model scale tests: a 7.5% power reduction at the design speed was identified and the shaft rate of revolutions did not change. This improvement is attributed to a reduction in resistance, an improvement in propeller-hull interaction by a lower propeller loading due to both the lower thrust requirement and a larger propeller diameter, and lastly, an increase in propeller efficiency by an optimized loading distribution in the wake of the ship.

The propeller optimization procedure can quickly show the relations between all the parameters and propulsion efficiency for a given wake field of a ship. But not only did MARIN find an optimum loading distribution and diameter, it also knew how much skew to apply to reduce thrust loading fluctuations. When results of the optimization with a given propeller design are compared, it is possible to see how much its efficiency can improve and which parameters to tune.

Now that this first test case has been performed, MARIN is continuing to explore the automated propeller design. The process will be sped up by the use of genetic algorithms and integrated into the daily design process. The EU project SONIC already presents the next challenge: optimizing for both high efficiency, as well as low radiated noise.

References: Foeth, E.J. & Lafeber, F.H., Systematic propeller optimization using an unsteady Boundary-Element Method, 12th Int. Sym. Practical Design of Ships and Other Floating Structures, Korea, 2013.



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Arctic Taskings for the Coast Guard

BY DENNIS L. BRYANT

On January 30, 2014, the White House released the Implementation Plan for the National Strategy for the Arctic Region. The purpose of the Implementation Plan is to put flesh on the bones of the May 10, 2013 National Strategy for the Arctic Region. The National Strategy had identified three lines of effort to address challenges posed by the changing Arctic environment. The Implementation Plan sets forth the methodology, process, and approach for executing the Strategy. Most importantly, though, the Implementation Plan assigns lead agencies and supporting agencies for each of 36 identified taskings. For each tasking, there are defined objectives, next steps (with specific timelines), and methodologies for measuring progress toward completion of the task.

DNV GL

The Congressional Research Service (CRS), the nonpartisan think-tank for the Legislative Branch, has written four reports on Changes in the Arctic and consequent issues confronting the Congress. The most recent report noted that the United States is an Arctic nation and has substantial economic, security and environmental interests in the region. Of the five Arctic coastal nations, four are in the process of preparing Arctic territorial claims for submission to the United Nations Commission on the Limits of the Continental Shelf. The United States is not currently preparing such a claim because only it has not acceded to the United Nations Convention on the Law of the Sea (UNCLOS).

The Russian Federation has a substantial fleet of polar icebreakers and carries out extensive activities in the polar region, including regular voyages to the geographic North Pole. The United States has one operational polar icebreaker, the USCGC Polar Star, and that icebreaker has exceeded its intended 30-year service life. Another vessel, USCGC Healy, is considered a medium icebreaker. While it has less icebreaking capability than Polar Star, Healy has extensive scientific research assets, also important for completion of the Implementation Plan.

In July 2013, the Center for Strategic and International Studies (CSIS) issued a thoughtful study entitled "Arctic Economics in the 21st Century" regarding choices Arctic states (and particularly the United States) will have to make in coming years regarding development of Arctic economic resources and protection of its fragile ecosystem. To date, Canadian and American interventions in the Arctic have been economically driven and have centered heavily on extractive industries. As a consequence, both nations have very limited infrastructure in the Arctic and limited polar icebreaking assets. While oil and gas extraction will continue to be challenging and expensive (particularly given that oil and gas prices are not expected to rise in the foreseeable future), extraction of rare earths and other strategic minerals from the Arctic region has significant and current economic potential.

The Red Dog mine on the Alaska coast north of the Bering Strait is the world's largest source of zinc and a significant source of lead, despite its current ability to load ore onto bulk carriers only during a 100-day shipping season and its lack of a deepwater port – requiring use of barges to transship the ore. Other mines operate in islands of the Canadian Arctic Archipelago and are being opened in Greenland and Siberia. These developments will increase traffic in Arctic waters by large commercial carriers. Traffic through the Northern Sea Route is already increasing in both volume and duration. In 2013, we witnessed the first full transit of the Northwest Passage when a dry bulk carrier undertook a voyage from British Columbia to Finland. We are also seeing voyages to Arctic waters, including transits of the Northwest Passage, by passenger vessels – not all of which are ice-strengthened. In addition, the Arctic waters of North America are one of the last remaining frontiers for the fishing industry.

There is minimal infrastructure in the Arctic. Aids to maritime navigation are largely nonexistent. Assets for search and rescue and for response to spills of oil and hazardous material are located almost a thousand miles away. There are also no deepwater ports in the U.S. Arctic. Most landings there are on unimproved beaches.

The new Implementation Plan attempts to address all of these issues and more. It is noteworthy that, of the 36 specific taskings in the Plan, the U.S. Coast Guard is designated as the lead agency for seven and as a supporting agency for 19.

The most important of the USCG taskings, and a force-multiplier for all other taskings, is the requirement to sustain the federal capability to conduct maritime operations in ice-impacted waters of the Arctic. In order to ensure that the United States maintains icebreaking and ice-strengthened ship capability with sufficient capacity to project a sovereign U.S. maritime presence, support U.S. interests in the polar regions and facilitate research that advances the fundamental understanding of the Arctic, the Department of Homeland Security and the Coast Guard are directed to develop a document by the end of 2014 that lists the capabilities needed to complete the tasking. More importantly, by the end of 2017, they are directed to develop long-term plans to sustain federal ability to physically access the Arctic with sufficient capability to support U.S. interests. In my opinion, this can only be done through the construction of at least three new, more powerful polar icebreakers.

The other taskings for which the Coast Guard is designated the lead agency also reflect traditional Coast Guard missions.

These consist of enhancing Arctic domain awareness; improving hazardous material spill prevention, containment and response; promoting Arctic oil pollution preparedness, prevention and response internationally; enhancing Arctic search and rescue capability; expediting development and adoption of the IMO Polar Code, and promoting Arctic waterways management. Arctic Shield 2013 saw Coast Guard cutters, buoy tenders, aircraft, equipment and personnel deployed in the Chukchi and Beaufort Seas and adjacent coasts where exercises were conducted addressing such taskings. In May 2013, the Coast Guard published its Arctic Strategy discussing application of its traditional missions to the polar environment.

As previously stated, the Coast Guard is designated as a supporting agency in nineteen taskings in the Arctic Strategy Implementation Plan. These range from preparing for increased activity in the maritime domain to promoting international law and freedom of the seas to identifying and assessing invasive species risks and impacts. One particular tasking highlights the importance of adequate icebreaker capability – assisting in the delineation of the outer limit of the United States extended continental shelf. As this area lies on the floor of the Arctic Ocean more than 200 nautical miles north of Alaska, surveys are almost impossible without the assistance of a polar icebreaker.

The May 2011 Department of Defense Report to Congress on Arctic Operations and the Northwest Passage is startling for its candid admissions of the lack of DOD capabilities in Arctic waters. The report states, in particular:

The United States needs assured Arctic access to support national interests in the Arctic. This access can be provided by a variety of proven capabilities, including submarines and aircraft, but only U.S.-flagged ice-capable ships provide visible U.S. sovereign maritime presence throughout the Arctic region. This need could potentially be met by either icebreakers or ice-strengthened surface ships, none of which are in the U.S. Navy current surface combatant inventory, but which do exist in U.S. Coast Guard's inventory in limited numbers.

The Implementation Plan constitutes the first clear commitment of the federal government to strongly enhance its presence in the Arctic. The previously issued Strategy was more of a vague wish-list. Now, federal agencies have defined taskings and timelines. Among other things, this should soon result in the inclusion in the federal budget of funding for new icebreakers, which are long overdue. Most of the other taskings in the Implementation Plan are dependent thereon.

The baton now passes to the Congress to analyze the Implementation Plan with all deliberate speed. This is not a partisan issue, but one that should have broad support. Funds will have to be appropriated, but everything does not have to be done immediately. Some measures, though, cannot be delayed further without jeopardizing the entire plan.

You can't win the competition for the Arctic if you don't show up.

The Author

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Online Monitoring Systems

From the oil fields to the water, what can online monitoring systems do for an operators' bottom line?

BY RICH MERHIGE

All operators, regardless of vessel type, size, location or function, are plagued by the same worries: "When will my next outage happen, and what is it going to cost me?" In an effort to ease these concerns, millions of dollars are invested every year into commercial/workboat maintenance programs. But how can maintenance be maximized without blowing budgets? What's the most thorough way to monitor equipment? How can all mechanical components be watched for possible issues and failures? According to Rich Merhige, President of Advanced Mechanical Enterprises, a South Florida mechanical engineering services firm, these answers can be found in the oil and gas industries, in the form of online monitoring systems.

What is online performance monitoring? Today, online performance monitoring can be described as the process of gathering data from machinery to assess the overall operating capacity of the system it is a part of. Data is compared either against an existing database (trending), or a model (model-based), to diagnose existing issues and show the beginnings of wear and tear on mechanical components.

Technically speaking, "engine" diagnostics, and performance monitoring go back to the 1700's. These "primitive" forms of monitoring where ahead of their times and monitored cylinder pressure with steam engines, then diesel engines, and later critical compressors and engines. Portable diagnostic monitoring really gained footing in the 1960s, when oscilloscopes were used for data collection and analysis in the field. Over the next 30 years, these systems increased in popularity and became known for their successes. In the 1990s, amongst rapidly evolving technology, and, a booming economy, the oil and gas industry (primarily in gas compression) started utilizing online monitoring as an extension of the successful use of portable engine and compressor analyzers. Over the last two decades, these systems have evolved rapidly as the hardware computing power and software capabilities have advanced. Data collection used to take days to collect and analyze on mechanical systems using hand calculations. This can now be done instantaneously and presented in easily readable graphics and reports.

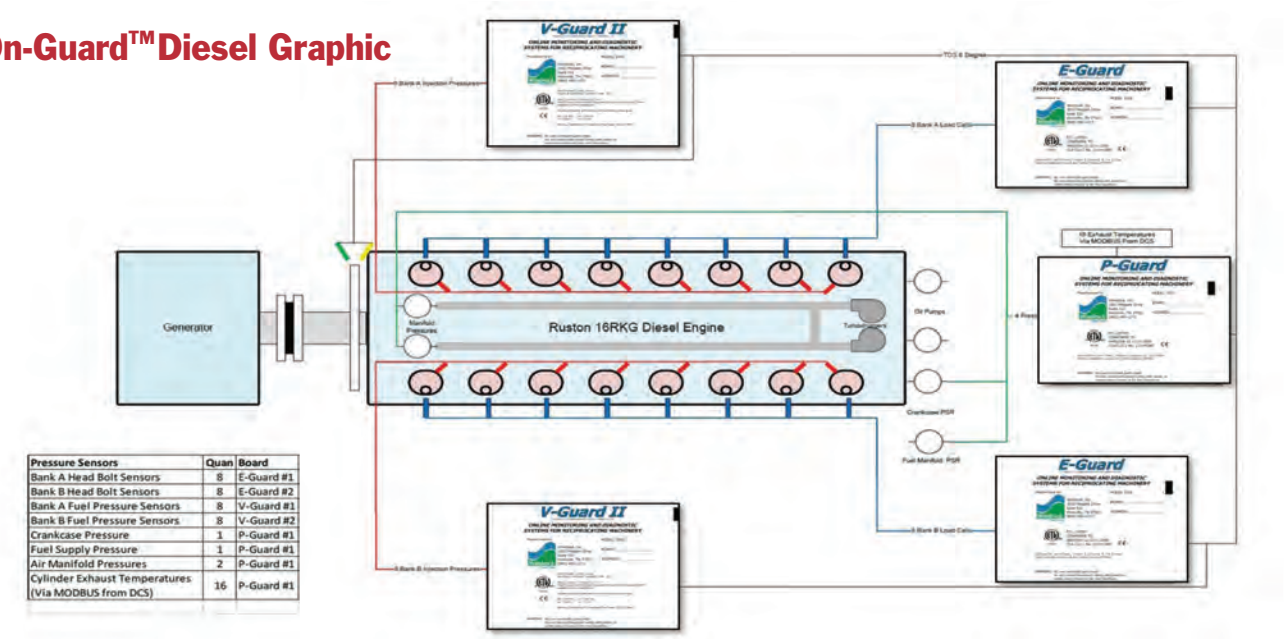
With a need to provide ship operators with better forms of maintenance to forecast problems in an efficient and timely manner, engineering professionals, such as Merhige, have started to apply this technology to the maritime industry. His system of choice? The 6320/PA by Windrock. Windrock's portable analyzers and fixed systems have enjoyed much success in the oil and gas industries worldwide. Engineers and maintenance professionals use Windrock's products, both portable and stationary, to monitor, analyze, and troubleshoot machinery. Data can be collected from reciprocating and rotating machinery to trend stress, vibration, proximity, cylinder pressure and temperature. In this capacity, the products have been utilized by big oil to track vital pieces of equipment like compression trains, pumps, reciprocating engines and even specific components like cylinders, injectors, liners, bearings, valves, rings, and crankshafts. By utilizing systems such as these, remote engineering has become very real, allowing for non-intrusive monitoring on a consistent basis with minimal supervision, which translates to minimal expense. What does the marine industry stand to gain from these systems? How can ship operators facilitate an online monitoring program, and what will it mean for their budgets?

Windrock, like many of the other online monitoring systems currently on the market, has its roots in oil and gas, so their technologies and capabilities tend to be tried, tested and perfected to avoid the financial blunders of an unplanned outage. This has given them, particularly Windrock with their portable and on-line systems, a reputation for being reliable, which has increased its popularity with military fleets, such as the U.S. Navy, U.S. Coast Guard, Royal Canadian Navy and the Spanish Navy (Armada Española). It's only natural that the workboat sector should, and will follow suite, especially since this is proving to be a perfect tool to enhance condition based monitoring.

"For years, I have been an advocate of online monitoring systems, namely the Windrock On-Guard family of products, which we often recommend to our commercial and workboat clients." said Merhige. "By collecting data over an extended period of time, remotely, you can get a very accurate picture of what is going on mechanically. Because the data collection is done from afar, minimal labor is needed, making it extremely affordable and attractive to maintenance professionals. By way of gathering a constant stream of data, you're in the best possible position to prevent catastrophic failures, which is always something of great interest to ship operators. When their bottom line is better, it makes them look better."

An online monitoring system can be installed and setup on a vessel's machinery in a short time frame with a minimal amount of downtime. The sensors would be placed on engines, gear boxes, frames, and cylinder heads. Once set it place data collection can begin immediately, and, within only 15 minutes, it could produce readings that can be analyzed. Traditionally, scheduled maintenance programs have been the norm, whereas mechanical elements are periodically checked based on manufacturers' recommendations, similarly to how we take our cars to get oil changes at

On-Guard™ Diesel Graphic



Pressure Sensors	Quan	Board
Bank A Head Bolt Sensors	8	E-Guard #1
Bank B Head Bolt Sensors	8	E-Guard #2
Bank A Fuel Pressure Sensors	8	V-Guard #1
Bank B Fuel Pressure Sensors	8	V-Guard #2
Crankcase Pressure	1	P-Guard #1
Fuel Supply Pressure	1	P-Guard #1
Air Manifold Pressures	2	P-Guard #1
Cylinder Exhaust Temperatures (Via MODBUS from DCS)	16	P-Guard #1

BY TERESA DRUGATZ

The Authors

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recommended intervals. With the newer technology emerging, such as these online performance monitoring systems, traditional methods of maintenance are being replaced by predictive maintenance programs, thereby reducing budgets tremendously. According to the Electrical Power Research institute scheduled maintenance programs cost about $24 per horsepower. Another option typically employed, but not recommended, corrective/reactive maintenance, which comes in averaging $17 per horsepower. This, however, doesn't put a price tag on the other factors involved in this scenario, like downtime costs, and stress. When a predictive maintenance program is in place, such as condition monitoring by online systems, you can reduce your costs to around $9 per horsepower, which is a huge savings. Another reason why engineers love these systems is because they've been designed to reduce maintenance schedules by about 20,000 hours. With reduced hours, minimal downtime, and non-invasive monitoring, budgets remain just as healthy as equipment.

"Class has also recognized the inherent value in condition based monitoring and has issued guidelines for implementing such programs. Another benefit: with the switch from diesel to dual fuel engines, enhanced monitoring will provide further information on the mechanical health of the engines and the condition of the control systems for the controlling of cylinder pressures," explained Ed Kelleher Manager of International Sales, Windrock. "auto-balancing" of cylinder firing pressures with the patented Windrock AutoBalance™ system on larger natural gas engines has been successfully used to control emissions, reduce fuel costs and reduce the overall mechanical degradation of mechanical components due to imbalances."

"The push towards online monitoring is a progressive and exciting movement in the maritime industry," commented Merhige. "Besides the economic benefits to maintenance budgets, this is also a cost effective way to be more "green," by increasing, and maintaining mechanical efficiency and optimization. This is becoming increasingly important to companies that own and operate these vessels."

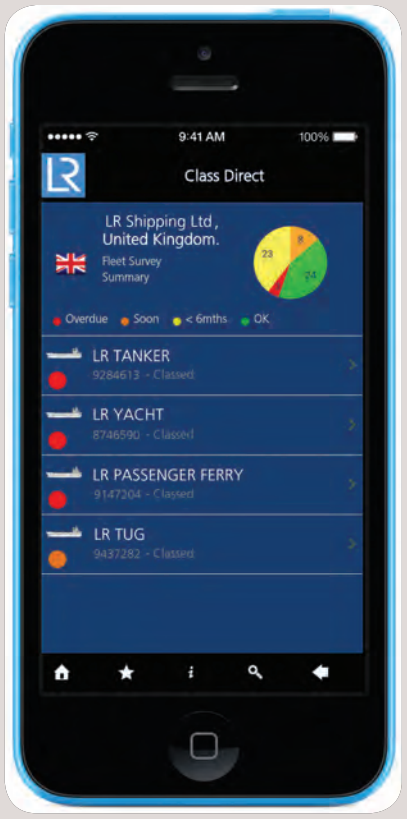
What online monitoring boils down to is working smarter, rather than harder. And, as this technology is quickly and continuously evolving, "smarter" is only going to get easier and more economical for operators.

SOFTWARE SHORTS

Class Direct App from Lloyd's Register

Lloyd's Register Marine has created an easy-to-use app for smartphones and tablets, enabling its clients to access ship and fleet data from anywhere in the world. This new app, using the functionality of LR's award-winning web service Class Direct, has been specifically designed to give users access to the information they need whenever and wherever, and is available now for free on iPhone, iPad and Android devices.

Users of the Class Direct app are able to book a survey with LR, monitor and check the status of their vessel's surveys, browse the classification data LR holds for specific vessels and create a list of their "favorite" vessels for quicker access.



"The app will be invaluable when an urgent matter arises and a senior officer is out of the office or during the weekend when we need to arrange a survey," said Anastasia Alyfanti, Fleet Coordinator of Piraeus-based Navios Ship Management.

"The mobility the app offers is great. You can quickly and easily check vessel information when on the move," said Dimitris Kainadas, Marine Engineer for Greek ship managers Thenamaris.

The Class Direct smartphone and tablet app is available now on the App Store and Google Play. Download @

www.lr.org/classdirectapp

New Explosion Hazard Software

Consequence and risk analysis experts evaluating explosion hazards have historically had to undertake time-consuming analyses and have been unable to show all the combined influences in different scenarios. DNV GL's new Phast 3D Explosions software module enables advanced 3D modeling, increasing both the accuracy and detail of the evaluations as well as information about the speed of vapor cloud explosion (VCE) analyses.

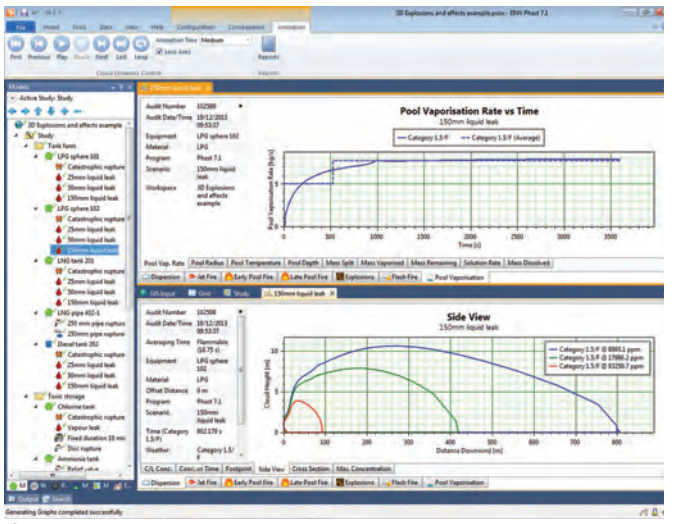
Phast software is used extensively by governments, industries and academic institutions to help understand the hazards posed by process activities. It is used to model safety aspects of design options for proposed new facilities and for operational changes in existing facilities. The software examines the progress of a potential incident from the initial release of hazardous substances to far-field dispersion including flammable and toxic effects. The analyses take numerous parameters into consideration including variables such as wind direction and speed. "The 3D modeling functionality in the Phast 3D Explosions module allows you to complete a more realistic and more detailed evaluation of explosion hazards and the blast potential using either the Multi-Energy or the Baker-Strehlow-Tang explosion model," said Nic Cavanagh, Director of Operations for Risk and Reliability, Software, DNV GL.

"And with the development of combined hazard contours and the advances in consideration of wind direction influences, analyses will take less time to run. Also, users will better understand the combined influences in a range of scenarios and will be able to communicate them more easily," Cavanagh said. Are Føllesdal Tjønn, Managing Director, Software at DNV GL, said, "Phast and Safeti have been in constant development for more than three decades. Phast 3D Explosions is the latest advancement that will help our customers in the process industries understand potential threats and hazards, so that they can ensure that barriers are in place and maintained."

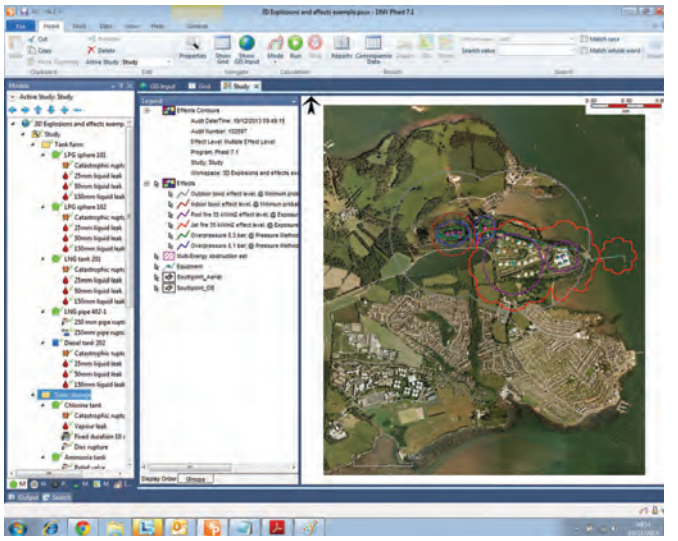
Phast 3D Explosions can be used in a number of applications, including occupied building analysis, facility siting, escalation assessment, plant layout optimization, determination of design accidental loads on structures and equipment, definition of exclusion zones and in demonstrating regulatory compliance. Key features of Phast 3D Explosions software:

- Detailed vapor cloud explosion (VCE) modeling. Explosion modeling explicitly considers the interaction of the flammable cloud and identified regions of congestion and confinement in three dimensions, resulting in more realistic assessment of blast potential.
- Development of combined hazard contours. Supports the development of combined hazard contours associated with a range of scenarios, weathers and outcome types. This allows for direct and ready communication of results.
- Consideration of directional effects. The wind direction influences the magnitude of the resulting hazard as well as the potential for interaction between a dispersing flammable cloud and regions of congestion and confinement. The ability to place emphasis on directions of interest helps improve understanding of these influences.

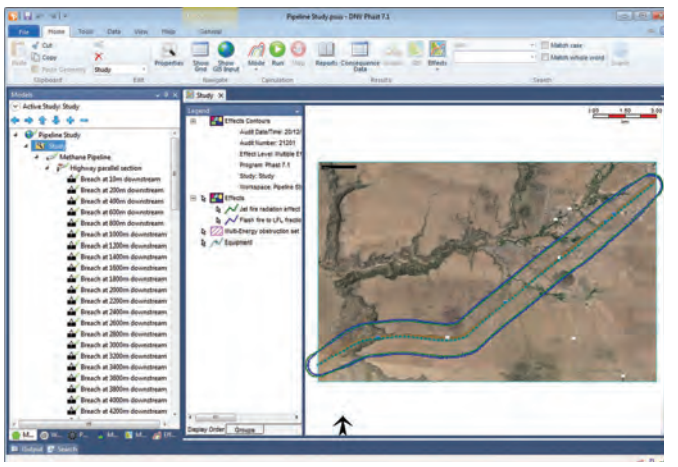
www.dnvgl.com



Side view dispersion and pool vaporization.



Explosions screenshots - all effect contours.



Jet Fire radiation and Flash Fire dispersion distance contours

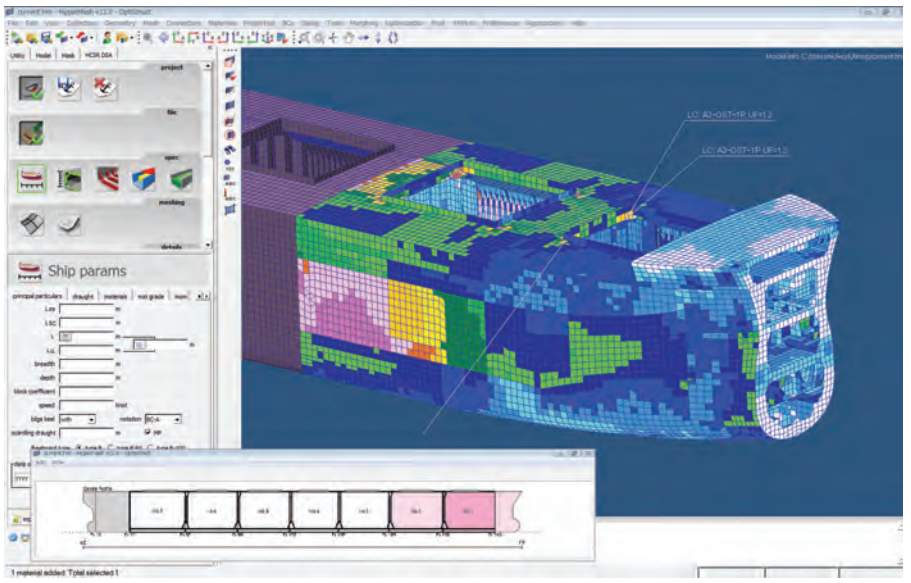
Harmonized CSR-Compliant
Ship Design Support Software

ClassNK released a new version of its PrimeShip-HULL (HCSR) ship design support software that is fully compliant with the new IACS Common Structural Rules (harmonized CSR) for oil tankers and bulk carriers. The new ship design support software is reported to be the first in the world to fully support the new Common Structural Rules, which were adopted by IACS in December 2013. As part of its work to support the development of safer ships, ClassNK is providing the software free of charge to its customers such as shipyards and designers around the world.

The new IACS CSR not only unify and harmonize the technical requirements of the existing Common Structural Rules (CSR) for tankers and bulk carriers, but also incorporate new requirements for comprehensive structural analysis at the design stage, including FEM analyses covering the entire range of cargo hold structures, as well as new formulae for buckling, fatigue, and residual strength criteria to enhance safety and reliability. The new rules will be applied to all bulk carriers larger than 90m and all oil tankers over 150m contracted on and after July 1, 2015. Although the harmonized CSR represents a major step forward for ship safety, they also present a number of new challenges for shipyards and designers.

It was in order to address those challenges and reduce the manpower and cost burdens on yards and designers that ClassNK began development of its new design support software.

The result of more than four years of comprehensive development work, PrimeShip-HULL (HCSR) builds on the core of ClassNK's existing PrimeShip-HULL-CSR software, combining rule calculation and FE Model-based direct strength calculation, software with completely new systems designed to interface directly with commercial CAD and rule calculation software, as well as automate parts of the basic design process.



ClassNK releases a new version of its PrimeShip-HULL (HCSR) ship design support software that is fully compliant with the new IACS Common Structural Rules

Thanks to the new interface with commercial CAD, PrimeShip-HULL (HCSR) makes it possible to automatically generate FE models for the fore, mid and aft sections of the ship, as well as very fine mesh and buckling panel data. In addition, PrimeShip-HULL (HCSR) includes a number of features to support both initial and full ship design, making it possible for shipyards and designers to rapidly carry out case studies of potential designs, as well as optimize their designs in accordance with the harmonized CSR.

E: dhd@classnk.or.jp

SOFTWARE SHORTS

Vessel Advisory Solutions

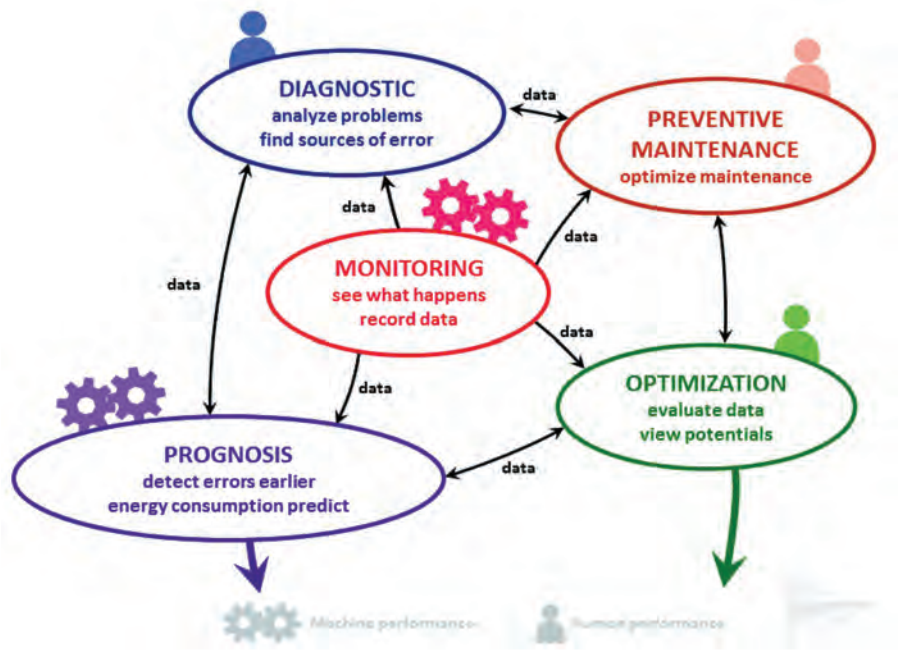
NAPA and ABB will cooperate to offer the NAPA Loading Computer and the electronic NAPA Logbook. The products will be offered under ABB's Vessel Information and Control (VICO) portfolio as part of a complete advisory solution devised to optimize ship efficiency. The NAPA Loading Computer undertakes a wide range of calculations related to hydrostatics, intact stability and ship longitudinal strength. The system is installed onboard 1,400 ships, including tankers and passenger vessels. The NAPA Logbook offers traditional logbook functionality in an electronic format. Its combination of common data storage, automation interfaces, reminders, guidelines and checklists is designed to prevent misuse. Customers benefit via reduced workload for personnel onboard ship and the minimized potential for human error. ABB's Vessel Information and Control (VICO) portfolio for marine applications offers a broad range of advisory and fleet management reporting solutions, drawing on shipboard sensors and associated instrumentation to deliver integrated automation, vessel management and control.

www.napa.fi

Remote Diagnosis

The internet has simplified many processes, from enabling fast and cheap worldwide communication to the control of complex industrial plants from the distance. In this respect, the internet also is suited to take over tasks that previously were only possible with telemetry, and later with the use of satellites. The electrical power supply of a ship with all services, including the electrical propulsion is an ideal field for digital diagnosis computers, for example, as they are presently developed by "E-MS e-powered marine solutions," a young company in Hamburg.

The benefits of the use of the diagnosis computer developed by E-MS reach from simple monitoring to the optimized operation of a complete power supply and propulsion system.



The starting point has been the diesel-electric power supply and propulsion system for 30 inland waterway cruise vessels an a large megayacht. These installations work with a unique principle, without synchronization of the generating sets, making a large part the switchboards dispensable. The generating sets will run with variable speed, for example in the range of the best efficiency of the internal combustion engine.

To this end, it is necessary to analyze the operating conditions of all electrical services continuously to achieve the lowest possible fuel-consumption and emissions. Here, the diagnosis computer developed by E-MS, whose market introduction took place under the shorthand symbol "E-RD," are put into action (RD = "Remote Diagnostics").

With the computer the data can be evaluated directly, but the real value of the data is in aggregate, stored and evaluated for months if not years, fleetwide. Of course the onboard computing can only do so much, and regularly the data must be compressed and sent ashore via the internet. The end goal is long-term fleet fuel and emission optimization and the resulting cost savings.

Transas Adds Piracy Information Overlay

Transas Marine has added a Piracy Information Overlay (PIO) to its Navigation product portfolio. The piracy overlay is integrated into the Transas FleetView Online SSAS-tracking software and Navi-Planner 4000 voyage planning software. The piracy data is provided by Bergen Risk Solutions and is based on intelligence from several recognized and authoritative sources on sea piracy. The service allows users to overlay piracy information onto existing data and provides them with up to date information, essential for planning avoidance measures when transiting a potential piracy area. This means that active decisions can be made during voyage planning or fleet monitoring to avoid dangerous areas. Piracy information is displayed in different colors depending on the type of incident.

www.transas.com

BMT's CargoHandbook Goes Mobile

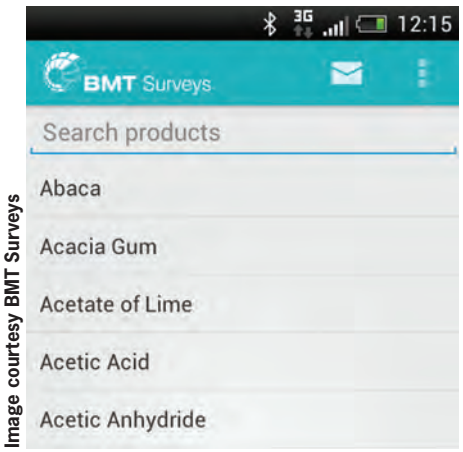


Image courtesy BMT Surveys

BMT Surveys launched a new App to provide mobile access to its world-renowned CargoHandbook database. The App is now available as a free download for both Android and iOS users. CargoHandbook is an online database for cargo transportation in the marine industry. As a rich source of knowledge, BMT Surveys aims to provide and share information on cargo transportation with the wider market and therefore help to reduce the number of cargo incidents and claims that occur. As well as a basic description and photograph of the cargo product, people can access information on the shipment/storage requirements including optimum temperature/humidity and moisture and the risk factors associated with the particular product.

www.bmtsurveys.com
www.cargohandbook.com

AVEVA Laser Modeler

AVEVA said Burgasnefteproekt, an engineering company in the field of petrochemicals, has achieved significant cost savings using AVEVA Laser Modeler. Burgasnefteproekt recently acquired the AVEVA software and used it to capture the as-built asset and create a 3D model of an existing flaring system. This is part of a revamp project to rebuild the system and ensure up-to-date, accurate project documentation. Using 3D laser scanning technologies and processing the scan data using AVEVA Laser Modeler and AVEVA PDMS, Burgasnefteproekt achieved approximately 80% savings in design man-hours. The laser scan data captured from the facility was imported into AVEVA Laser Modeler, where the modeling process is driven by the high resolution, photo-realistic BubbleView. On completion the new model was transferred to AVEVA PDMS.

www.aveva.com

AVEVA Laser Modeler allows for simple selection of catalog components while modeling.

Tidewater Barge Lines Selects MarineCFO

MarineCFO said that Tidewater Barge Lines has chosen to implement the MarineCFO Enterprise software suite, including personnel, operations, maintenance and Vessel Live! Tidewater provides marine transportation on the Columbia-Snake River system. "After an exhaustive review of the enterprise software options available for our industry, we chose MarineCFO," said Stan Smith, Manager of Information Technology & Quality for Tidewater.

www.marinecfo.com

USCG The Fleet Faces Forward

Coast Guard Replacing Aging Ships with 91 New Cutters

By Edward Lundquist

The numerous cutters and craft of the U.S. Coast Guard — from the sail training ship Eagle to the large oceangoing patrol ships; from polar icebrakers to small utility boats — form a formidable fleet to meet the many challenging assignments undertaken by the service. In 2014 the Coast Guard continues its recapitalization program with its National Security Cutter (NSC), Fast Response Cutter (FPC) and Offshore Patrol Cutter (OPC).

The service plans to procure 91 cutters (8 NSCs, 25 OPCs and 58 FRCs) to replace are 90 aging cutters and patrol boats. According to a Feb. 14 report by the Congressional Research Service (CRS), "The NSC, OPC, and FRC programs have a combined estimated acquisition cost of about $21.1 billion, and the Coast Guard's proposed FY2014 budget requested a total of $716 million in acquisition funding for the three programs."

The new ships will feature more automation and therefore smaller crews.

"Many of these 90 ships are manpower-intensive and increasingly expensive to maintain, and have features that in some cases are not optimal for performing their assigned missions," the CRS report said.

The USCGC Bertholf class NSC represents the Coast Guard's largest and most capable general-purpose cutters, costing about $684 million each. It is, in fact, a multi-role combatant. Three are in service and three more are under construction oat Huntington Ingalls in Pascagoula, Miss. A total of eight ships are planned as replacements for the 12 Hamilton-class of 378-foot high endurance cutters.

"In October we christened our fourth National Security Cutter, the Hamilton, which will soon join Bertholf, Waesche and Stratton," said Commandant of the Coast Guard Adm. Bob Papp aduring his 2014 State of the Coast Guard address on Feb. 27. "We will christen our fifth, the James, this summer. Our sixth, the Munro, is in production. We have contracted for the major propulsion systems and other equipment for number seven, the Kimball. With FY14 spending in place, we now have the construction funding for Kimball and we have received the funding to purchase long lead time materials for our eighth NSC, the Midgett."

Eastern Shipbuilding

Offshore Patrol Cutter

The U.S. Coast Guard awarded three firm fixed-price contracts February 11, 2014, for preliminary and contract design (P&CD) for the Offshore Patrol Cutter (OPC) acquisition project; 25 ships are planned

The total value of the award is approximately $65m.

Preliminary Design Contractors

- **Bollinger Shipyards**
  Teamed with Gibbs & Cox, L-3 Communications and Damen Shipyards Group
- **Eastern Shipbuilding**
  Teamed with STX Marine and Northrop Grumman
- **General Dynamics Bath Iron Works**
  Teamed with L-3 Communications and Navantia

The NSC, OPC, and FRC programs have a combined estimated acquisition cost of about $21.1 billion.

The new 418-ft., 4,434 ton NSCs have smaller crews–around 122 on Bertholf—than the 170 people on the smaller 378s. Bertholf has both diesels and a single gas turbine, which together can achieve speeds above 28 knots, and 24 knots on diesels alone.

Bertholf is the first Coast Guard vessel to carry the newest version of the Close-in Weapon System (CIWS 1B), and the BAE Systems Bofors 57mm gun for use against both air and surface targets

The biggest difference you can't see is the total ship computing environment, and SCIF (Sensitive Compartmented Information Facility), which provides "information assurance" and permits better command and control and interoperability than any previous cutter.

"They add a level of capability that moves the Coast Guard to even more effective service at greater value for the taxpayer," said Papp. "And with continued support in FY15, we hope to soon complete one of the most significant acquisition projects our history."

The U.S. Coast Guard awarded three firm fixed-price contracts on Feb. 11, 2014, for preliminary and contract design (P&CD) for the Offshore Patrol Cutter (OPC) acquisition project. The contracts — worth about $22 million each — were awarded to Bollinger Shipyards Lockport LLC (Lockport, La.), Eastern Shipbuilding Group Inc. (Panama City, Fla.) and General Dynamics, Bath Iron Works (Bath, Maine). From these three preliminary designs a single team will be selected for detailed design, and that team will build the initial ship with an option to build up to ten OPCs. The Coast Guard said it is "using a deliberative, two-phased design-build strategy to acquire the OPC. This approach establishes stable requirements and design early on in the life of the acquisition, which helps mitigate cost and schedule risks."

The OPCs will be smaller than the NSC, less capable, and presumably less

expensive.

The Coast Guard plans to build 25 of them to replace the 14 ships of the 210-foot Reliance-class medium endurance cutters and 13 270-foot "Famous class." The 1,400 ton 210s entered service 1964 and 1969, while the 1,800-ton 270s are newer, commissioned between 1983 and 1990.

There is also the USCGC Alex Haley (WMEC 39), a converted U.S. Navy ocean going salvage ship. At 283 ft. and 3,400 tons, Alex Haley she is based in Alaska where she conducts fisheries patrols and search as rescue duties, but she is more than 30 years old.

The new OPCs will have greater range and longer endurance than the ships they will replace; will be more powerfully armed; and will accommodate the latest Coast Guard aircraft and small boats for all-weather operations. What's more, the OPC's systems will be fully interoperable with the National Security Cutters and other military ships and aircraft and bases ashore.

The Sentinel-class Fast Response Cutter (FRC) is the newest Coast Guard patrol boat, capable of conducting independent port, waterways and coastal security; fishery patrols; search and rescue; and national defense missions. The FRC is based upon the Stan Patrol 4708 patrol boat design from Damen Shipbuilding in the Netherlands, and similar to vessels being acquired by the Canadian coast guard. The service plans to acquire 58 FRCs to replace the 41 boats that comprise the service's 110-ft. Island-class of patrol boat, and will compliment 73 vessels of the 87-ft. Marine Protector class.

The initial seven FRCs are operating in the Caribbean and off Florida. Papp said the have "become the workhorse of our interdiction operations in the approaches to Florida and Puerto Rico."

Papp said the Coast Guard is halfway to its planned purchase of 58 patrol boats, and that the FRCs are being delivered on time and on budget. "We have 10 more in production, have awarded the contract for an additional six, and now have funding for six more beyond that – for a total of 30."

While the Coast Guard has four "red hull" icebreaking ships, one is designed

USCG Cutters &Craft

- 420' Icebreaker (WAGB)
- 418' National Security Cutter (WMSL)
- 399' Polar Class Icebreaker (WAGB)
- 378' High Endurance Cutter (WHEC)
- 295' Training Barque Eagle (WIX)
- 282' Medium Endurance Cutter (WMEC)
- 270' Medium Endurance Cutter (WMEC)
- 240' Seagoing Buoy Tender/ Icebreaker (WLBB)
- 225' Seagoing Buoy Tender (WLB)
- 210' Medium Endurance Cutter (WMEC)
- 175' Coastal Buoy Tender (WLM)
- 160' Inland Construction Tender (WLIC)
- 154' Fast Response Cutter (WPC)
- 140' Icebreaking Tug (WTGB)
- 110' Patrol Boat (WPB)
- 100' Inland Buoy Tender (WLI)
- 100' Inland Construction Tender (WLIC)
- 87' Coastal Patrol Boat (WPB)
- 75' River Buoy Tender (WLR)
- 75' Inland Construction Tender (WLIC)
- 65' River Buoy Tender (WLR)
- 65' Inland Buoy Tender (WLI)
- 65' Small Harbor Tug (WYTL)
- 47' Motor Life Boat (MLB)
- 41' Utility Boat (UTB)
- 45' Response Boat Medium (RB-M) (still in development)
- 33' Law Enforcement Special Purpose Craft (SPC-LE)
- 36' Long Range Interceptor (LRI) (still in development)
- 26'-64' Aids to Navigation Boats
- 25' Transportable Port Security Boat (TPSB)
- 25' Defender Class Boats (RB-HS/RB-S)
- 18'-24' Special Purpose Craft Airboats

for Great lakes duty, and another is actually a research ship. The Great Lakes icebreaker, USCGC Mackinaw (WLBB 30), is used for servicing aids to navigation on a seasonal basis. She can conduct SAR and law enforcement operations, and respond to oil spills, as well as breaking ice in the winter months. The 3,500-ton, 240-ft. Mackinaw is based at Cheboygan, Michigan, and can break ice up to three feet deep.

The 17,000-ton Healy is an ice capable research ship and a medium duty icebreaker able to break ice 4.5 ft. thick at three knots. The two 13,000-ton Polar class ice breakers are the most powerful in the world, but the Coast guard has only been able to keep one operational in recent year. USCGC Polar Star (WAGB-10) was placed in a caretaker status in 2006, but has now been overhauled, refitted with a new propulsion plant, and supported Operation Deep Freeze in the Antarctic during the 2013-2014 season. USCGC Polar Sea (WAGB-11) was active until 2010, and scheduled to be decommissioned after the return of Polar Star to service.

"The 38-year-old Polar Star, the world's most powerful non-nuclear heavy icebreaker, has returned to active service and recently completed operations in the Antarctic in support of U.S. national security interests," said Papp. "And we have begun the process of developing and analyzing the requirements to design the nation's next heavy icebreaker."

A new icebreaker construction program is needed. The Coast Guard is in the preliminary phase of a new, heavy polar icebreaker acquisition project. But until a replacement is available the Coast Guard may opt to overhaul Polar Sea and keep her in service.

The "black hull" workhorses are the unglamorous buoy tenders and other auxiliaries that tend aids to navigation, conduct law enforcement, pollution control, and search and rescue missions.

The Coast Guard has 16 multi-mission 225-foot Juniper-class seagoing buoy tenders (WAGLs). The lead ship, USCGC Juniper (WLB 201) entered service in 1996. The 225s displace about 2,000

Below:
USCG Cutter Sapelo and the Royal Netherlands Navy Offshore Patrol Vessel HNLMS Holland search Caribbean Sea waters for bales of contraband jettisoned by Dominican drug smugglers.

tons and can remain at sea for up to 45 days. The 6,000 mile range at 12 knots is important as the U.S. is responsible for reaching distant U.S. territorial waters, such as those surrounding remote islands in the Pacific. Buoy tenders have powerful handling equipment to retrieve buoys, repair them on deck, and put them back in the water. They have powerful handling equipment to retrieve buoys, repair them on deck, and return them to service after maintenance. They are capable of light icebreaking. The newest, USCGC Alder (WLB 216) was commissioned in 2005.

Other black hull include inland buoy tenders, inland construction tenders, ice breaking tugs and other auxiliary craft. These include 175-foot Keeper-class coastal buoy tenders and 140-foot Katmai-class icebreaking tugs.

One other distinctive Coast Guard cutter of note is the cadet training ship Eagle.

The Coast Guard is also updating its many small boats, which it operates in large numbers, with more tha 400 Defender-class Response Boat Small (RB-S) craft alone. A replacement, the RB-S II, will feature an emphasis on function and crew comfort, and will gradually replace the Defender-class RB-S as they reach the end of their service life.

According to the Coast Guard Acquisition Directorate, the Coast Guard awarded a delivery order valued at approximately $13m September 26, 2011 to Metal Shark Aluminum Boats for the production of 38 RB-S II. "The contract allows for the procurement of up to 500 boats. Up to 470 boats will be delivered to shore units throughout the Coast Guard to perform port and waterway security, search and rescue, drug and migrant interdiction, environmental and other law enforcement missions. Up to 20 boats may be ordered by Customs and Border Protection and up to 10 by the U.S. Navy."

"We have also received 148 of the 170 Response Boats Medium we've ordered," said Papp. "They are the most capable response boats in our history. These have also been delivered on time, and on budget."

President Obama talks with Coast Guard Admiral Thad Allen, who was also the National Incident Commander for the Deepwater Horizon oil spill (center), and Louisiana Gov. Bobby Jindal aboard Marine One as they fly along the coastline from Venice, La., to New Orleans on May 2, 2010.

White House Photo by Pete Souza

Allen at the Helm

Former USCG Admiral Thad Allen is a transformational leader in the history of the service, a rock through thick and thin. Today he talks about resource allocation, risk management and homeland security.

By Patricia Keefe

As part of Booz Allen Hamilton's Justice and Homeland Security business group, Executive Vice President and former U.S. Coast Guard Admiral Thad Allen leads the development of thought leadership and client engagements regarding the future direction of law enforcement and homeland security. He is known for his ability to lead in a crisis, in part through his expertise in bringing together government and non-government entities to address major challenges in a "whole of government" approach designed to achieve what he calls a "a unity of effort."

The Coast Guard is under pressure to either pare its mission mix or downscale what it does. What's your overall take on this situation?

One of the reoccurring challenges of being in a service like the Coast Guard is that you have more authorized missions than you have resources to accomplish in a given year. I think we all understand that there won't be large growth in those budgets unless there's a real reason to do that. But that [brings to mind] what I call the operational genius of the Coast Guard. That means you have a multi-missioned organization, and you can apply your resources to the highest risk. The funding level will be what the funding level is, but the execution of the resources provided will always be done in an optimal fashion because the Coast Guard allows delegation of authority to regional commanders to apply resources to the highest needs. And as long as that continues to be the operational doctrine of the Coast Guard, then the American public can have the confidence that whatever the funding levels allocated, those resources will be applied according to the current set of risks. Now, that may, from time to time, be emphasizing one set of authorities or jurisdictions over another. In my view, the service has done that very well.

So how do you more with less?

Over the last I don't know how many years, we've reduced our budget discussions to proverbs like "doing more with less." There is a risk-based decision process that allows for the allocation of resources, and this drives what gets done and does not. It's hard to predict a year in advance what the challenges to the operating environment will be. It was always a challenge when I was commandant to look at our program budget because we would keep track of our operating hours and allocate costs to those hours so that we could demonstrate the cost of a particular mission in a particular year. There

To celebrate Maritime Reporter & Engineering News' 75th Anniversary, each edition in 2014 will offer a specially commissioned feature article which examines a historical topic.
This month we look at one of the most influential USCG leaders, Thad Allen

Don't miss the special 75th anniversary edition to publish in June 2014, made possible in part by our 75th Anniversary sponsors seen on pages 33 & 35.

"A great legacy would be to be able to say we fundamentally changed how we do things inside the Coast Guard, and for the better. These aren't things that are generally seen by the public."

Thad Allen, former Commandant United States Coast Guard

USCG

was always the temptation by Congress to use that as a projecting device rather than a documentation device. So, in a constrained budget environment, you have to prioritize by risk and allocate resources accordingly. Now the risk in the Gulf of Alaska is never going to be the same as the risk in the Gulf of Mexico. These will ultimately be decisions made according to the operating environment or conditions, by people who know these conditions well.

What is the decision process for prioritizing risk?

We have a MISRAM – or a Maritime Security Risk Assessment Tool – it's a protocol that was developed after the attacks of 9/11. I was the Atlantic Area Commander on 9/11, and we did not know what was going to happen after the attacks. We were concerned as to whether the seaports were at risk. So I took some short-term actions and deployed some Coast Guard cutters off all the major East Coast ports so that they could be a floating command and control platform and a resource for the captains of the port. But we immediately set about trying to devise a way to decide how to determine risk in ports, and how to allocate resources to that model – especially when you have a set amount of resources. And from that, we created the Port Security Risk Assessment Tool. It had a pretty indelicate acronym – everyone called it PSRAT. But, I took a bunch of my guys and I threw them in a room and said – if the Captain of the port had X amount of boat hours and X amount of flight hours and a cutter offshore and we want to make a risk-based decision, is there a more quantifiable or rational way to do that? So you do a port assessment: the waterfront facility, the refinery, is there a cruise ship there, how many pleasure boats – whatever variables exist. And then, you take a couple of scenarios like a weapon of mass effect or an IED [improvised explosive device] and then you calculate the consequences associated with that scenario. This is almost like the actuarial information used to develop insurance models. And we came up with a way to determine ratings, which would determine resource changes as a consequence of what happened with each scenario. The better question to ask then – and I'm not the best person to talk to about this right now – is, how is the Coast Guard applying MISRAM to resource allocation, especially in context to current budget discussions?

Is the pace of the regulatory development process moving fast enough?

If you look at the ballast water question, the non-tank vessel rules – which actually started around the time of the Exxon Valdez spill – nobody should be happy with the amount of time it takes to make regulations. We have gotten into a situation where the process is long and laborious, and the levels of review numerous. Now, when you are talking about five, 10, 15 years to develop a rule and deploy it as a result of a statutory requirement, I don't think anyone should accept that that's the right way to run government. Any way we can look at regulatory reform, we ought to be looking at it. I think we need to figure out a way to engage the public earlier - perhaps by experimenting with some sort of a wiki-platform where we could put a policy problem out there and let the supporters and detractors have at it. In this way, you can define the problem, and possibly see the consensus forming around a particular course of action before you go into rulemaking and all the Title 5 restrictions on ex-parte communications start to kick in.

What is the impact of social media, and can it be managed?

Twitter, smartphones, blogs - anything that allows people to aggregate information and produce social effects when they are not in each other's presence – in my view have fundamentally changed our lives. I see this change as the sociological equivalent of climate change. John Holder, who was a science and technology advisor to the president,

said this about climate change, "You can suffer, you can adapt, or you can manage." The same can be said for social media. We've demonstrated that there is real value – and considerable risk – to crowd sourcing. It's a new area of collaboration; a new area of social interaction where we don't have a lot of history, and we're really not sure where we are going. It doesn't mean we shouldn't use it because we're scared of it. The fact is, it's there, and there's no fear of entry when an event occurs and anybody standing around with a cell phone with a camera in it can actually become part of the event or the outcome of that event. I think we have to deal with the fact that this is the reality we live in.

Are there missions the Coast Guard could cede to others in an effort to more efficiently spend money or more competently get the job done?

If we have a statutory obligation to do something, and we elect not to do it because of a risk-based decision or lack of resources, that's one thing. But if it's been decided for policy reasons that we shouldn't be in line of work anymore, it might not be within our authority to make that decision. This is a tricky question because if you remember during my tenure as commandant, the Coast Guard resided inside another committee, not inside the homeland security committee. There was concern that we hadn't been enforcing the marine safety statutes and regulations that we were provided with after 9/11, and that we might've been diverting resources away from those missions.'

Were you enforcing maritime safety?

As commandant, I made a concerted effort to reach out to all stakeholders in the maritime community. We put resources back into the regulatory compliance functions and put into place a long-term safety and improvement plan. [Rear Admiral] Jim Watson wrote it from when he was still in the Coast Guard. And he took concrete steps to make sure we were carrying out our responsibilities.

Are there missions currently housed elsewhere that the Coast Guard could more efficiently take on?

We should talk about this in context to any capacities and capabilities that might be exploited for greater efficiencies. The current role of the Coast Guard in the intelligence community is not well understood, nor is the value demonstrated every day by what our people do in intelligence. We are a full member of the intelligence community; we have a service cryptographic element at Fort Meade. We have people that work with DoD every day, adding value. We have unique capabilities because the Coast Guard operates in places that other agencies don't. The government would be well served to find more ways to use the unique capabilities of the Coast Guard, because there are some out there.

Is the Coast Guard now housed in the right place – DHS – or would it be better situated in another domain?

I testified repeatedly during my

Then President George W. Bush (R) greets Commander, Joint Task Force Katrina, U.S. Army Lt. Gen. Russel Honore, and Director of FEMA Relief Efforts, U.S. Coast Guard Vice Adm. Thad W. Allen (L) as he steps off Air Force One on board Naval Air Station Joint Reserve Base, New Orleans, Oct. 10, 2005.

U.S. Navy Photo

Anatomy of a Leader

Thad William Allen

Born
Jan. 16, 1949, in Los Angeles; grew up in Tucson, Ariz.

Education
Graduated 1971 from the Coast Guard Academy, an institution Sen. John McCain joked was one that "some might say he foolishly chose over an appointment to the Naval Academy." (Allen's father was a Chief Damage Control man in the Coast Guard.) Two advanced degrees: Masters in Public Administration, George Washington University, 1986; and Masters of Science in Management at MIT's Sloan School, 1989.

Coast Guard Career
Held a variety of posts ranging from ship master to commander of various USCG regional and coastal groups, to posts in the office of acquisitions, office of programs, and office of chief of staff, eventually becoming chief of staff to the commandant.

Critical Operational Missions
Command of the Coast Guard's Atlantic forces in its response to the Sept. 11, 2001 terrorist attacks by securing ports on the eastern seaboard. Appointed Principal Federal Officer for Hurricane Katrina and Rita recovery efforts in the Gulf Coast region in 2005. Commandant of team leading response to Haiti earthquake in January 2010. Allen was also the commandant leading the response Appointed National Incident Commander for the Deepwater Horizon oil spill in the Gulf of Mexico in 2010 while still commandant of the USCG. He continued in that role after his retirement from the Coast Guard.

Homeland Security
Worked closely with the Department of Homeland Security, advancing much-needed operations and management coordination principles. Recognized as a leader in homeland security strategy, with particular emphasis on achieving interagency unity of effort in the complex, multi-agency and multi-jurisdictional homeland security and law enforcement mission environment. Chairman of the DHS Joint Requirements Council from 2003 to 2006.

Appointed
A four-star admiral, he became the 23rd Commandant of the U.S. Coast Guard on May 25th, 2006, where he was known both as "the Face of the Coast Guard" and as a forward thinking leader who led a major effort to update the Coast Guard's command and logistics organizations and address future maritime challenges. As commandant, Allen oversaw a mix of 90,000 active-duty military, civilian staffers, reservists and volunteer auxiliaries.
Retired: In May 2010, after 38 years with the Coast Guard. Post retirement, continued to serve as the National Incident Commander for the Deepwater Horizon oil spill as a member of the Senior Executive Service within DHS.

Military Decorations
Two Coast Guard Distinguished Service Medals; the Legion of Merit, which is awarded by the U.S. Armed forces for exceptionally meritorious conduct in the performance of outstanding services and achievements; the Defense Distinguished Service Medal, three Meritorious Service Medals, three Coast Guard Commendation Medals and two Coast Guard Achievement Medals.

Civilian Awards
Among his many personal awards, Admiral Allen was the first recipient of the Homeland Security Distinguished Service Medal, of which he has two; Organized Crime Drug Enforcement Task Force National Award, Operation Panama Express, 2001, and was named to Time magazine's 2010 Person of the Year issue's list of "People Who Mattered."

Boards and Organizations
Allen serves as a Presidential appointee on the NSF's Blue Ribbon panel on Antarctica, as a Director at the Partnership for Public Service and the CG Foundation, and at the U.S. Naval Institute, 1974-Present. He was on the Board of Trustees, U.S. Coast Guard Academy, 1996-1999.

Current post
Joined Booz-Allen Hamilton in November 2011 as Senior Vice President leading "thought leadership" on law enforcement and homeland security strategy. Allen previously joined RAND Corp. as a senior fellow in Oct. 2010, where he focused on myriad of disaster response, maritime safety and homeland security issues.

Noteable Quote
"The modernization and strategic transformation the Coast Guard is undertaking is about looking into the future and repositioning the Service to best serve the Nation far into the 21st Century."
Management mantras: "You have to lead from everywhere" (Harvard Business Review, Nov. 2010)

Quintessential Allen

A selection of quotes from former U.S. Coast Guard Commandant (2005-2009) and disaster manager extraordinaire Thad Allen:

About being "the government face of the [Deepwater] tragedy:
"I told somebody I'm failing to get fired. I'm honored to have been asked to do this. It's not a very easy job; it's very complex. It's one of the hardest things I've ever had to deal with personally."

Source: Associated Press interview, June 7, 2010

About the government's response to Hurricane Katrina:
The problem with the government's initial response to Hurricane Katrina was that "we did not get the problem statement right." The government thought the problem was a hurricane when it had become a flood. "You've got to understand the problem first before you can effectively lead change.''

Allen speaking to the Association of Change Management Professionals conference in May, 2011

Testimony from Allen during his Congressional confirmation hearings
"While the character and nature of our service are clear, our missions are not static. New threats emerge as others are mitigated, and Coast Guard capabilities, competencies, organizational structure, and processes must change accordingly. If confirmed, my enduring goal will be to lead a Coast Guard that is steadfast in its character but adaptive in its methods."

How to deal with a complex, fast moving crisis, where , unlike a tactical military campaign, you won't have unity of command.:
"In what I would call a 'whole of government response' —to a hurricane, an oil spill, no matter what it is—that chain of command doesn't exist. You have to aggregate everybody's capabilities to achieve a single purpose, taking into account the fact that they have distinct authorities and responsibilities. That's creating unity of effort . . . and it's a much more complex management challenge."

The impact of social media and the 24-hour news cycle:
"We all have to understand that there will never again be a major event in this country that won't involve public participation. And the public participation will happen whether it's managed or not. We've chosen to try to adapt and manage. Before the oil spill, I had already started blogging and tweeting."

In an interview in November 2010 with the Harvard Business Review, Allen expounded on a number of leadership issues

Impressions of Allen from near and afar
"I note that this [nomination] is somewhat ironic, since the largest body of water in the Admiral's hometown [Tuscon, Ariz.] is the University of Arizona's swimming pool." Sen. JOHN McCAIN (R), Ariz., while introducing Allen at a his March 2006 nomination hearing for the post of Coast Guard Commandant.

Allen "always brings a new idea per minute to the table as far as how to grapple with difficult situations."

Retired Adm. James M. Loy, former Commandant of the Coast Guard

"No Coastie better demonstrated the service's 'get it done attitude' better than Admiral Allen, who confidently stepped in to a critical leadership role and righted the Federal Government's response to Katrina. His ability to coordinate the efforts of all local, state, and Federal agencies into one harmonious response should be the model to emulate when the next disaster strikes."

Former Maine Sen. Olympia Snow (R)

"I'm confident in Admiral Allen, seeing his work in Katrina. You've brought the most credibility and discipline and structure and analysis to that chaos, from those of us watching all around the world."

Former VA Sen. George Allen (R)

tenure as commandant that the Department of Homeland Security was the right place for the Coast Guard. I think you are never going to find a department that covers 100 percent of our missions, but with [DHS], we've come about as close as we can to covering the critical mass. That said, there's always going to discussions about our marine safety missions, which are transportation-related. But, safety and security are two sides of the same coin; when you enhance safety, you enhance security, and vice versus.]So, I would strongly state that what don't appear to be homeland security functions, are in fact homeland security functions. There are two issues out there right now that are continuing challenges for the department. One is general aviation aircraft and the other is unregulated small boats. I was once in a meeting with the leader of a recreational boating group and I told them that I wanted to have a serious discussion about small vessel security. I told him I was putting my toe in the water, and that I didn't know if I was going to get bit by a piranha or a great white shark. He looked at me, and said, 'we need to understand this: driving a car is a privilege and boating is a right.'

You have the experience of being the Coast Guard's chief executive, and now, the luxury of looking on from the sidelines after a job well done. What has changed in the 3-plus years since you left the service?

I'm not in touch on a daily basis with what the Coast Guard has going on, so I am not in a position to say anything about what's happened since I left. I can tell you this: the Coast Guard has made extraordinary improvements in institutionalizing its acquisition program that's delivering vessels like the fast-response cutter and the national security cutter. When I became the commandant, I spent a great deal of my time preparing for oversight hearings related to our acquisition programs. I think the coast guard can be very proud as to where they've come with regard to those programs.

What's the biggest challenge facing the Coast Guard today? Is it operational, fiscal, manpower-related – or, all of the above?

The biggest challenge for the Coast Guard – and it has been since it was created – is to develop and retain cultural and organizational competencies to manage operational risk and apply those resources. That is the key element of what I call the operational genius of the Coast Guard. The only way you can run an organization as unique as the Coast Guard, and have it be as effective as it is, is to have leaders who know how to make resource allocation decisions and be held accountable for them. The enduring value of the Coast Guard is it is still able to do that. The Coast Guard is a unique product of the American Revolution. Before the Revolution, you had navies; you had border guards and police forces at harbors and things like that. The origin of the service emanates from the Founding Fathers, who realized that this was the only way with this much trade going on. Tom Ridge [first director of DHS]said, 'If we didn't have a Coast guard, we'd have to invent or create one.' If you look around the world, most countries are mostly interested in what happens in their littoral waters, about their natural resources, issues about illegal fishing, drug trafficking, offshore oil development, etc. All of those mission sets call for a maritime constabulary force that is much more adaptable across those ranges of threats. The key is to reconcile the security demands for a navy and the local law enforcement missions. We've been able to do that in this country.

Looking back on your service – what part of it are you the most proud?

If you look back at the advances that have been made in the finance and acquisition areas, and the extraordinary advances in how we manage lifecycle sustainment assets, and how we've reformed our supply chain management and maintain our operating platforms, these are fundamental business re-engineering activities that we probably won't know the results of for many years. A great legacy would be to be able to say we fundamentally changed how we do things inside the Coast Guard, and for the better. These aren't things that are generally seen by the public.

Conversely, where do you wish you could have accomplished more or something a little bit differently?

I wish I could've speeded up the regulatory process. I talked to everyone I could about this issue, but unless there is a national will to do something about it, it likely isn't going to happen. I was continually frustrated with the regulatory process.

The Thad Allen No-Frills Leadership Primer

Crisis management from the exploits of a legendary "fixer" of disasters for two administrations

Every year there are countless books written about leadership and management, supplemented by a mountain of similarly themed magazine articles and scholarly treatises, eagerly snapped up by legions of wanna-be bosses and officers. As a culture, we are obsessed with leadership, especially leaders as heroic figures, and we are constantly seeking the right formula to make us so.

But all those would-be captains of industry – and the oceans – might find it a lot easier to step away from the stacks and take a page from a leader extraordinaire, retired Admiral and former Commandant of the Coast Guard, Thad Allen.

If ever two phrases seemed synonymous, they are Thad Allen and crisis management, probably because Leadership – with a capital "L" – is synonymous with the man himself. Even better, Allen, who has master's degrees in management and public administration, has a pretty down-to-earth take on what constitutes leadership, and what crisis management is all about.

The 65-year-old Allen likes to call himself an "accidental Admiral," but there is no mistaking his gift for leadership or his management skills. In those arenas, he's a rock star without peer – generally seen as, well, a rock – steady, approachable, intensely organized and on top of every aspect of the issue at hand. A "fixer" for two presidential administrations, a former aide likened him to "a steady force in turbulence."

He's just a "hyper competent person," sums up former White House adviser David Axelrod, now the director of the Institute of Politics at the University of Chicago.

"He's just a proven commodity," retired Adm. James M. Loy, Allen's one-time boss, told the New York Times. "He is a very strong, willful, effective, no-nonsense kind of leader. If the challenge is to take the hill, you get behind him and take the hill."

Five-Star Results in Disaster Control

The straight-talking career "Coastie' has compiled an astonishing record of success - collecting a sterling reputation for competency and trustworthiness to go along with it – when it comes to managing the aftermath of disasters of unimaginable scope: a devastating earthquake in Haiti, a 100-year hurricane and extreme flooding in Louisiana and Mississippi, and for good measure, the worst environmental disaster in the country's history - The BP Deepwater Horizon oil spill in the Gulf of Mexico. Along the way, Allen has overseen the cleanup of smaller oil spills and was tasked with securing ports up and down the eastern seaboard following the 9/11 terrorist attack in 2001.

After almost 40 years, Allen has the leadership thing down cold. Much like the man, his views on the skills every leader needs, are neither complicated nor shrouded in the management buzz words of the day. But they are easy to understand and adaptable to every-day business situations: flexibility, agility and curiosity.

Underlying everything is patience. Without it, he'd have never have been

Credit: Jocelyn Augustino/FEMA

FEMA Urban Search and Rescue task forces continue search operations Sept. 6, 2005, into New Orleans neighborhoods flooded by Hurricane Katrina. The US Coast Guard helped the operations by providing boats.

able to effectively navigate the inter-agency territorial and political squabbles that seem to engulf every incident where missions overlap. His ability to listen enabled him time and again to find common ground between warring factions, and get everyone focused on the same goal – what he calls "unity of effort."

"If I was confronted with a multi-stakeholder nightmare, Thad Allen is the guy I would want to have put in charge of coming up with the solution that would keep the stakeholders engaged, participating and focused on the chore at hand," says Loy, now a senior counselor at the Cohen Group in Washington.

"The status quo is an oxymoron"

With patience in his pocket, the foundation pieces of Allen's leadership style are accepting that change is constant – that "the status quo is an oxymoron" - and adapting; listening to diverse voices; being transparent; and continually learning. Allen often points out that when it comes to dealing with change – resistance is futile. The better tactic is to accept it, look ahead and develop strategies to deal with it and make it work to the benefit of his personnel and the public he serves. All of which fits into his mantra that "great leaders are great learners."

Take social media and the 24/7 news cycle. Allen notes there will never be another major event in the country that won't involve public participation. He is said to be the first of the military branch commanders to launch a blog, iCommandant, for the purpose of daily communicating with his organization, further enhancing what he calls his transparency.

Part of his legacy will be the complete overhaul of the Coast Guard's aging command and logistics organization, which brought it into the digital era. As he told Congress during his nomination hearings," We are nothing without our people, and our people cannot be effective without the right tools."

"Twitter, smartphones, blogs, anything that allows people to aggregate and produce social effects when they are not in each other's presence – in my view have fundamentally changed our lives," says Allen [See Q&A Page 32]. It's critical for leadership to understand the day's technology, how it is changing and that it must evolve with it. Technology and social media have to be managed, and used as tools to present your message and to keep people informed, because the public is going to be using those tools, and that participation can significantly disrupt the team's "unity of effort" - as Allen found out most especially during the BP Oil spill.

Job No 1 – Not as obvious as it seems

In a crisis situation, Job 1 is figuring out what the actual problem is, according to Allen. It might not be what it seems. Allen is fond of explaining that everyone went into Katrina thinking the problem was the hurricane. Once he realized that the flooding and lack of government had become the issues, he completely changed his approach and priorities to the betterment of the operation. Only after pegging the problem, he believes, can you effectively lead change by then getting everyone on the same page, committed to the same values, working toward the same goals.

As he explained in a widely cited interview with the Harvard Business Review, "You have to understand at a very large, macro level what the problem is that you're dealing with, and what needs to be done to achieve the effects you want, and you have to be able to communicate that. You also have to create a set of shared values that everybody involved can subscribe to." Part and parcel to that effort is transparency and communication. It is critical, he said, to "lead from everywhere." That means being visible,

open and available – to the public, the press and the team. If it doesn't involve safety or security, Allen's going to communicate it. It means being the public face of the effort and taking responsibility from the get-go, letting the unified team on the ground do their jobs. It's how you win trust.

Time magazine, which picked Allen as one of "The People Who Mattered" in its Person of the Year issue for 2010, said he " . . . was a rare reassuring presence in the troubled federal efforts to control the Gulf oil spill." Noting that no one "came out of the spill clean," it said Allen, who was also a very visible presence, running almost daily press conferences, made out better reputation wise than most.

A New Coast Guard in Town

When not knee-deep in horrific calamities, Allen busied himself modernizing, upgrading and re-focusing an understaffed, perennially underfunded, multi-missioned agency. "While the character and nature of our service are clear, our missions are not static. . . my enduring goal will be to lead a Coast Guard that is steadfast in its character but adaptive in its methods," Allen told a senate hearing on his nomination.

Putting his leadership rules into action, Allen accepted the things he seemingly could not change – budgets, personnel numbers and being pulled in multiple directions – stepped into the job ready to look hard at where the agency was, and where it needed to go. With that in hand, he rammed through requests to upgrade the Coast Guard fleet, de-cluttered an unwieldy chain of command, brought everyone back to the same set of goals and focus, and gave his people in the field the training, tools and authority needed to assess risk, prioritize missions and act. He also cemented a relationship with the Department of Homeland Security – the agency he considers to to be the best fit yet for the unusual amalgamate that is the Coast Guard – partly military, partly public, multi-dimensional, and always on call.

Now retired from active duty, Allen is leaning heavily on that experience at Booz Allen Hamilton, working to craft "big-picture" national approaches to homeland defense and disaster response protocols and policy.

"Thad's 40 years of experience in critical operational missions . . . allow him to provide a unique perspective on how government agencies must evolve during the next decade," said Booz Allen's Chairman, Ralph W. Shrader.

That experience has convinced Allen that the country needs to run regular national drills to update what we learn from each disaster and to generally keep in practice.

There's no telling what form the next disaster will take, but we can be sure of several things – there will be many more emergency situations, they will require intra-agency cooperation across local, state and federal levels, and whatever the policy is, it will need to be open to the public, focused on unity of effort, and communicated across all available channels. And if somewhere in the middle, there is an unflappable, straight-shooting, calm and communicative presence - a next-generation Allen with his or her hand on the helm, then it's a good bet, that recovery is assured. And should Allen get the call for another disaster recovery assignment? Allen jokes he'd like to be there before the event starts. Now that's preparedness!

With an Interceptor, a RHIB and a Cat

Chasing America's C

Salthouse Boatbuilders

Cup Boats

By John Haynes

Two extreme AC72 foiling catamarans with wing sails went head-to-head at over 40 knots in San Francisco Bay, California. The teams were competing in the 2013 Americas Cup Challenge which took place from September 7-21, 2013.

Anyone watching the first few days of Americas Cup sailing will know that it looked like Emirates Team New Zealand had a seemingly untouchable lead – then out of the blue Oracle Team USA completed one of the greatest comebacks in sport to win the 34th America's Cup. For anyone who has watched the rising speeds of sailing records plus the development of hydrofoil technology, this event was also bound to be a game changer for 'power versus sail.' Another race was on in San Francisco Bay as Chase Boats and Umpire Boats utilized gasoline and diesel engine horsepower versus the AC72 boats utilizing wind energy, aerodynamics and hydrodynamics.

The AC72 is a state-of-the-art design wind powered craft. Overall length is 86 ft. (26 m), waterline length is 72 ft. (22 m) and it has an extraordinary beam of 46 ft. (14 m). The boat only weighs 13,000 pounds (5900 kg), it has a maximum draught of 14 feet (4.4 m) and is handled by a crew of eleven.

The AC72 rises out of the water on foils and designers always expected it to sail faster than the wind. Predictions were upwind at 1.2 times the speed of the true wind and downwind at 1.6 times the speed of the true wind. But the AC72 has proved to be faster, averaging about 1.8 times the speed of the wind, with peaks slightly over 2.0 times the speed of the wind. The extreme foiling catamaran design means that AC72 racing takes place on the edge of control.

There is potential for crews to fall overboard or to require immediate attention in case of injury. Each team is allowed a Chase Boat and to provide a margin of safety these high speed craft need to not only match the race boat speeds, but to be able to exceed them.

With the wing mast / sail set up if a crew breaks something, they can't just turn and go home, because the wing stays loaded up.

The support boat has to be able to tow an AC72 home faster than the wind speed, which can mean towing at 25 knots. The boat also needs the puling power to be able to right an AC72 after a capsize – fast.

The crews try to avoid the dangers of a capsize but it is a possibility that support teams must plan for.

Tragically in May 2013, British Olympic sailing champion Andrew 'Bart' Simpson died after the Swedish America's Cup craft he was sailing capsized and broke apart in San Francisco Bay. Simpson, a 36-year-old two-time Olympic medallist, suffered multiple blows to his head and body in the accident involving the 72-ft. Artemis Racing catamaran. The San Francisco medical examiner's report said, 'In the moments before it capsized, the yacht was turning downwind in a so called bear-away manoeuvre while travelling at about 30 knots, with wind of about 20 knots. The front of the vessel then dipped beneath the surface, the port hull broke and inverted on top of the wing.'

Most conventional power craft cannot fulfill the demanding task of supporting the 72-ft. Americas Cup catamarans that can accelerate to 40 knots in seconds. The power boat ride quality has to allow for keeping up with an AC72 for an entire day, regardless of how fast the sail boat is going or what the sea conditions are like. The objective is to have a high speed craft that does not fatigue the crew and keeps the team's paramedic and dive crews ready for action.

This is high stakes racing with multi-million dollar investments by owners and sponsors. With money of less object than usual it is interesting to compare the various designs that the teams selected as Chase Boats. The racers also require a high performance Umpire Boat capable of following close to the action and providing instant visuals of the competition as it unfolds.

The Offshore Interceptor - America's Cup Umpire Boat

A Willard Marine High Speed Interceptor was chosen by the Americas Cup Racing Association as the Umpire Boat for the 2013 Americas Cup. The 43-ft. (13 m) craft is powered by twin Cummins 600 hp inboard diesel engines and surface drive system. The Interceptor was developed for military use from a Scarab offshore racing design and can achieve speeds greater than 60 knots.

Willard Marine teamed up with Larry Smith of Team Scarab to develop the design. Team Scarab has a 30-year heritage of designing and building world champion offshore race boats. The Interceptor was initially prototyped in response to a request by the U.S. Navy for a high-speed combat mission boat. The 43 Assault is also ideal for intercepting and boarding boats and vessels in the open ocean. Willard worked closely with Team Scarab to refine their Deep V stepped hull design in order to meet the U.S. Navy requirements, including shock mitigation seats and light weight engines. The Interceptor also has a Supplemental Stability System (S3) that increases the stability, passenger comfort and safety of heavily loaded high speed craft. The variable geometry of the sponsons increases hull efficiency and aft buoyancy where the fuel, engine and passenger loads are.

The Rigid Hull Inflatable Boat - Oracle Racing Team USA Chase Boat

Naiad Inflatables of Newport produced two custom built 42-ft. (12.9 m) RHIBs for Oracle Racing Team USA to support the Defender AC72 Yachts. Twin Yanmar 370hp inboard engines allow the chase boat to maintain the power, agility and endurance required to support the yachts through the variable conditions of San Francisco Bay at up to 45 knots.

Naiad has a strong legacy of involvement in the Americas Cup, dating back to tenders produced for Challenge New Zealand for the 1992 event in San Diego. Naiad was the first company to develop a RHIB more than 40 feet specifically designed to carry the large fully battened mainsails, unique at the time to the IACC class of Americas Cup race yachts.

These vessels were used by Team New Zealand, which successfully challenged for and won the Americas Cup in 1995 and successfully defended the Americas Cup in 2000. In addition to Team New Zealand, two of the challengers had Naiad boats custom built for the 2000 Americas Cup. The 46-ft. (14 m) Naiad Ranger was the first shaft driven inflatable, she was custom built to tow two of Young Americas IACC yachts simultaneously. This platform spawned a whole new class of diesel shaft commercial RHIB vessels for towing and pilot boat use.

High Speed Catamaran - Emirates Team New Zealand Chase Boat

Morrelli & Melvin designed a 45-foot (13.7 m) 1,200 hp high-speed catamaran as Tender and Chase Boat for Emirates Team New Zealand AC72. The concept was developed in collaboration with ETNZ and Salthouse Boatbuilders. The ETNZ chase boat is powered by four 300hp Yamaha V6 four-stroke outboard engines and has a top speed of 58 knots.

The fiberglass hull is topped with inflatable tubes allowing it to slip in beside the AC72. The ETNZ boat includes a protected main deck cabin, head, and large storage area under the foredeck. The craft has four engines to deliver the power needed to right a capsized AC72. Running all four engines at 3,000 rpm gives 30 knots and the boat uses 100 liters of fuel an hour. The boat holds 1,700 liters of fuel which gives a range of 510 nautical miles or 17 hours running time at 30 knots.

Sitting On The Dock Of The Bay

Chris Sitzenstock gave an overview of conditions onboard the Oracle Team USA Chase Boat, "the sea state in the Bay was really everything you can imagine. A few miles outside the Golden Gate to the South Bay it can go from square six to eight-ft. waves to a mill pond. The Bay is very consistent for wind, waves and ground swell funneling through the Golden Gate Bridge. Wash from the spectator boats did not have a great effect on the race course as the Bay is so busy with commercial traffic and ferries. The particularly bad sections were usually combinations of wind against tide."

We asked Chris whether protecting

Naiad Inflatables of Newport

Left
Naiad / Oracle Team U.S. support boats.

Right
Americas Cup Umpire Boat - Willard Marine 43 Assault High Speed Interceptor.

equipment (mechanics / electrical / cameras) was a reason to slow down. He replied, “the Chase Boats have to follow the racing yachts so if the equipment could not take it we had to improve equipment. We asked Chris whether protecting the human body was a reason to slow down. He replied, “the Chase Boats have to follow the racing yachts so if the human body could not take it we had to improve the human body.”

There is plenty that the military and professional fast boat sector can learn from this unique situation where craft are pushed to the limit for days and weeks. Congratulations to all the racers and support teams that made the 2013 Americas Cup an outstanding event and raised the bar for power versus sail.

The Author

John Haynes, AFNI, is a Yachtmaster Ocean and Advanced Powerboat Instructor. Subject matter expertise includes high speed craft consultancy, product development and specialist training. He is Operations Director of Shock Mitigation and founder of the RIB & High Speed Craft Directory that brings together specialist boats and equipment for the professional sector

www.ribandhsc.com

John Fleck'

Caribbean Security Challenges

By Edward Lundquist

The Caribbean is a complex maritime environment, with multiple countries and territories, significant seaborne commerce and a wide variety of threats to safety, security, stability, the environment and sovereignty. A diverse group of stakeholders gathered in Providenciales, Turks and Caicos Islands (TCI) to discuss those challenges and reaffirm their commitment to address them. A major theme throughout the conference was that partnerships and collaboration are important to achieving maritime security in the region.

Maritime Security Caribbean 2013 was hosted by Homeland Security Outlook and held at the Beaches Resort on Providenciales.

The conference was opened by Peter Beckingham, the governor of the Turks and Caicos Islands, an independently governed British overseas territory located south of the Bahamas and north of Haiti and the Dominican Republic. Beckingham acknowledged the substantial maritime security risks of drug and human trafficking and illegal immigration for the TCI. "There is a huge vulnerability about these islands."

"Maritime security is an ongoing concern for our government. We have lots of beaches—ideal landing areas for trafficking of drugs, humans and firearms, and the removal of endangered or introduction of invasive species," said Ricardo Don-Hue Gardiner, the TCI minister of border control and labor. Gardiner. "We have a fundamental responsibility to do the very best we can to protect our people and our visitors. No vessel should reach our shores undetected and without scrutiny."

Among the major challenges to maritime security are illegal landings sloops packed with people who did not go through proper entry process, Gardiner said.

According to Gardiner, the number of illegal migrants who were interdicted was about 900 in 2012, and is on track to be higher this year. "It could reach the equivalent of four percent of our population this year."

"We have 40 islands and cays, and they're all pretty small, so it's challeng-

Edward Lundquist

The Royal Turks and Caicos Island Police Force Marine Police are equipped with a variety of patrol boats to monitor and patrol their waters. The three engines on this boat can achieve speeds up to 60 knots.

ing to manage all the borders in a really effective manner," said Colin Farquhar, commissioner of the Royal Turks & Caicos Islands Police Force. The Ministry of Border Control and Labour commissioned a coastal radar station in September 2012, so now we have the ability to respond to targets of interest with a high degree of precision. And so for that we need a different type of vessel. We've had to kind of re-look at what kind of vessels do we need in order to respond to targets of interest."

Because of the radar system, many of those sloops and other vessels have been detected, and their illegal passengers processed and repatriated.

Technology, and in particular a high-resolution surface surveillance radar, is improving the ability of TCI authorities to monitor local waters and respond to potential threats.

"Traffickers are constantly changing techniques, and do not have to work within the rule of law," said Larry Covington, law enforcement advisor for the British consulate in Miami. "We in law enforcement must work within the rule of law."

In addition to drugs and human trafficking, Covington said there is also an illegal trade in firearms, and that corresponds with an increase in violent gang activity. "We do not manufacture fire arms in the countries of the Caribbean. But they're here, and they're being moved by sea. And they're being used by the wrong people."

According to Rodman Johnson, radar supervisor for the TCI, the radar has not only helped detect illegal traffic, but it has also helped with navigational warnings and help to render assistance to more than 30 vessels in distress. Of major concern to the TCI are hard-to-detect sloops from Haiti. The Haitian sloops are 30- to 35-ft. wooden boats, usually loaded with people and low in the water.

There have been sloops with more than 200 people aboard. Some have masts, but some do not. Some have motors, but many do not. They are carried by wind and currently, often at a speed of just a couple of knots. The sloops are a sharp contrast from the "go fast" boats used in other smuggling operations that can reach speeds up to 60 knots.

Jim Moore of Terma North America says the Terma Scanter 2001 radar at Providenciales demonstrates the value of a high-resolution radar to detect small, "non-cooperative" targets in harsh weather and sea state conditions.

The U.S, Coast Guard is committed to the Caribbean and has a visible presence in the area. "We always have a medium endurance cutter on the north coast of Haiti. If we leave, or there is a rumor we will be away from that area, there is an increase in traffic," said U.S. Coast Guard LCDR Doug Jannusch assigned to the U.S. Embassy in Nassau, Operation Bahamas and Turks and Caicos (OPBAT) is the cork in the bottle. "If we remove the plug, the area will fill back up with drugs."

Underway with the Turks and Caicos Islands Marine Police

Now that the TCI has a very effective high-resolution surface surveillance radar, the TCI Marine Police has been able to change its tactics and improve their effectiveness and efficiency. Today the Marine Police can rely on the TCI's coastal surveillance radar to alert them to a potential threat, and dispatch a smaller, more economical boat to investigate when needed. The Royal Turks and Caicos Island Police Force Marine Police also have a twin-engine aircraft for surveillance purposes, but there currently is no way to combine the radar picture with what the boats or aircraft are seeing, nor is there an integrated picture at Marine Police HQ to provide for better command and control of all assets.

Maritime Reporter joined Sgt. Glenroy Mitchell and Constable Danneri Belliard on a daytime mission underway along the south side of Providenciales island, over towards West Caicos and then down to French Cay, before returning to the Marine Police headquarters at South Dock. According to Inspector Everet Warrican, the Marine Police have crews in Provo and Grand Turk. Three boats are based at Provo, including the new Sea Protector, equipped with three 300-hp Mercury outboard engines. Belliard, Sea Protector's coxswain, says the boat can achieve speeds up to 60 knots, with a cruising speed of 30 knots at 3,200 RPM.

The weather was good; the skies clear and the Caribbean calm. It is not always this way. "The real challenge is being at sea in poor visibility at night," said Mitchell. Belliard said the area is great for whale watching, especially when the humpback whales arrive to have their young. Poaching is a problem, Mitchell says. "They take anything they can get; anything that moves in the water or on the bottom. They're spearfishing for Grouper or pulling up lobsters. The lobster season is closed. Anyone out here now taking lobster is doing so illegally."

Some mother ships come up from Haiti and the Dominican Republic and put a number of small boats in the water. A common practice it to pour bleach into the reef to get the fish to come out and be caught. That not only destroys the fish, but it kills the coral and other marine life.

"We used to go out for 24 hour patrols just before sunset," says Mitchell. "We'd drop the anchor around French cay, 16 miles south of Providenciales, and wait, and we would hope to see anyone one who may be out here doing something illegal."

"Three years ago, our style of patrolling or policing this area was different than it is now," said Police Commissioner Farquhar. "We would take one of our larger blue water vessels south to French Cay and wait there. Just having a boat waiting around French Cay is a shot in the dark. Now we can be in Providenciales and rely on the coastal radar to assist us, and respond with a quick response vessel."

"Since the radar became operational, we go out when we have something to investigate," said Mitchell.

We arrive off French Cay, where we see several fishing boats and a few dive charter boats with tourists from Provo's many hotels. There's also a wreck to the southwest of French Cay, a reminder that these waters can be treacherous. Uninhabited French Cay is a low sandy island with some scrub vegetation, and a navigation aid to keep boats from running aground. The island seems deserted in November, but Belliard says it is alive with birds in January and into May when the albacore and other tuna are nearby, and churning up the schools of flying fish, leaving the birds to help themselves to what's left.

The Marine Police like the advantage that their radar provides. "If you try and do something illegal now, you'll be spotted," said Mitchell.

Anaconda-2

Swiftships Unveils USV with the University of Louisiana-Lafayette

By Susan Buchanan

Last month, Swiftships Shipbuilders, LLC, in Morgan City, La., showcased the Anaconda-2 – an unmanned, 35-ft. craft in development – during a demonstration on the Atchafalaya River next to its HQ. The company partnered with the University of Louisiana at Lafayette more than a year ago to produce technology for a vessel that can navigate without a pilot aboard. Swiftships and ULL are designing a boat that uses Global Positioning System/sensory data, and has the potential to support naval, enforcement and zone-protection operations, mainly on inland waters.

AN-2 Is Based On An Earlier Vessel

"Anaconda-2 or AN-2 is the second iteration of the original Anaconda built by Swiftships in 2001," said Shehraze Shah, CEO, Swiftships. The diesel-powered, modified V hull form, all-aluminum Anaconda is a Swift Autonomous Vessel with twin water jet propulsions. The Anaconda can reach 50-plus knots and is designed to operate in Beaufort sea state two, or small wavelets, and can survive in sea state four – small waves with fairly frequent whitecaps.

"The SAV offers enhanced surveillance and reconnaissance, identification and interception capabilities," said Shah. "For more than eight hours at a time, it can perform force-protection duties, required by state and local authorities, coast guards and special operation commands, including the navies of the world." The SAV uses commercial, off-the-shelf technology, making it easier for overseas clients to adopt the craft, he said.

Swiftships Taps ULL's Success With CajunBot

The U.S. military, meanwhile, continues to adopt unmanned technology. In 2001, Congress mandated that one-third of all ground vehicles in the U.S. Armed Forces be replaced with robotic vehicles by 2015. With an eye to that mandate, Swiftships paid attention to ULL's success with CajunBot, an all-terrain vehicle with autonomous piloting. A ULL computer engineering team, led by professor Arun Lakhotia, developed CajunBot, and entered the six wheeler in U.S. Department of Defense contests in 2004 and 2005. Because of ULL's expertise in control systems, sensors and robotics, Swiftships enlisted the university to provide the Anaconda with unmanned technology.

Working together since 2012, Swiftships and ULL have created a "Sensor Bot on Water" that can navigate without human interaction, using GPS/sensory data instead of pre-programmed way points. The Anaconda was used to conduct missions during training at Emerald Warrior Challenge 2013, a two-week tactical exercise on the Gulf Coast sponsored by the U.S. Special Operations Command. Special-Ops personnel from around the world gather yearly on the Gulf to participate in that exercise for urban and irregular warfare settings.

February's demo of the remotely controlled AN-2 on the Atchafalaya was the first step in developing Swiftships autonomous watercraft, Shah said. On Feb. 18, Swiftships and ULL employees, along with news reporters, U.S. Rep. Charles Boustany, R-Lafayette, and U.S. Department of Commerce trade special-

(Continued on page 49)

THE NEW SITE FOR NEWS

MarineTechnologyNews.com

The NEW online home of: MARINE TECHNOLOGY REPORTER

Coast Guard Receives New Response Boat

USCG

The crew of U.S. Coast Guard Station Milford Haven accepted delivery of the station's newest asset, a 45-foot Response Boat - Medium, which represents the 146th boat in a fleet of 170 being delivered to the service. The RB-M replaces the aging fleet of 41-ft. Utility Boats (UTB) and assorted non-standard boats being used at Coast Guard stations throughout the country. The RB-M has a top speed of 49 mph and the new design includes a full cabin to protect the crew from the elements, provides heating and air conditioning and features shock-mitigating seats. Station Milford Haven RB-M is number 146 of approximately 170 boats being delivered to the Coast Guard during a period of eight to 10 years, half of which are being built in Kent, Wash., by Marinette Marine Corporation's major subcontractor, Kvichak Marine Industries of Seattle, Wash. MMC is building the other half of the fleet in Green Bay, Wis.

www.uscgnews.com

Silver Ships to Build 36 Navy Boats

Silver Shipswon an Indefinite Delivery Indefinite Quantity contract to provide the U.S. Navy with the follow on variant of the 11-m Naval Special Warfare Surface Support Craft for a total of 36 boats over five years. The 11-m NSW SSC is an aluminum deep-vee hulled boat with a protective collar for open water utility operations. Crafts are used from inland bays and waterways to deep water over the horizon transits, in all operating conditions and weather. Open ocean diver and swimmer support, safety craft, medical transport, alongside vessel operations, combat craft and parachutist water airdrop training support, over-the-horizon training evolutions. Craft has a multipurpose deck for carrying various payloads, dive equipment, or mission gear. Silver Ships continues its relationship within the NSW community in providing a quality platform and successful program.

www.silverships.com

North River Boats

ALMAR by North River Boats of Roseburg Oregon recently built and launched the first of three 29 x 10 ft. Liberty Walk Around vessels destined for the San Francisco area. The Liberty family of boats features a Wing Hybrid Foam/Air Fender protecting the exterior perimeter of the boat. Capable of speeds greater than 46 knots, this is a high speed craft designed for pursuit, quick maneuvering and excellent sea keeping capabilities. The first of these boats was built for the San Francisco Fire Department and will serve as a rescue platform working near the Golden Gate Bridge. One of its main uses will be for Search and Rescue missions. The next two of these boats will be used for Law Enforcement in the same general areas. The boat is loaded with a number of advanced features to make operations more safe and efficient, including:

Main Particulars

Length:	29 ft.
LOA:	34.6 ft.
Beam:	10 ft.
Bottom:	8.25 ft.
Deadrise:	24 °
Draft:	23 in. light ship, 26 in. fully loaded
Lightship:	8,550 lbs
Full Load:	11,500 lbs
Speed:	46.2 knots
Range:	320 NM

- Walk Around cabin designed for ease of movement about the craft
- Sliding side operator and navigator doors
- Excellent visibility with 360 degree coverage and spotter windows
- Spacious aft deck for cargo, MEDEVAC stretchers/ stokes, or personnel
- Rescue notches to aid in Search & Rescue and Dive Operations
- Hybrid foam / air fender for hull protection, stability and flotation if swamped
- Twin Mercury Verado 300 hp outboard motors
- Shoxs 6300 shock mitigating seats for operator and navigator.
- Furuno MFD 12 Navnet electronics package
- FLIR Thermal Imaging

E: commercialsales@northriverboats.com
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Gladding-Hearn Delivers

Gladding-Hearn Shipbuilding, Duclos Corporation, has delivered the first of six Chesapeake Class pilot boats for coastal and offshore patrol operations and port security, provided by the Colombian Department of the Navy. Designed by C. Raymond Hunt & Associates, the all-aluminum deep-V hull measures 56.6 ft. overall, with a 17.8-ft. beam and 3-ft. draft and has a top speed of 27 knots. The launch is powered by twin MAN R6-800CRM diesel engines, each delivering 800 Bhp at 2,300 rpm. The engines turn Ultra Jet UJ-452 water jets through ZF 360 gears. The boat is equipped with a 16kW Alaska Diesel genset. At the transom is a winch-operated, rotating davit over the water-level recessed platform for rescue operations. Interior accommodations include six bunks, a head and full galley, air conditioning, and Llebroc seats and an upholstered settee in the pilothouse.

Tampa Bay Pilots

The Tampa Bay pilot association ordered its second Chesapeake Class launch and the first in a new generation of Gladding-Hearn Shipbuilding's popular, smaller pilot boats. Delivery is scheduled for 2015. Since the Chesapeake Class pilot boat was introduced by the Somerset, Mass., shipyard in 2003, 15 have been delivered to pilot associations throughout the United States. According to shipyard officials, the latest improvements incorporate the performance benefits of Volvo Penta's IPS 2 pod system. "The IPS 2 system was created to improve the performance and the arrangement of planning hulls like our pilot boats. This new generation of Chesapeake launches, equipped with the IPS 2 pods, gives pilots what they have been asking for: higher speed, lower fuel consumption, and more comfort," said Peter Duclos, president, Gladding-Hearn. With a deep-V hull designed by C. Raymond Hunt & Associates, the all-aluminum pilot boat measures 52.7 ft. overall, with a 16.8-ft. beam and a 4.5-ft. draft. It will be powered by twin Volvo Penta D11-503, six cylinder, EPA Tier 3 diesel engines, each producing 503 bhp at 2,a250 rpm. Each engine is connected to a Volvo Penta IPS propulsion pod, which is fitted with dual forward-facing, counter-rotating propellers and integrated exhaust system, and Volvo Penta's integrated EPS electronic steering and control system. The shipyard's goals of optimizing fuel economy, vessel handling and comfort of the Chesapeake Class pilot boats are also behind installation of a Humphree Interceptor trim-control system. In addition to Humphree's Automatic Trim Optimization System, the boat will be outfitted with the company's Coordinated Turn Optimization System (CTOS) integrated with the Volvo Penta IPS pods. "The automatic trim-control system, which adjusts the running trim for a given speed, will give the pilots faster acceleration and improved comfort, while conserving fuel. Northern Lights generator, with 9kW of output, will provide electricity. The vessel's top speed is to reach 27 knots.

Anaconda-2

(Continued from page 46)

ist Brie Knox, boarded the AN-2 and zipped across the water. Joshua Vaughan, ULL assistant professor of mechanical engineering, piloted the vessel from his iPad.

Vaughan, along with mechanical engineering grad students Nicholas Bergeron and Brett Marks, are part of the unmanned system's development team. They're working with lasers, cameras, ultra-sound and other sensors that gauge currents and waves to detect obstacles like logs in the water and oncoming boats. That information will flow to a computer system that steers and accelerates the AN-2, mimicking the activities of a human pilot.

AN-2's Development Phases

Last month, Vaughan discussed the project's research, hardware and performance steps or phases from the university's standpoint. "Phase 1 was the demonstrated ability, conducted on Feb. 18, to issue commands to the boat's controls – throttle, steering and clutches etc.," he said. "It was the simple remote control of the boat."

Phase 2 involves trajectory tracking. "In this stage, the Anaconda should be able to track simple pre-specified trajectories – a combination of lines and arcs – in low wind/current conditions and in the absence of obstacles," Vaughan said. "This phase demonstrates that we're able to autonomously generate and track the basic building blocks for more complex trajectories."

The first two phases are early in the project. "Complexity increases exponentially after that," Vaughan said. "Personnel and funding will need to increase as well." In Phase 3 and beyond, "some primary goals include extending the autonomy developed in Phase 2 to include speeds approaching the limits of the Anaconda," Vaughan said. Researchers will work on more complex trajectories than in Phase 2 and will address obstacle avoidance and high winds.

Also in Phase 3, researchers plan to extend the vessel's remote operational distance by improving communication with the boat. They intend to refine the boat's unmanned navigation system, using maritime and waterway standards, so that the craft recognizes buoys, signal flags and other warnings and reacts to them. Other steps in the AN-2's development include deriving the boat's governing equations of motion; implementing sensor processing algorithms; and software testing, Vaughan said. Shah said $100,000 is being spent on AN-2 research, with additional costs to be covered by Swiftships.

"Continued funding is up to the Swiftships side," Vaughan said. "But I feel the results of this project could have a significant impact on maritime operations. We think its potential is a strong argument for support from state and federal funding agencies."

Ramesh Kolluru, ULL interim vice president for research, said the public-private partnership between Swiftships and the university will produce a number of benefits. The AN-2 gives undergrads and graduate students hands-on training, and Swiftships and ULL together will train workers on the Anaconda, contributing to labor force development, he said.

Eric Geibel, Swiftships special programs director, said autonomous piloting has broad implications for the marine industry and noted that the company's vessels are always on the forefront of technology.

The Anaconda can operate in air temperatures above 100 degrees Fahrenheit. With five weapons stations and a foam-filled structure, the vessel can engage in riverine warfare and remain afloat, even if it's pierced. The craft has an advanced-design bow ramp for cargo or personnel, collapsible seating, an optional trailer and truck; and can be helicopter lifted.

It's unknown when the AN-2 will be market-ready but last year Swiftships and ULL had a three-to-five-year framework for its completion.

Anaconda 2 builds off the autonomous success of CajunBot from the University of Louisiana Layfayette.

Courtesy of the University of Louisiana at Lafayette.


Carnahan


Richardel


Schacht


Towers


Heilmann

Obituary: Garnett H. Carnahan

Springfield and Nixa business owner Garnett H. Carnahan passed away Saturday, February 22, at the age of 84. In addition to his family, Garnett took pride in his work as a manufacturer, inventor and real estate developer. Garnett started a foundry, Springfield Aluminum Co., to make fence parts, and built the company to become a supplier of aluminum castings to industries throughout the Midwest, including the boating industry. The connection with the marine industry led Garnett to create a subsidiary, Nixa-based Springfield Marine, which makes components for boat manufacturers. In 1985, Garnett started importing components from Taiwan, and in 1990, he started Jiangsu Carnahan Co. and subsidiary Scheco Mechanical & Electrical Technology Co. in China. The business expanded to manufacture marine seating and boat interiors.

Richardel Named VP at Bollinger

Bollinger Shipyards announces that Daniel "Danny" Richardel has been named Vice President-General Manager of Bollinger Marine Fabricators, Amelia, Louisiana.

Richardel has been with Bollinger for 17 years working in various operational positions. He was the Project Engineer for the U.S. Army Barge Derrick program, Program Manager for the USCG Marine Protector Class program, and was most recently the Operations Manager of Bollinger's Lockport New Construction Division where he coordinates the USCG Fast Response Cutter program. Richardel has also effectively managed Bollinger's commercial new construction program. He holds a Bachelor of Science degree in Mechanical Engineering Technology and a Master of Business Administration from Nicholls State University.

Cummins Names Schacht GM

Cummins named Jim Schacht GM for the Commercial Marine Business. Schacht will be responsible for all commercial marine business activities for the Engine Business Unit (EBU) globally, including business development and support. He will report to Ed Pence, VP of the High Horsepower Engine Business. Schacht joined Cummins in 2010 as the Executive Director of Cummins Business Services, responsible for Cummins' corporate shared services organization that provides accounting, customer care, HR and IT Services to Cummins operating entities worldwide. He has created a global services entity, increasing global support capabilities, improving internal service delivery and customer satisfaction measures, while lowering costs and improving efficiencies. Schacht replaces Jenny Bush, who will serve as the President for Cummins Mid-South.

Towers Joins EBDG

Elliott Bay Design Group hired Jim Towers, originally hired at the firm in 2000, brings more than 30 years' experience to his role as Senior Naval Architect and Marine Engineer. Tower's extensive skill set includes production engineering and management, shipyard estimating and budget control, CAD design, repair yard engineering and management as well as expertise in the design and construction of offshore and passenger vessels, with a focus on aluminum structure. He is a co-author of "Marine Aluminum Plate - ASTM Standard Specification B928 and the Events Leading to its Adoption," a paper prepared for SNAME. Towers is a licensed Professional Engineer in Naval Architecture and Marine Engineering in the province of British Columbia, Canada; the State of Washington and a Registered Chartered Engineer in the United Kingdom.

Heilmann Takes Over for Retiring Matson Senior VP

Matson, Inc., said that Kevin O'Rourke, SVP and chief legal officer, is retiring after 21 years with Matson. O'Rourke will be succeeded by Peter Heilmann, who has been promoted to SVP and chief legal officer. O'Rourke joined Matson in 1992 as vice president and general counsel. He was promoted to senior vice president in 1995. His career has included over 30 years of experience in domestic and international maritime law. He has a thorough knowledge of the industry's federal regulatory bodies and government agencies. He has been directly involved in activities focused on supporting the Jones Act in Washington, D.C., including the formation of the Maritime Cabotage Task Force in 1995, which was recently renamed American Maritime Partnership. O'Rourke has served on the organization's board of directors, and will continue to represent Matson on the board after his retirement. In addition, he has served on the board of the Signal Mutual Indemnity Association, which provides the company's federal workers' compensation coverage. O'Rourke's legal expertise has made him a valuable contributor to Matson's business strategy over the nearly past two decades, including growth initiatives related to the company's Guam and China services, as well as fleet expansion and renewal projects.

Retlif Testing Laboratories Marks 35th

Retlif Testing Laboratories, a strategic compliance organization and a leading independent testing laboratories, is celebrating its 35th year of operations. President Walter Poggi officially announced the anniversary with a series of planned events and pledged to uphold the personal service that has been the organization's hallmark since its inception.

Founded in 1978 by Walter and Marilyn Poggi, Retlif provides EMC/EMI and environmental simulation testing services, approvals and certifications in support of clients in the marine and maritime fields. Retlif's environmental testing services include shock and vibration, humidity, inclination, temperature, as well as salt fog and acoustic noise testing. The company also recently entered into a partnership to evaluate and test technologies designed to treat ballast water onboard ships against non-native aquatic species in American coastal waters, lakes and rivers.

The U.S. Coast Guard developed regulations to limit the release of live organisms and to reduce risks associated with the spread of aquatic invasive species. Retlif Environmental Laboratory Supervisor Scott Poggi commented that the 35-year old testing laboratory "is part of a collaborating relationship between NSF International, an independent public health organization, the Great Ships Initiative (GSI), and the Maritime Environmental Resource Center (MERC) to test and evaluate systems to the Coast Guard requirements."

Retlif will complete testing of electrical and electronic components, including each alarm, control and monitoring device of the BWMS (Ballast Water Management System) manufacturers' requirements.

Globally recognized as an independent laboratory leader, Retlif has expanded to six locations ranging from North Carolina to New Hampshire, including its headquarters in Ronkonkoma, New York.

Obituary
Dr. Ilario Hilary Rolih
Chairman, George G. Sharp

George G. Sharp's Chairman of the Board Dr. Ilario Hilary Rolih passed away on February 16, 2014, at the age of 82 while on vacation in Cancun, Mexico. Dr. Rolih had more than 58 years' experience in the marine industry, and was the chairman of the Board at George G. Sharp, Inc. since 1983. He had a Doctor of Naval and Mechanical Engineering Degree from the University of Trieste in 1956, a Master of Mechanical Engineering Degree from the Polytechnic Institute of Brooklyn in 1959, and an MBA Degree from NYU in 1971. Dr. Rolih joined Sharp in March, 1957, as a Naval Architect and Marine Engineer and was responsible for the power plant design, calculations, and studies for all of Sharp's Navy and commercial projects. He worked his way up to become Chief Marine Engineer, Director of Marine Engineering, Vice President of Engineering, Technical Director, and Chairman of the Board.

He worked on the design of the World's First Nuclear Powered Commercial Vessel, the NS Savannah, and he directed the project for the Navy's Heat Balance Computer Program. He had a major and significant role in the design of many engine room power plants for IGE. He helped develop parametric data used in the economic evaluation of various types of commercial and naval power plants.

Dr. Rolih worked on the designs of many major naval and commercial ships, including the T-AO ships, the DLGN-38 Guided Missile Ship for the Navy, Sea Control Ships, design of the West India Fruit Carrier, Chilean Lines Cargo Ships, Grace Lines Passenger Cargo Ships, APL, PFEL, and States Steamship Cargo Ships, and Container Ships for Farrell Lines, Inc. He also played a major part in the design of the BARBERI, MOLINARI, and AUSTEN Class Staten Island Ferries.

In addition to his design work, Dr. Rolih was active in the Society of Naval Architects and Marine Engineers. He co-authored several technical papers for SNAME and was recently recognized by SNAME for his 50 year membership participation. Dr. Rolih was a licensed Professional Engineer in the States of New York and Delaware.


Lehnert

Transas Streamlines Management Structure

Transas Group appointed Andrey Belentiev as the Group's Director of the Marine Business Unit. Andrey Belentiev, former Managing Director of Transas (JSC), Russian marine business entity, is now in charge of the Transas marine business worldwide. Centralized strategic governance, technology development and financial management will contribute to a better overall performance of the Transas Group and its marine business.

Ralf Lehnert (pictured), Managing Director, Transas Marine International continues running international part of the Transas marine business. Alexander Sokolov, who has been with Transas for more than 10 years, will succeed Andrey as a Managing Director, Transas (JSC) and will be in charge of Marine and Industrial business in Russia. Transas Technologies, managed by Vladimir Ponomarev, will remain the Transas Group's main technologies development centre for Marine division and adjacent industries. Ralf Lehnert, Alexander Sokolov and Vladimir Ponomarev will report directly to Andrey Belentiev.

Andrey Belentiev joined Transas more than 20 years ago, and has been with the company since its inception. A number of major maritime projects, both in Russia and worldwide were implemented under Andrey's supervision. During his five years as a Managing Director, Transas (JSC) has become one of the Russia's leading companies in the IT sphere.

3 Phoenix Acquired by Ultra Electronics

The McLean Group announced that it acted as the exclusive mergers and acquisitions (M&A) advisor to 3 Phoenix, Inc. (3 Phoenix) in its sale to Ultra Electronics Holdings plc (Ultra) for an initial cash consideration of $70 million. Additional payments of up to $17 million will be due subject to earnings growth over the next three years. 3 Phoenix is a supplier of specialist sonar, radar, intelligence, surveillance and reconnaissance products and solutions. For 10 years, the company has delivered mission critical, real-time sensor and processing systems, primarily to the U.S. Navy, but also to commercial customers. 3 Phoenix is a bolt-on acquisition to Ultra's existing Tactical & Sonar Systems Division. Ultra, based in the United Kingdom, is an international defense, security, transport and energy company that provides mission critical support across a broad range of platforms. The company has about 180 distinct market or technology niches within its 28 businesses. The McLean Group's Aerospace, Defense & Government (ADG) practice advised on the transaction.

LISNAVE Stable Despite Workload Reduction

Last year LISNAVE reports that it repaired 107 vessels, of which 103 were docked and four repaired afloat. Although this represented a six percent increase in the number of vessels repaired compared to the previous year (101 ships in 2012), the workload per vessel was less.

Vessels repaired were from 60 different customers, from 23 countries around the world, among which are: Singapore with 29 vessels, Greece with 20, U.K. with eight, Norway and Denmark with seven and Germany with six.

Continuing to benefit from a high percentage value of repeat business, in 2013 AP MOLLER-MAERSK (Singapore and Denmark) had the biggest number of repairs, 14, followed by TEEKAY (U.K., Norway and Singapore) with seven ships and AET with six, which LISNAVE said shows once again the shipowners' positive assessment of the shipyard.

With drydock and equipment facilities, complemented with a high know-how accumulated throughout its long existence, LISNAVE repaired a wide variety of type of ships, with the tankers (61), container ship (19) and LNG/LPG (seven) in addition to offshore supply vessels , dredgers, etc.


Photo: LISNAVE

In terms of demand and workload, among the most significant repairs performed in 2013, were the offshore platform Lewek Leader of Singapore, with the manufacturing and assembly of a new spudcam, the container vessel ex-Maersk Brownseville, with the complete replacement of the bulbs bow, the Danish chemical vessel Harbour Krystal, with bow damage repairs involving the replacement of 160 Tons of steel, the barge Saipem S44 with numerous works of preparation and structural modification for a new offshore project and the seismic vessel Ramform Sovereign of the Norwegian company PGS, with relevant scientific systems maintenance work.

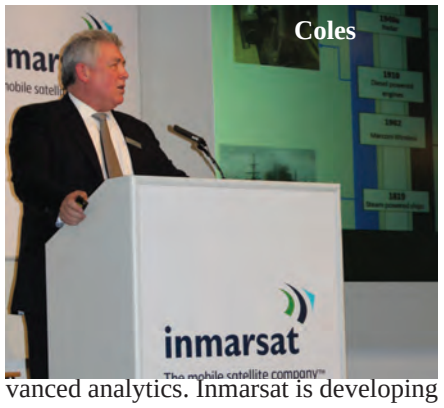
Wickes to Represent New England Ropes

New England Ropes announced that Wickes Marine will now Represent New England Ropes Pleasure Marine products throughout the east coast region. Wickes Marine's main office is centrally located in Tiverton, R.I. and they also have additional offices and personnel located throughout the Northeast and Mid-Atlantic which allows them to support accounts from Maine down through the Carolinas.

Inmarsat Maritime Opens Smart Operations Dialogue

Inmarsat has staged the inaugural Smart Operations conference, the first in a series of events seeking an open debate in the maritime industry over the operational benefits of integrated thinking on shore and ship communications. With the first of the three new Global Xpress satellites already in orbit – a prelude to the global launch of the world's first high-speed mobile broadband satellite service to the maritime industry, scheduled for early 2015 – the 'Smart Operations' conference took place at Inmarsat HQ in London in February.

"Ship to shore connectivity has not kept pace with the unprecedented data access available ashore after the internet revolution, but things are changing fast," Inmarsat Maritime President Frank Coles told an audience including key end-users. "The industrial internet is here and shipping will have to accept it. With ships already featuring ever increasing numbers of sensors, smart operational decision-making is available through ad-



Coles

vanced analytics. Inmarsat is developing the platform that will enable the Maritime Industrial Internet age."

Coles said ultra-fast data transfer rates were in sight. Communications would be the enabler of operationally efficient technologies, he said.

"The shipping industry is innovative, but in its own way," said Coles. "Today, we send data in 2MB bundles, but tomorrow it will be 15-20MB. The point is it is no longer about getting data ashore, but about analyzing it and sifting it to ensure smart operations."

David Balston, U.K. Chamber of Shipping Director – Safety and Environment, outlined the commercial and regulatory pressures facing owners in 2014. High fuel prices and disastrous charter rates persisted while regulatory restrictions could cost shipping half a trillion dollars between 2015 and 2025, he said.

Quoting a McKinsey projection that 50 billion devices will be internet-connected by 2020, Coles also cited an Engineering Software Reliability Group estimate to argue that $20 billion could be captured across 100,000 ships through smart decisions on energy efficiency, predictive maintenance and downtime avoidance. Again, the future of compliance with environmental rules lay in collecting, analyzing and acting on real time data, he said.

Laborde Holds Open House at New Facility

To celebrate its new location in San Antonio, Texas, Laborde Equipment Services (LES) opened its doors to customers and associates at an open house. The facility was overflowing as the company welcomed over 125 guests at the event.


Laborde Equipment Services

Participants were given a facility tour, while also learning more about LES and its extensive line of products and services available to the South Texas market. Laborde's senior staff, including Tracy Laborde, Brian Laborde, Doug Oehrlein, Joe Manning, Jr., Trace Laborde, and Marc Laborde, was also on hand to welcome customers. Several Laborde Products Diesel America pump packages, generator packages, and pressure washers were on display and ready for guests to inspect up close. But, the new LES DA-99-C6 portable pump package stole most of the attention. The DA-99-C6 is designed primarily for transferring water and fluids in the bustling and fast-growing Eagle Ford Shale market.

NOTICE OF PROPOSED AMENDING SCHEME OF ARRANGEMENT
IN THE MATTERS OF

OIC RUN-OFF LIMITED
(formerly Ralli Brothers Insurance Company Limited and The Orion Insurance Company plc)
and THE LONDON AND OVERSEAS INSURANCE COMPANY LIMITED
(formerly Hull Underwriters' Association Limited and The London and Overseas Insurance Company plc)

(BOTH SUBJECT TO A SCHEME OF ARRANGEMENT) (TOGETHER THE "COMPANIES")

On 7 March 1997 the Companies, which are insolvent, became subject to a scheme of arrangement (the "**Original Scheme**"). The current Scheme Administrators are Dan Schwarzmann and Paul Evans, both of PricewaterhouseCoopers LLP. The Companies have been developing an amending scheme of arrangement under Part 26 of the Companies Act 2006 (the "**Amending Scheme**"). If you believe that you are, or may be, a creditor of one or more of the Companies (a "**Scheme Creditor**") you may be affected by the proposed Amending Scheme.

The Original Scheme is a reserving scheme of arrangement under which the Companies continue to agree Scheme Creditors' claims in the ordinary course of business. The Amending Scheme would convert the Original Scheme to a crystallisation scheme of arrangement under which Scheme Creditors' claims, including notified outstanding liabilities and incurred but not reported claims, would need to be submitted to the Companies by a specified bar date. The primary objective of the Amending Scheme is to enable Scheme Creditors' claims to be valued and the Companies' assets to be distributed to Scheme Creditors earlier than would be the case under the Original Scheme.

This Notice informs you of:

(a) the Scheme Administrators' decision to propose the Amending Scheme;

(b) the Scheme Administrators' intention to apply to the High Court of Justice at the Royal Courts of Justice, 7 Rolls Building, Fetter Lane London EC4A 1NL, for a Court hearing (the "**Court Hearing**") for permission for the Companies to convene the necessary meetings of Scheme Creditors to consider and, if thought appropriate, approve (with or without modification) the Amending Scheme; and

(c) the place where you can locate details of the composition of the meetings of Scheme Creditors which the Companies propose to convene for the purpose of voting on the Amending Scheme. Information on the proposed classes of Scheme Creditor, as well as other important information in relation to the Amending Scheme, can be found in the Practice Statement Letter which is available on the Companies' website at www.oicrun-offltd.com.

The date, time and location of the Court Hearing will also be confirmed on the website once known.

If you are a broker, agent or other intermediary who has acted on behalf of Scheme Creditors in placing business with one or more of the Companies and you have not provided detailed policyholder contact information to them, please forward this notice to your clients. Alternatively, please provide us with your clients' names and addresses so we can write to them directly.

Certain policyholders may have a policy written through a broker facility (which includes brokers covers, broker lineslips and binding authorities) and may not know the identity of the insurance company. The principal known broker facilities are listed below and a full list of known broker facilities is available on the Companies' website.

A.B.C. Excess (Aircraft Builders Council)
A.B.C. Master Agreement (Aircraft Builders Council)
A.I.A.A. Aviation Excess of Loss Reinsurance Agreement (American International Aviation Agency Inc)
Alexander Howden Reinsurance Brokers Limited Marine Excess of Loss Pool
C.T. Bowring & Co Aviation Liability Line Slip (B500 Contract)
C.T. Bowring General Non Marine Master Cover
C.T. Bowring Marine Master Cover
Hull & Co (UK) Ltd Line Slip HC.013
London Special Risks Liability Line Slip No. LSR056
Price Forbes Brokers Cover
Price Forbes Line Slip
Sedgwick Collins Lloyds Brokers Line Slip
Sedgwick Offshore Resources Master Drilling Rig Line Slip (M.D.R.C)
Steel Burrill Jones Oil & Gas Line Slip
Willis Faber & Dumas Brokers Line Slip

FURTHER INFORMATION CAN BE OBTAINED BY CONTACTING THE COMPANIES AS FOLLOWS:

By Post: Armour Risk Management Limited, 4th Floor, 20 Old Broad Street, London EC2N 1DP, United Kingdom, marked for the attention of Andrew Jones
By e-mail: OICClosureHelpdesk@armourrisk.com
By phone: +44 (0) 20 7382 2020
By fax: +44 (0) 20 7382 2001

Devon Grennan

CEO, Global Diving & Salvage

Devon Grennan joined Global Diving & Salvage in 1995 and has served many roles. When company founders Tim Beaver and John Graham stepped down from direct operational involvement, Grennan was named CEO. Maritime Reporter & Engineering News caught up with Grennan for his insight into his company and the business of Diving and Salvage.

By Eric Haun

What is Global Diving & Salvage?

Global Diving is a full service subsea service provider with three core service lines: Marine Construction, Marine Casualty Response and Offshore Operations. With headquarters in Seattle and regional offices in Alaska, California and Texas, Global is positioned to provide project management, in-house engineering, marine and upland environmental services. Founded in 1979, our experience enables us to adapt quickly to unique problems and resolve potentially costly situations.

How is the company different from when you joined in 1995?

The most importance difference that I see is that when the company was founded, there was a group of dedicated professionals who developed their respective skills during a time when both the commercial diving and marine environmental industries were themselves going through great changes. There was a tremendous opportunity for "on the job" training. There is a different expectation now from maritime clients; they desire professional tradesmen working on their projects and facilities. The entry level employees at our company have the basic skills to dive and work in the field, but are having to invest in their professional development, specifically in construction trade skills such as welding, fabrication, mechanical inclinations, rigging and vessel operations. These are truly the services that our clients expect from us, and not simply having the ability to dive.

How will your ascension have a material impact on the company?

My job is to build upon the incredible foundation that is already in place, built not only by Tim and John, but by a group of experienced managers, support personnel, supervisors and field crews. I think I bring a different perspective on the overall opportunities that the company is capable of capitalizing on in the future; we have amazing depth and expertise in commercial diving, but we are at a point where we need to move beyond diving. It will always remain a core service that the company provides, but we need to move into new sectors of subsea services as well as providing a complete subsea experience for our clients. Our clients are desirous of more topside project management capabilities, as well as marine assets under our direct care.

Looking at your overall business today, where do you see the greatest areas for opportunity, geographically and by sector?

The domestic Gulf of Mexico market is a more short term opportunity for the company; we have a lot of room to grow in the offshore market since the opening of our office in Houston in 2011. Our position in Alaska also has tremendous possibilities with the focus on the arctic. We also feel that there is a tremendous opportunity in the international market in our core strategic service lines. We will have more international credentials by the middle of 2014, and there is a unique opportunity for us to bring our

own brand to new clients in the oil and gas market.

How is Global Diving & Salvaging investing?

The largest investment we are making over the course of the next few years is internally with our professional development program. We are focused on our own training center concept, and creating a more well rounded diver and marine technician.

Where do you see the greatest current business challenges?

For Global, the greatest challenge is our need to continually adapt to the needs of our clients. Subsea work is continually moving further offshore and deeper. Developing capabilities to respond to those needs, which include unmanned operations. Clients desire for us to take on a greater scope of the overall operation, so we invest in engineering and project management and evaluation on owning larger marine assets. Internally, we are constantly looking at not only how to develop our professional trademen, but as importantly, how to develop and retain talent in our support groups. I was fortunate to grow up in an extended family who worked on the water, and it was very natural for me to want to continue that tradition. But as an industry, the maritime community needs to do a better job of marketing the benefits and opportunities that are available to younger generations, across the board.

In the press release announcing your appointment, you were quoted as saying the company will "continue the transition from a traditional commercial diving company into a more well-rounded, marine and subsea service provider." What are your goals in this area, and what steps are you taking to ensure this?

As mentioned briefly before, we are continually asked to provide more value added services to our historic diving and marine environmental services. One very basic lesson that Tim and John taught our senior managers and me is that we have to continually adapt and be responsive to change. Nothing is certain, and you are continually adapting to both the market needs, and aligning those changes with your strengths. Our strength is our innovation, ingenuity, expertise and a flat out, aggressive, can do attitude. Perhaps even a little bit of a chip on our shoulder. When we are asked to push ourselves, we respond. And that is why we need to move into more turnkey marine and subsea services; we need to move beyond subcontracted diving and marine environmental services, and into a more prime position with end users and facility owners.

Nick Lugue Jr., a welder with Naval Facilities Engineering Command Southwest, welds a new firefighting trainer into place at Naval Air Station North Island. The trainer is the first of four new trainers the Navy is building that will simulate potential fire hazards aboard submarines. (U.S. Navy photo by Mass Communication Specialist 3rd Class Todd C. Behrman)

NASNI Builds Navy's First *Submarine FiFi Trainer*

Smoke bellows out the ventilation ducts. The glow of the blazing fire emanates down the passageway. Firefighters move with precision and purpose, pausing to unleash a torrent of water towards the fire as they kneel before it. Such was the scene at the Navy's first submarine firefighting trainer, located at Naval Air Station North Island (NASNI) Oct. 29.

Commander, Navy Installation Command (CNIC) approached Kidde Fire Trainers almost one year ago in response to the incident on the USS Miami, in which a fire caused over $400 million of damage to the submarine.

Numerous issues arose from the incident, primarily firefighter response and the readiness of base firefighters to deal with fighting shipboard fire. The need for additional training resources was identified in order to train base fire departments on what they'll encounter when fighting fires in the tight quarters of a submarine.

Kidde Fire Trainers is scheduled to build three other modular trainers at Naval bases around the country in addition to the NASNI trainer, and has also currently stationed mobile training units at Naval Bases in Kings Bay, Ga. and New London, Conn. The new firefighting trainer at NASNI is the first of the four permanent modular trainers to be built.

The other three trainers purchased by CNIC will be located at Portsmouth, N.H.; Norfolk, Va. and Bangor, Wash. These trainers, located in four different regions, will allow federal firefighters, emergency services and outside agencies access to a proper trainer to increase operational capabilities in the event that a live incident or fire occurs on a ship, said David Salerno, Assistant Fire Chief with Southwest Region Fire and Emergency Services.

"The major problems we have in ships or submarines is figuring out where the fire is internally, figuring out where you are, and being able to deal with the horizontal and vertical passages that aren't typical," said Salerno, who is also the NASNI training center manager and San Diego metro area training officer.

The accuracy of the submarine's representation in the new trainer will provide firefighters the best possible training available. "The way this has been designed with the specifics in it that replicate the interior of a submarine, with submarine hatches, they can drill and train on those specifics and get their skill level up so if they do have to respond in the dockyard they'll be ready for it," said Cumming.

In addition to the hatches, the trainer has scuttles, grates, a galley, a main space, electrical panels, cable trays and simulated wires throughout bulkheads, said Mike Tenney, a captain with Federal Fire Department San Diego stationed at Naval Base Point Loma Fire Station 111.

"This gives our firefighters an opportunity to figure out ahead of time, before they're actually in a real fire, how to navigate their way through a ship," said Salerno. "It provides a large measure of realism that will be taken with each of those firefighters when they go to the real fire."

Tenney, a former damage controlman in the Navy, understands the difficulty of navigating through a ship or submarine without previous shipboard experience.

"A lot of the guys haven't been on ships, they haven't been in the Navy, so this is going to teach them the tactics needed in assisting the ship's crew with shipboard firefighting," Tenney said. "This is going to give great awareness to people that don't have much experience."

When fighting a fire in the dockyard, typically, the ship's force begins the process. They determine where the fire is, set their boundaries, and start the fire attack. However, if they realize they need more resources to deal with the incident, the base fire departments are called in and respond to the situation, said Salerno.

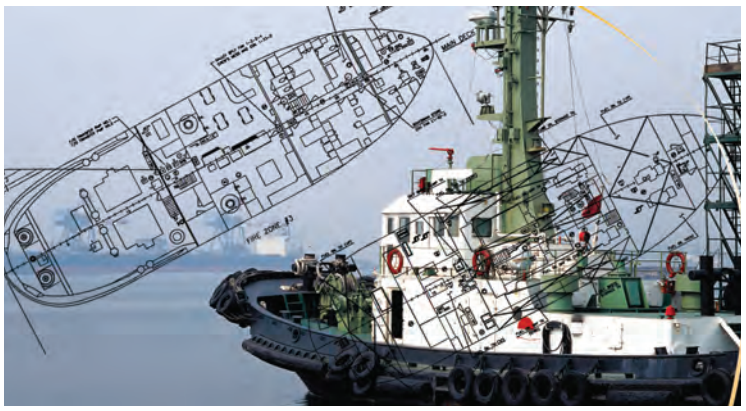
"Now that we have this trainer, we have something that's specific to our needs, something we can internally develop training objectives to and then train to those objectives on a schedule that works for us on a regular basis," said Salerno. "It will make us infinitely more effective when we're actually fighting a fire on a ship."

Training in the new facility has already begun, with scenarios designed to push the capabilities of the trainees. Two classes of firefighters completed a two-day course on Oct. 29 and Oct. 31, respectively, to become instructors on the new trainer, familiarizing themselves with the various operations and safety features of the facility.

While the firefighters continue to train and acclimate themselves to the unique challenges of shipboard firefighting, the Navy will reap the benefit of having its base and local fire departments better equipped to handle ship and submarine fires thanks to its new firefighting trainers.

By Todd C. Behrman (U.S. Navy)

Kidde FM-200 ECS Series



If you're building a new vessel or retrofitting a halon system on an existing one, Kidde offers its FM-200 Fire Suppression System. First and foremost, the company touts its system solution as a benefit to crew and responders, as the FM-200 clean agent works by interrupting the fire on a molecular level, not by taking oxygen from the protected space, making it a preferred fire suppression agent for protection of shipboard spaces where crew or other occupants may be present. Kidde FM-200 Systems are approved for use in marine applications such as machinery spaces and flammable liquid storage areas by major regulatory agencies such as UL, FM, LPC, USCG, ABS, DNV, MCA, TC and AMSA.

In addition, the FM-200 offers advantages in two key areas that are always a concern onboard any commercial vessel: size and weight. Kidde FM-200 Systems take up less space than other types of fire suppression systems, leaving more room for revenue-generating cargo or passengers. Also, the Kidde FM-200 Systems weighs less than either carbon dioxide or water mist systems.

Kidde FM-200 ECS Series engineered fire suppression systems are used to suppress fires in specific hazards or equipment where an electrically non-conductive agent is required, where agent cleanup creates a problem, where extinguishing capability with a low weight is desired and where the hazard is normally occupied. Kidde FM-200 systems are intended to protect spaces containing the following hazards:

- ***Class A - surface type fires–wood or othercellulose type material***
- ***Class B - flammable liquids***
- ***Class C - energized electrical equipment***

www.kiddemarine.com

Halyard Expands Insulation Product Range

Halyard extended its range of noise insulation products with the introduction of Rockwool Marine Firebatt 2000. The multipurpose Marine Firebatt 2000 is a rock mineral wool slab, providing fire protection, thermal insulation and significant noise reduction to marine craft and offshore installations. Marine Firebatt 2000 has been designed to meet stringent requirements for fire protection and insulation on commercial vessels. It is rated noncombustible in accordance with IMO A799 and is Lloyd's Register of Shipping and MED (Marine Equipment Directive) certified, providing A30 and A60 fire protection to steel decks and bulkheads. Heavy duty, lightweight and fire zero-rated, Marine Firebatt 2000 is easy to handle and install.

www.rockwool.co.uk

FFS: Fire Fighting Systems

Fire Fighting Systems (FFS), located in Norway and in Singapore, is a designer, maker and supplier of complete systems for external fire fighting in the marine market.

FFS provides complete packages comprising all services and equipment exclusive piping required for installations onboard tugs, offshore vessels, fire boats and work boats in accordance with all class societies.

FFS are focused on up-to-date design and engineering in order to provide the most competitive and best performing systems in the market. Its product range comprises pumps with drivers, monitors, foam mixers, deluge systems, remote control systems and all related equipment for a complete system.

FFS will provide a system performance guarantee based on our engineering. Commissioning and class approvals for Fi-Fi 1, 2 and 3 notations are standard parts in our scope.

www.fifisystems.com

Enhanced Fire Protection Guide from ABS

ABS recently released the ABS Guide for Enhanced Fire Protection Arrangements. According to ABS Director of Marine Technology Christina Wang, one of the primary goals of this new guide is to provide criteria for notations that increase the level of protection against fires on board vessels, mobile offshore drilling units (MODUs), mobile offshore units (MOUs) and offshore installations. Another objective is to reduce the consequences of an onboard fire through specific measures for prevention, detection and fire extinguishing. The guide for Enhanced Fire Protection Arrangements is reportedly the first such document to provide requirements to protect against the unique fire risks associated with the industrial areas of floating production, storage and offloading (FPSOs) units, Wang said.

www.eagle.org

Carnival & Marioff

Marioff signed a five-year frame agreement for maintenance services with Carnival Corporation covering servicing and maintaining HI-FOG water mist fire suppression systems already installed onboard 66 cruise vessels owned by Carnival Corporation. Marioff, a supplier of water mist fire protection technology and supplier of system solutions worldwide under the brand HI-FOG, is a part of UTC Climate, Controls & Security, a unit of United Technologies Corp.

www.marioff.com

Sea-Fire's Triton 8 Alarm Panel

With commercial vessels, being able to efficiently pinpoint the source of fires enables quicker response. The new Triton 8 Fire Alarm Panel from Sea-Fire is an addressable system enabling up to 256 detectors or manual call points. Reporting not only smoke or fire, but potential hazards such as short circuits, the Triton 8 bears DNV Type and ABS Design approvals. The system's 8 loops have 32 configurable zones. This system is superior to traditional two-wire, zone-based alarm panels, reducing the amount of installation wiring.

www.sea-fire.com

Fire Detection System

Elite RSM Analog Addressable Fire Alarm Control Panels are designed to accommodate up to 256 devices on Commercial Marine Applications. Apollo protocol USCG / ABS Type Approved Smoke and Heat Detectors are available for a complete approved system. Two full SLC loops and leading edge microprocessor based electronics are standard. Up to 15 E-View Serial Annunciators may be installed to each control panel.

www.fireboy-xintex.com

Engine Room Fires: Lessons Learned

"Lessons are still not being learned when it comes to preventing engine room fires." This is the message from Graeme Temple, Regional Director for Braemar SA's Far East operations, following a review of incidents taking place in 2013.

At any one time in a modern engine room there can be thousands of liters of flammable liquids circulating inside the pipe systems. Aside from the obvious risk to life, a ship fire is inevitably a very expensive, time consuming, property repair. Heat damage, firefighting effort damage, acid residues from burnt plastics, soot cleaning and painting all add up, leaving a cost which is extremely hard to control for all involved.

According to IACS rules and after 1998, also SOLAS Ch II-2 Reg.15.2.10, all surfaces above 220oc must be insulated or protected in order to prevent ignition of flammable fluids. However, there appears to be a continuing neglect of areas where flammable liquids can escape from high pressure (HP) and LP (low pressure) fuel, HP and LP lubricating, purifier and fuel valve cooling systems. "In reality basic maintenance is all that is required. Engine room crew should carry out regular inspection of pipes and associated fittings; they should refit brackets and lagging when carrying out maintenance; leaks should be repaired quickly before a drip becomes a spray; spares for HP fuel pipes should be available, and leakage alarm systems should be tested regularly. Prevention is as straightforward as that."

www.braemarsa.com

Xflow Watermist from Wilhelmsen Technical Solutions

Wilhelmsen Technical Solutions' patented Unitor XFlow low pressure water mist fire fighting systems is being installed for two leading Norwegian shipowners. The contract includes a total flooding water mist system for the ship's engine room and a local protection water mist system. The system covers with a penetrating mist that extinguishes fires quickly, with compact design and low water consumption and power demand.

www.wilhelmsen.com/technicalsolutions

ClassNK Updates Safety Guidelines for Gas Fuelled Ships

ClassNK released its second version of the Guidelines for Gas Fuelled Ships, an updated version reflects the requirements for the design of natural gas fuelled ships based on the outcome of discussions held at IMO regarding the International Code of Safety for ships using gases or other low flashpoint fuels (IGF Code). With regulations curbing atmospheric pollution and greenhouse gas emissions growing stricter amid stronger calls for a greener shipping industry, the industry is turning towards the use of natural gas as a potential cleaner alternative to liquid fuel oil. Expected reductions in gas prices due to the recent development of non-conventional energy resources such as shale gas has also led to an increase in gas fuelled ship newbuildings and projects. These guidelines are available free of charge via the ClassNK website for those who have registered for the ClassNK "My Page" service.

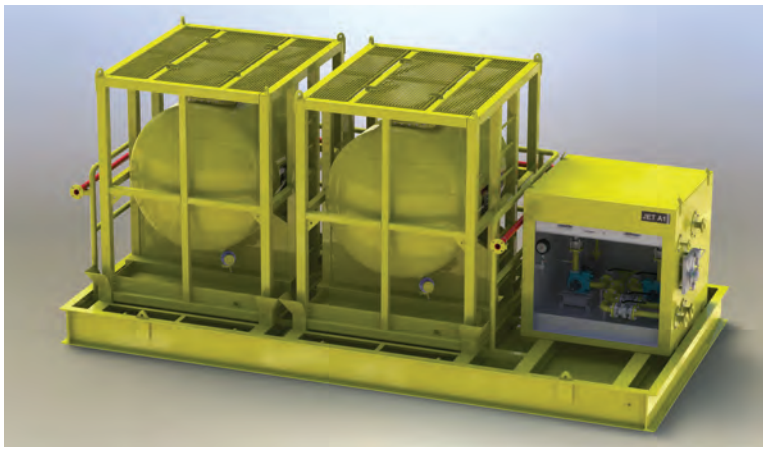
www.classnk.com

Omega Debuts New Transmitters

Omega introduced new potentiometer input to DC transmitters with the launch of the DMD4008 series of transmitters accepts a resistance input from potentiometer, slidewire, linear position, displacement or rotational devices and provides an optically isolated DC voltage or current output that is linearly related to the potentiometer position. The DMD4008 is a quick setup for hundreds of I/O ranges, features external switches and table for range selection. Applications include over, under, out-of-range position monitoring, remote control of position monitoring, remote control of positioning devices and simplify control of potentiometer outputs. Industries include automotive, chemical and general manufacturing. Pricing starts at $299.

www.omega.com

Helicopter Refueling Systems



DGI is now supplying a full range of Helicopter Refueling Systems for the EMEA region. Wilmax is a leader in the Asia Pacific for Helicopter Refueling Systems. Started in 1999 with the design and manufacturing of HRS they have now supplied more than 250 systems world-wide. DGI/Wilmax has developed its own line of Helicopter Refueling Systems under the brand name "heliRFS." As an engineering company DGI/Wilmax tailors all of the systems to meet client's requirements.

Designing and manufacturing helicopter refueling systems for use in harsh environments is a challenging business. One need to meet high demands for safety and reliability. DGI/Wilmax specializes in the design and manufacturing of helicopter refueling systems, transportable tanks for hazardous cargo, and providing services in the field of inspection, maintenance, overhaul, repair and recertification of the systems.

The DGI/Wilmax Helicopter Refueling Systems can be tailor-made to all relevant requirements, such as CAP 437, the OLF helideck manual, the Norwegian Maritime Directorate, ASME U-Stamp and Brazil's NR-13 Regulations.

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

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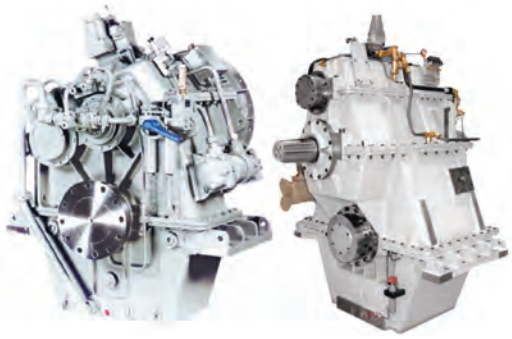

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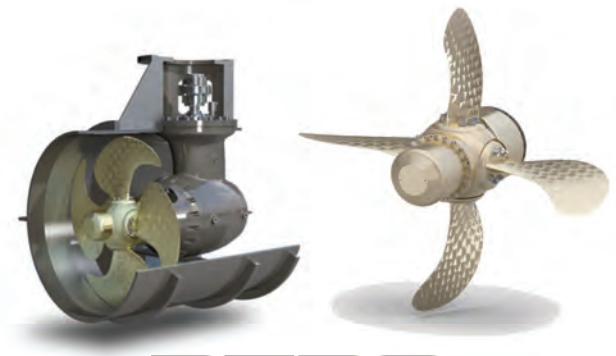

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