The Information Authority for the Workboat • Offshore • Inland • Coastal Marine Markets

Marine News

JUNE 2015
www.marinelink.com

Combat & Patrol Craft Annual

Shortsea Shipping
Going Green for the Right Reasons

Inland Finance
Barging Ahead in Uncharted Waters

VIDA Legislation
Vital for Inland Operators

KVH® INDUSTRIES
MINI-VSAT BROADBAND™
WORLD'S No. 1 MARITIME VSAT SERVICE

Experience the Power of **One**

Hardware

TracPhone® VIP-series – award-winning SATCOM systems with built-in network management

Content Delivery

IP-MobileCast – a unique multicasting service that delivers content directly to your vessel

DELIVERED BY KVH IP-MobileCast™

Only **one** company delivers **one** integrated **end-to-end solution.**

Connectivity

mini-VSAT Broadband – the No. 1 maritime VSAT network offers global coverage

Rich Content

Licensed news, sports, movies, TV, and music, *plus* training, weather, and charts, delivered to onboard devices

Connectivity ***and*** Content

Giving **you** the power to deliver the bandwidth your operations demand, keep your crew happy, and manage your budget... all at the same time.

Learn more about industry-leading VSAT, training, weather, charts, and entertainment at:

kvh.com/powerofone

KVH®

1200 IMPACT

DEFINE "ROUTINE."

There's nothing routine about any mission or patrol. You have to be prepared for the unexpected 24/7 or you are absolutely in the wrong line of work. Brunswick Commercial and Government Products specializes in building boats that are anything but routine. We build boats that are fast enough to interdict targets and equipped to deal with them afterward. Choose from fiberglass construction, rigid hull inflatables and aluminum platforms then customize your fleet for your specific use.

BRUNSWICK
COMMERCIAL & GOVERNMENT PRODUCTS

Brunswick Commercial and Government Products, Inc. **386.423.2900 • brunswickcgp.com**


Unsinkable Boston Whaler models
15-37 feet


IMPACT RHIB models
15-40 feet


Aluminum Sentry models
28-45 feet

Photo: Glenn Hall Photography

Features

ON THE COVER

RIBCRAFT USA's 7-meter rigid inflatable boat (RIB) will serve as a deployable, multi-mission ready service lifeboat for search and rescue missions onboard U.S. Naval ships around the world. The 5-year contract, announced late last year, is part of our comprehensive coverage of Combat & Patrol Boats which starts on page 36.

(Photo: courtesy RIBCRAFT USA, LLC.)

Connections
from out of the Blue

Introducing the next best thing to being in two places at the same time: all-new ArcReach™ technology. Improving productivity and weld quality, because operators can remotely adjust parameters without a control cable. Advancing efficiency, safety and profitability — the important things — because Miller understands what you need on the job. **Together, we build connections.**

XMT® ArcReach System

Change the way you work

Watch how ArcReach technology makes more productive, safer jobsites.
MillerWelds.com/arcreach

Miller
The Power of Blue®

MarineNews

ISSN#1087-3864 USPS#013-952
Florida: 215 NW 3rd St., Boynton Beach, FL 33435
tel: (561) 732-4368; fax: (561) 732-6984
New York: 118 E. 25th St., New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271
www.marinelink.com

TO SUBSCRIBE:
Subscriptions to ***Marine News*** (12 issues per year) for one year are available for $60.00;
Two years (24 issues) for $95.00.
Send your check payable to:
MarineNews, 118 E. 25th St., New York, NY 10010.
For more information email Kathleen Hickey at:
k.hickey@marinelink.com

POSTMASTER
Time Value
Expedite

BPA WORLDWIDE

Departments & Analysis

MarineNews ISSN#1087-3864 is published monthly, 12 times a year by Maritime Activity Reports, Inc., 118 East 25th Street, New York, N.Y. 10160-1062. The publisher assumes no responsibility for any misprints or claims and actions taken by advertisers. The publisher reserves the right to refuse any advertising. Contents of this publication either in whole or in part may not be reproduced without the express permission of the publisher.

POSTMASTER: Send address changes to ***MarineNews***, 850 Montauk Hwy. #867 Bayport, NY 11705.
MarineNews is published monthly by Maritime Activity Reports Inc. Periodicals Postage paid at New York, NY and additional mailing offices.

Specify FyreWrap® Marine Blanket Insulation for Superior Fire Protection for Marine and Offshore Vessels

The variety of hazard areas on a vessel that provide the potential for a fire to erupt present a serious challenge for fire protection. FyreWrap® Marine Blanket from Unifrax, a worldwide supplier of high temperature insulation, offers vessel builders and owners a proven, reliable passive fire protection solution that helps ensure life safety and protection of high value marine equipment.

FyreWrap®

Flexible, Lightweight Design For Worldwide Marine Applications

FyreWrap Marine Blanket provides fire protection insulation in a variety of rated assemblies on marine vessels and offshore platforms, including bulkheads and decks. Backed by more than 70 years of Unifrax experience in high temperature insulation technology, it provides superb insulation value in a flexible, lightweight, non-combustible product form used successfully by marine customers worldwide. FyreWrap Marine Blanket also offers lower installation costs and significant weight savings resulting in increased vessel speed, fuel savings and available payloads.

For More Information

For more information on FyreWrap Marine Blanket and our complete line of FyreWrap products, visit www.unifrax.com, call 716-768-6500 or email info@unifrax.com.

Certifications

- USCG
- US Navy
- ABS
- Lloyds
- Burea Veritas

0062

Choosing the right fire protection for your vessels is nothing to toy with

UNIFRAX

keefe@marinelink.com

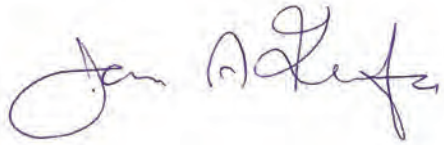
The month of June brings many things; among them sunshine, the beginning of summer and ultimately, a clearer picture of where industry is headed next. The June edition of ***MarineNews*** is also our Combat & Patrol Craft Annual, as well as being chock full of inland news. That means something for everyone, which jolts me to remind all of our readers that the second annual **MN100** – our look at the top 100 market leaders for our workboat sector – is just around the corner in our August edition. Is your firm **MN100** worthy? To be considered, *and it costs nothing to apply*, you must click on: **http://mn100.maritimemagazine.com/** and populate the appropriate columns. I look forward to your entry.

Circling back to this edition, I can report that this year has so far been a mixed bag of sorts for the workboat sector. During a time of considerable turmoil in the oil markets, it is also true that the greater economy, especially on this side of the pond, has been generally steaming right along. One aspect of the marine sector that seems to be mirroring the latter trend is the building of combat and patrol craft. International security concerns have pushed overseas demand, either through foreign military sales (FMS) programs or other vehicles, and U.S. builders have benefited greatly from the trend. On this side of the pond, local municipalities and the federal government alike have developed a sizable appetite for well-built and multi-missioned platforms that can transcend many duty cycles. That story begins on page 36.

On the very same domestic waterways that require the protection afforded by patrol assets from North American builders, inland commerce has seen a robust year, with active building programs ongoing, hope for the final rule on the so-called subchapter M towboat rules, and a concerted (and somewhat successful) push to properly fund the infrastructure necessary to keep the commerce moving; full and down, at full speed. Quietly, under the Radar, inland newbuild tonnage continues to represent more than 90 percent of all domestic shipyard output, accounting for more than 1,000 vessels annually for the past five years. That's a fact.

On the inland waterways, there is much to report. New technologies, new (pending) regulations, evolving emissions standards, and fresh business models have all come together at once in a confluence of pressure that promises to change the course of inland traffic forever. Whether that involves 'geo-fencing,' the tweaking of current laws, propping up America's shortsea shipping program or discovering creative financing options for inland tonnage, we've got you covered in this edition.

More than halfway through the calendar year, workboat operators and the vast support network that keeps them afloat face unique challenges; inside the Beltway, locally on the rivers, and in the boardroom. And, the business decisions made today – see our exclusive look at the latest intermodal plans of Ingram, starting on page 42 – will shape what the river looks like tomorrow. Count on *MarineNews*, as always, to be there.



Joseph Keefe, Editor, keefe@marinelink.com

ENVIRONMENTAL SAFETY FACT:

70,000+

MARINE SAFETY INSPECTIONS ARE CONDUCTED ON DOMESTIC VESSELS

EACH & EVERY YEAR

ENVIRONMENTAL SAFETY SOLUTIONS.

The U.S. Coast Guard is charged with protecting the marine environment. That includes enforcing the 2013 Vessel General Permit and 2014 Small Vessel General Permit. Clarion® Lubricants is committed to helping you comply with these regulations. Clarion Green BIO and Clarion Green Synthetic products meet defined requirements for Environmentally Acceptable Lubricants and provide confident protection for your operation. And our waters.

For lubricant solutions that will keep your marine operation in compliance, visit **ClarionEnviroSafety.com.**

clarion LUBRICANTS

Let's talk solutions at the ACE Show, Booth #2209

Inland Boat Building

Inland Boat Builders, by the numbers have experienced a pretty good run in the past five years. Among those builders, few (if any) have been as busy on the inland side of the ledger as Sneed Shipbuilding. ***The U.S. Maritime Administration*** in 2013 produced a report entitled, *"The Economic Importance of the U.S. Shipbuilding and Repairing Industry."* Within that report, chock full of statistics, it became apparent that U.S. Shipbuilding today is, by and large, inland shipbuilding. That's hardly a surprise given that all but a handful of the ~40,000 odd U.S.-flagged Jones Act hulls in service today can be considered brown water vessels or workboats. And the output of the reported 117 U.S. yards, as chronicled by Marad itself over a three year span, bears this out (see **Table 1**).

Since 1966, Sneed Shipbuilding has been a leading provider of American-made marine vessels for both inland and offshore applications. It engineers, designs and builds a wide variety of steel vessels, including tugboats, large and small inland and offshore deck barges, tank barges, push boats, pressure barges and custom-designed dry-docks to fit a wide variety of specific customer needs.

The pace of quality construction at the combined Sneed yards during the time frame 2009 – 2016 borders on prolific, with vessels being delivered at an astonishing rate of more than one per month during that eight-year span. That's the quintessential definition of "series build" capabilities, something the foreign yards have taken to another level and one which, apparently, Sneed also embraces. A list of the inland tugs and barges built by Sneed since 2009, along with the ones they are currently building is impressive, and runs well over 100 units. Most of those are based on Sneed's own 87 x 32-ft., 2,000-to-2,600 HP vessel design, but Sneed will build based on a customer's design, as well. That said, Sneed maintains a robust in-house custom design shop and can alter the layout to suit the customer's preferences.

The customer list is long and impressive and includes such names as Enterprise, Buffalo Marine, Kirby, Blessey Marine, Lebeouf Towing, Settoon Towing, Golding Barge Lines, McDonough Marine and Central Boat Rentals, just to name few. Indeed, the list of domestic inland operators not considered Sneed clients is quite short. As a general rule, Sneed has produced about twice as many tugs as barges in recent years, but the list of both is no less impressive, as depicted in **Table 2**.

The volume of the Sneed production output is only exceeded by the variety of the units produced. These include numerous inland and offshore deck and tank barges as well as specially barges and pressure barges, tugboats and Towboats – 2,000 to 10,000 HP, Push Boats, Lift Boats, Shift Boats, Inland and ABS Offshore Deck Barges, Inland Tank Barges, Pressure Barges and Custom Dry Docks.

Sneed builds inland tow boats in two locations: the main yard in Channelview, Texas and one other, in New Iberia, Louisiana. A wholly owned and operated facility in Orange, Texas produces inland and offshore deck barges as well as dry docks. At the Channelview Facility, Sneed operates 4 floating dry docks and has full service repair capabilities for both inland boats and tank barges. Two shifts for repair are maintained in Channelview.

The M/V Guaran Feeder was built at Sneed Shipyard in Channelview and exported to Paraguay.

FULL SPEED AHEAD

Caterpillar marine diesel engines deliver impressive performance throughout a wide speed range with exceptional power density. That means they're as smooth and efficient when you're pulling into dock at an idle as they are when you're heading up the river or out to sea at full throttle.

When it's time to "shove off" in a Cat® powered vessel, there's simply no holding back.

- Caterpillar offers the industry's largest range of marine engines to provide the power you need.
- High-performance or commercial, propulsion is in the name.
- The ease and speed of maintenance gets you quickly on the way.
- Cat marine generator sets and auxiliary engines keep things smoothly running onboard.
- Louisiana Cat is behind you all the way with fully equipped facilities, factory trained technicians, factory authorized warranty repairs and preventive maintenance programs.
- Long-term durability, high fuel efficiency and long life-to-overhaul provides maximum productivity with minimum outlay.

24-HOUR EMERGENCY PARTS AND SERVICE

Call our toll free number below to learn more about our Caterpillar products and services.

ALEXANDRIA | BELLE CHASSE | BOSSIER CITY | LAFAYETTE | LAKE CHARLES | MONROE
MORGAN CITY | RESERVE | NEW IBERIA | PORT FOURCHON | PRAIRIEVILLE

866-843-7440 **www.LouisianaCat.com**

GL CERTIFIED

Louisiana CAT

Table 1

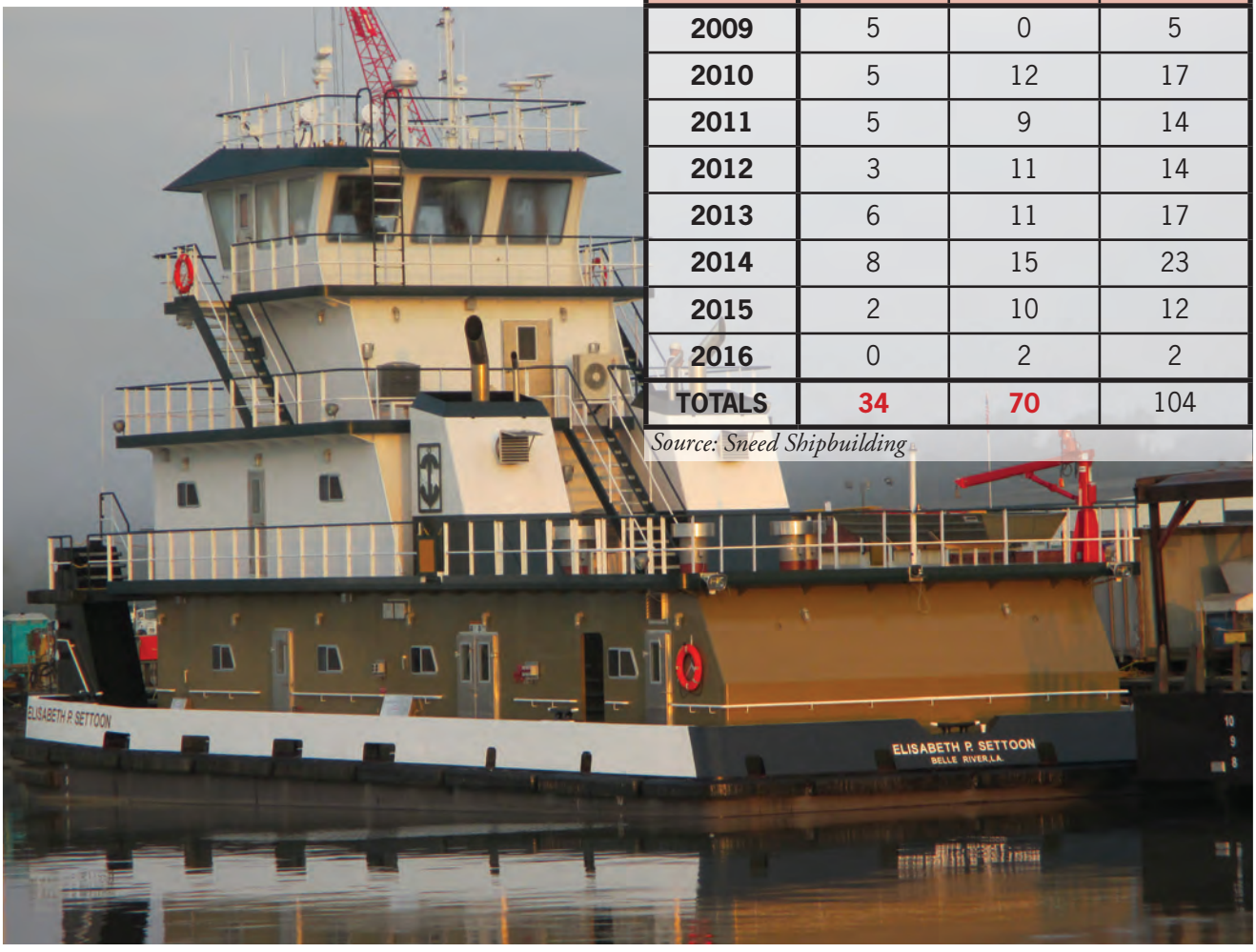
TYPE OF VESSEL	2010	2011	2012
Tugs & Tow Boats	81	109	118
Inland Tank Barges	142	184	279
Inland Freight & Deck Barges	861	1,053	749
TOTALS (U.S. Shipyards – tugs & barges)	1,084	1,346	1,146
Totals (Sneed) (Barge / Tow Boats / Totals)	5 / 12 / 17	5 / 9 / 14	3 / 11 / 14
TOTAL U.S. Shipyard Output – All Vessels	1,201	1,457	1,260
PCT U.S. Shipyard Output (inland hulls)	90 %	92 %	91 %

Source: U.S. Maritime Administration

Table 2

YEAR	Barges	Pushboats	Totals
2009	5	0	5
2010	5	12	17
2011	5	9	14
2012	3	11	14
2013	6	11	17
2014	8	15	23
2015	2	10	12
2016	0	2	2
TOTALS	**34**	**70**	104

Source: Sneed Shipbuilding



SNEED SHIPBUILDING, INC.

See the Marad Report at:
http://www.marad.dot.gov/documents/MARAD_Econ_Study_Final_Report_2013.pdf
Visit Sneed Shipbuilding at: *http://sneedshipbuilding.com/*

COMBATANT CRAFT MEDIUM

RESPONSE BOAT – MEDIUM C

WHEN THE MISSION MATTERS
OUR TEAM DELIVERS

KVICHAK 37M OPV PATROL BOAT

KVICHAK
A VIGOR COMPANY

206.545.8485
KVICHAK.COM
SALES@KVICHAK.COM

Mission-critical vessels from two leaders in high-performance aluminum crafts, Kvichak and Vigor Marine.

VIGOR
MARINE

VIGORINDUSTRIAL.COM

Commanding Officer,
U.S. Coast Guard National Maritime Center

Captain Jeffrey P. Novotny is Commanding Officer of the U.S. Coast Guard's National Maritime Center in Martinsburg, WV. He is responsible for all activities related to professional credentialing, training and assessments of the nation's 215,000 merchant mariners. He graduated from the U.S. Coast Guard Academy with a degree in Mathematics and Computer Science. Prior to commanding the NMC, he was the Deputy Commander at the Coast Guard's Deployable Operations Group. His duties included the oversight and responsibility for all personnel, operational readiness and deployment of the USCG's Deployable Specialized Forces supporting Operational and Combatant Commanders world-wide. He also served as the Interagency Strategic Planning Chief on the National Incident Commander's staff for the Deepwater Horizon response. Eventually, he transitioned into the Marine Safety field and was assigned to Marine Safety Office New Orleans, LA. There he held numerous positions including Chief of the Marine Environmental Response, Chief of Facility and Container Inspection, Supervisor of the Operations Command Center and later, Assistant Chief of Port Operations. Following that, he was assigned as Chief, Port Operations of Marine Safety Office Wilmington, NC. Later, at Coast Guard Headquarters in the Office of Personnel, Workforce Forecasting and Analysis, he supervised the Enlisted Workforce Team, which tracked and monitored the 32,000+ personnel within the Coast Guard's enlisted workforce. From 2006 to 2009, Captain Novotny completed duties first as Chief of the Prevention Department and then Deputy Sector Commander of USCG Sector Hampton Roads in Portsmouth, VA. Novotny holds a high profile position, one that the nation's professional mariners depend upon, every day. Listen in this month as he sets the record straight on the current and future conditions at the National Maritime Center.

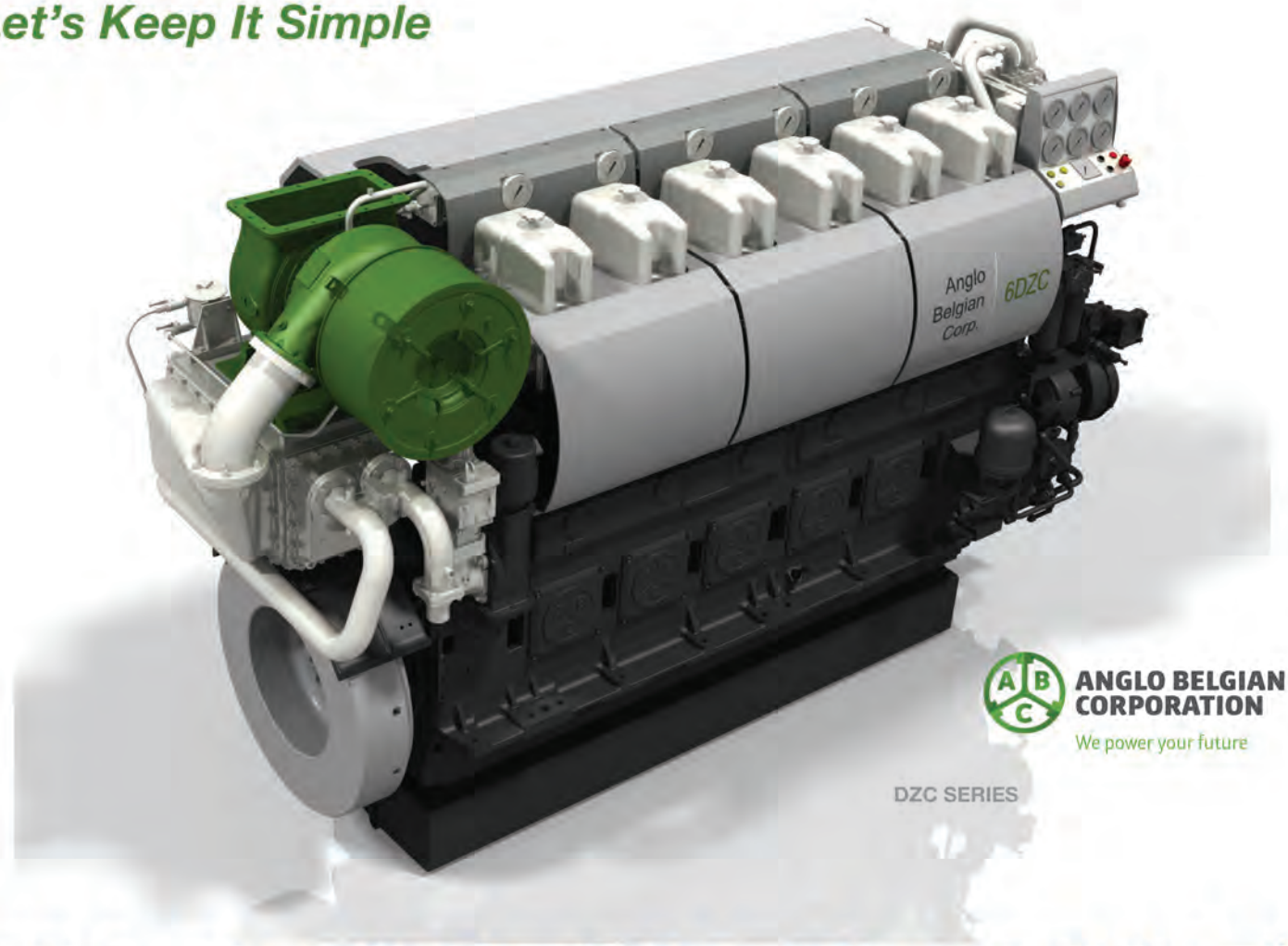
The new medical rules (known first through NVIC 04-08) had some bumps as they were implemented. Describe the status of that program today.

NVIC 04-08 was issued in an effort to bring standardization to the handling of various medical conditions reported by mariners on their 719K physical examination forms and in response to several major marine casualties tied to mariner medical conditions. The regulations published in December 2013 made no major changes to those standards but did introduce the Mariner Medical Certificate. Since January 2014, the NMC has been issuing medical certificates to each qualified mariner when processing an application that requires a medical evaluation. The NMC has issued approximately 26,839 medical certificates as of January 2015 along with 22 medical certification denials. Conditions that are determined to pose an inordinate risk for sudden incapacitation or debilitating complication may lead to denial of medical certification.

The frequency of medical exams has ramped up for some credential holders from 5 to 2 year intervals. Last year, NMC processed as many as 125,000 certificates. What's the average time for this process and can you keep up with future demand?

Currently, the overall and net processing times for medical certificates are approximately 16 and 8 days respectively. This overall processing time (OPT) includes our internal NMC net processing time and periods which we are awaiting additional information from the mariner or their medical provider. Since last May (2014), the OPT has remained less than 30 days. While the processing times have declined since the onset of issuing medical certificates, it has somewhat normalized to approximately 15-20 days over the last six months. At this point, we believe we'll be able to keep up with the demand.

Let's Keep It Simple



ANGLO BELGIAN CORPORATION
We power your future

EPA Tier 3 Certified Until 2017*

Anglo Belgian Corporation (ABC) is one of Europe's leading medium speed diesel engine manufacturers with over a century of expertise in ship propulsion, locomotive, marine and industrial power generating systems.

- ALL mechanical engine - NO electronics = simple and robust!
- ABC's Tier 3 engines are ideal for inland, coastal, fishing, research and hybrid vessels - new build or repower.
- Optional Dual Fuel application available. ABC has 25 years experience in the dual fuel market!
- The DZC series has been in production for over (3) decades with 1,500 + engines still in operation.
- Full US support including parts, service and engineering by Trans Marine Propulsion Systems, Inc. (est. 1984).

TRANSMARINE
PROPULSION SYSTEMS, INC.

*Per EPA 40CFR 1042.101 Table 3, power ranges of 600kW to 1,400kW for Category II diesel engines, EPA Tier 4 begins in model year 2017. ABC'S (6) and (8) cylinder medium speed inline DZC engines range in power up to 1,400kW.

West Coast
4200 24th Avenue West
Seattle, WA 98199, USA

Phone: (206) 282-9142
Fax: (206) 282-6514

East Coast
5456 West Crenshaw St.
Tampa, FL 33634, USA

Phone: (813) 830-9180
Fax: (813) 830-9181

www.transmarine.org

How many U.S. mariners are on some sort of "medical waiver" or another? What is the definition of a medical waiver?

Current Active MMCs with a medical waiver: 17,728. A waiver is granted when, after review of all relevant supporting medical documents and consultation with the examining physician (if needed), even though an applicant does not possess the vision, hearing, or general physical condition necessary, extenuating circumstances warrant special consideration. In general, medical waivers are approved when an applicant does not meet the applicable medical standards, but objective evidence indicates that the condition is sufficiently controlled and the effects of any potential medication pose no significant risk to maritime and public safety. Medical waivers may be granted with specific conditions to which the applicant must adhere, such as more frequent monitoring of the medical conditions, submission of medical exams and/or tests at varying intervals, or operational limitations.

Since the inception of the medical NVIC, have medical waivers increased significantly?

As of April 2009 every mariner applying for an original, renewal or raise in grade has undergone the centralized medical evaluation process. Since 2012, the number of waivers issued has increased from 4,860 to the current number of 17,728. The number of applications processed through the medical division has also increased. The increase in waivers correlates with the standardization of the medical evaluation process, mariners supplying requested documentation and an increase in medical personnel, allowing for a greater number of applications evaluated.

You transitioned into Marine Safety in 1994, meaning you have a solid base of skills within this sector of the Coast Guard. How many others in your command can say the same thing? Has this career become a more mainstream path within the Coast Guard?

The NMC has a very limited number of active duty personnel (see below) assigned but we are very fortunate to have a number of very experienced civilians who have been part of the mariner credentialing program for many years. Within the active duty Coast Guard workforce, the Operations Ashore – Prevention career path (previously known as Marine Safety) very much exists today. Of the active duty personnel assigned to the NMC, we have a diverse group of officers with operational ashore, afloat and medical experience. Having active duty positions at the NMC allows for an exceptional blend of military and civilian leadership, management and expertise in key positions within the command.

What percentage of your WV Command is civilian and what percent is active duty Coast Guard. What's the rationale, if any behind that split?

The NMC is authorized a total of 268 personnel billets, of which 10 are active duty military. The structure of the NMC is purposefully designed to maximize the expertise gained over many years of training invested in our civilian workforce, and leverage the afloat experience and leadership of our Active Duty members. For example, it takes several years to train a civilian Legal Instruments Examiner to review our most complex mariner credential applications. Losing that expertise in large numbers every couple of years would be debilitating. Being able to retain that civilian expertise, and cultivate it over a long-period of time (hopefully an entire career) greatly benefits the NMC and ultimately the mariner. Having a small contingent of active duty at the NMC allows the USCG officer corps to be exposed to credentialing and those officers rotate out every 3-4 years and spread their knowledge from their time at the NMC out to the field. Additionally, the officers bring with them recent operational, afloat and medical experience which greatly assists in the mission at the NMC.

Domestic mariner advocates like to make noise about the lack of performance in terms of credential throughput at NMC, especially in the wake of the consolidation of the 17 REC's. But, what's the real record in West Virginia?

Prior to consolidation of the NMC in 2008/2009, an application processing rate of 6-8 months was unfortunately not uncommon. A lack of process controls, non-standardization between Regional Exam Centers, lack of senior oversight, and no dedicated medical division all contributed to inconsistent, unpredictable and often extensive processing timelines. While some mariners may have experienced same day service, the majority of mariners realized substantial delays. Clearly today's agreed upon industry standard net processing time of 30 days (right now we average about 16 days) is a quantum leap forward in customer service. In past five years (2010-2015), the average monthly net processing time has only exceeded 30 days during one 7-month stretch (January – August 2014) as a result of the governmental lapse in appropriations and the 25% increase in Spring applications during 2014. At its height, the highest net processing time was 40.5 days in May 2014.

Last year, you processed about 81,000 credentials for a mariner population of about 221,000. Is that (processing) number going to increase, decrease or remain static? Can you handle the workload going forward?

2014 is what NMC could term a "high-high" for creden-

Get the trusted power source behind you.

Advanced technology. Rigorous testing.
The best warranty on the water.

Our outboards are designed to conquer the harshest of conditions. So no matter what lies ahead, we've always got your back. Discover ultimate reliability and durability at **Mercurygovsales.com**

MERCURY

email: mmobgovsales@mercmarine.com | 866-408-6372

MC-2550 0315

tialing applications. Each spring we experience a seasonal increase in applications, but 2014 coincided with the 5 year anniversary of NMC consolidation and initial issuance of the MMC completed in the 2008/2009 timeframe. This was further exacerbated by the January 1, 2014 implementation date of the STCW security endorsements. So the 81,000 credentials we processed in 2014 was an abnormal amount (25% increase from the annual average) given consolidation and a springtime surge. Over time, our expectation is that the 5 year surge number will normalize as that consolidation anniversary date gets further and further away.

The domestic mariner population has grown from about 193,000 in 2001 to today's collection of 221,000 seafarers; up 12 percent in less than 14 years. Has your headcount in the credentialing division kept pace with demand?

The NMC constantly forecasts and responds to process needs at every stage. Right now, the NMC has the unique ability to 'surge' some personnel when demand calls for it. NMC is consistently looking at every billet to ensure the position is maximized for the mariner's benefit. Obviously, we exist in a resource constrained environment and budget dollars are scarce for new personnel, but even so I believe the NMC is properly billeted and our processing times of approximately 16 days for an MMC and 8 days for a Medical Certificate support that assertion.

Give us a sense of your credentialing performance today. Last summer, it was an unsatisfactory 40 days, now that metric has shrunk to 16.5 days. What's the ultimate, optimal goal and where do you stand today?

At present, our average Net Processing Time (NPT) for Merchant Mariner Credentials (MMCs) and Medical Certificates are 16 days and 8 days respectively. Our current goal for MMCs remains at 30 days NPT or less, while recently we have lowered the goal for Medical Certificates from 30 days NPT to 20 days NPT. Leveraging Information Technology (IT), the mariner credentialing program hopes to one day measure the processing of credentials and certificates in hours rather than days. We are continually researching ways we can incorporate affordable IT solutions and process improvements to enhance our program effectiveness and efficiency.

What's the biggest issue on your plate today at NMC?

Leading the NMC down the path of continuous improvement – identifying opportunities where we can refine our processes, lean forward through the use of new and innovative technologies, and truly become more effective and efficient. While being mindful of the USCG's challenging budget environment, find ways to improve our services to the maritime public and stakeholders, challenge my staff be remain innovative, and no matter how small, continue to make improvements when and wherever possible.

What accomplishment during your command / tenure at WV are you most proud of?

I am extremely proud of the unit's accomplishments while faced with numerous unforeseen challenges of 2014. The NMC embodied my command philosophies of leadership, teamwork, commitment and professionalism to overcome a record number of applications, the implementation of a new regulation, the creation of the new medical certificate, amongst several other credentialing challenges. I'm also very proud of our efforts to assist military members throughout the credentialing process. Through the Military to Mariner efforts, I'm proud to say that we are actively assisting more military personnel (active, reserve & retired) earn and/or qualify for merchant mariner licenses than ever before.

WE POWER YOUR BUSINESS

engines, inc.
Your Power Source

INTEGRITY SETS US APART

engines, inc.
Jonesboro, AR • 800-562-8049
Conroe, TX • 936-441-5592
www.enginespower.com
24-Hour Service Line
870-268-3799

JOHN DEERE
POWER

YOUR **BEST** CHOICE

FOR RELIABLE POWER FROM 40kW to 250kW

When reliability is critical you need an engine you can depend on. That's why we use **John Deere PowerTech™** engines which are durable, fuel efficient, and easy to maintain. They are also backed by the support of one of the strongest engine and equipment companies in the world.

On the inland waterways, your generator set powers your bottom line. When you choose a power generation package from **engines, inc.**, you can rest assured that you are getting the best engineered package available anywhere and we stand behind it with the most reliable 24/7 support structure in the business. Our extensive dealer network is able to provide reliable service and dependable support wherever you are, whenever you need them and our skilled staff is always available on our 24-Hour Service Line.

24-HOUR SERVICE LINE
870-268-3799

With over 150 years of collective experience in our shop and over 75 years of partnership with John Deere, we are, without a doubt, your best choice for Generator Sets and Propulsion Engines on the inland waterways. Our experience distinguishes us and our integrity sets us apart. When everything is on the line you can count on us: **We Are Your Power Source.**

AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR

Barging Ahead in Uncharted Waters

*A Real-Life Study in **Creative Vessel Financing**, or What Happens When Plan 'A' Is Not Working.*

By James A. Kearns

Much has been written on the various structures and approaches that can be used to finance the construction and purchase of vessels. Such articles typically speak in general terms, presenting what might be called the textbook version of the approach under consideration. But what happens when reality rears its ugly head, and forces the deal to leave the well-marked channel and to venture into uncharted waters?

A recent real-life experience shows how creativity and flexibility can salvage a financing transaction that otherwise would not have appeared to be feasible if measured only by the textbook model. There is, of course, a certain risk in presenting a real-world case study: its pedagogical usefulness might be perceived by some as being limited to the particular circumstances of that specific situation, providing only limited guidance when the facts are different. This account of how certain issues arose and were resolved in a particular case is not presented with the expectation that it will become a template for many other transactions. Rather, it is offered in the hope that it will encourage business teams and their counsel to continue to be patient, creative and flexible in getting deals done.

Real Life, Real Plight

Our story begins with BargeCo (the names have been changed, as Sergeant Joe Friday would say, to protect the innocent), a company that wished to purchase a new inland waterways tank barge for its fleet. For various reasons, BargeCo's balance sheet would not support conventional loan or lease financing from the financial institutions that were the usual sources of financing for this type of vessel. Word of BargeCo's plight reached HopperCo, which was a provider of barge freight in the inland waterways dry cargo market. HopperCo had the creditworthiness to obtain the kind of financing that BargeCo needed, and it had the flexibility to assume more risk than would typically be acceptable to a financial institution, but HopperCo did not have a current interest in acquiring tank barges.

HopperCo agreed to use its credit standing to obtain the financing that BargeCo needed, in return for BargeCo's agreement to pay HopperCo amounts sufficient to cover the periodic financing payments plus a premium to compensate HopperCo for assuming the additional risk. Since HopperCo did not want to own the tank barge, one way to have structured the transaction would have been for HopperCo to obtain the lease financing in the form of a "hell or high water" bareboat charter from a financial institution's equipment leasing affiliate, and then to enter into a bareboat sub-charter with BargeCo. However, HopperCo did not want to be either a direct owner or a demise owner of the tank barge.

It was agreed that HopperCo would provide credit support for a lease financing in a two-tier structure: a bareboat charter of the vessel from the leasing company to BargeCo, and a time charter from BargeCo to HopperCo containing the necessary "hell or high water" payment provisions required by the leasing company. There would also be an assignment by BargeCo to the leasing company of HopperCo's payment obligations under time charter.

In itself, such an arrangement was hardly novel. The leasing company-bareboat charter-time charter structure has been used for many years for credit-worthy companies to obtain the use of vessels as time charterers with operational control and responsibility for the vessel vested in a bareboat charterer. In this case, however, the creditworthy time charterer, HopperCo, did not in fact want the use of the vessel. In order to convey its rights as time charterer back to BargeCo, it was agreed that HopperCo would grant a time sub-charter to BargeCo. The time sub-charter, however, did not have the unconditional payment obligations that were required by the leasing company in the time charter, since the leasing company was not looking to the credit of BargeCo to support the financing.

So far, so good. The leasing company had the necessary credit support from HopperCo; BargeCo had operational control and responsibility for the vessel under the bareboat charter and the right to direct the use of the vessel under the time sub-charter; and HopperCo avoided ownership of the vessel and would be compensated for assuming the risk of BargeCo's lesser credit standing.

"HMP PRESENTS"

ITS NEW 15 METER 50K HIGH PERFORMANCE SAR / PATROL / SPECIAL OP'S CRAFT

AND...

ITS FAST RESPONSE AMBULANCE BOAT VERSION...

(BASED OFF THE SAME PLATFORM)

HIKEMETAL

- PROVEN HMP PRODUCTION TECHNOLOGY "WITH STRESS RELIEVED WELDING"
- DESIGNED & BUILT TO SUIT A VARIETY OF CLIMATIC CONDITIONS
- VESSEL IS OF RELATIVELY LOW PROFILE DESIGN FOR ADDED STABILITY, LOW SIGNATURE & REDUCED AIR DRAG.
- WHEELHOUSE HAS 360 DEGREE VISIBILITY, PERMITS GOOD VISIBILITY WHILE PROVIDING AMPLE AFT DECK OPERATIONS WORK AREA .
- REVERSED ANGLE WINDSHIELD FOR REDUCED DASH GLARE, ALLOWS HELMSMAN TO POSITION FURTHER FORWARD WITHOUT IMPEDING ON OVERHEAD MOUNTED CONTROLS, INSTRUMENTS AND ELECTRONIC EQUIPMENT.
- SEMI SQUARED BOW AND PUSH KNEE'S PROVIDES FLAT SECTIONS FOR PUSHING OR NOSING UP TO ANOTHER BOAT WITHOUT DAMAGE.
- STREAMLINED & WELL "PROVEN" HIKE HULL WITH 18 DEGREE MODIFIED V, REVERSE CHINES, LIFT STRAKES AND A LOW COEFFICIENT OF DRAG ALLOWS FOR THE HIKE'S TO COME UP ON PLANE, AND ATTAIN MAXIMUM SPEED QUICKILY, WHILE ENHANCING ALL AROUND GOOD PERFORMANCE AND STABILITY IN A VARIETY OF SEA CONDITIONS .
- AFT LOCATED, AND A WELL INSULATED MACHINERY SPACE PROVIDES GOOD BOAT TRIM AND ALSO AIDS IN REDUCTION OF ACCOMODATION AND WHEELHOUSE NOISE.
- PREDOMINATELY A WEB AND LONGITUDINALLY FRAMED HULL, PROVIDES HIGH STRENGTH BUT LIGHT WEIGHT.
- HULL IS STRESS RELIEVED WITH PATENTED AND PROVEN STRESS RELIEF PROCESS "DURING WELDING", REDUCING DISTORTION AND RESIDUAL HULL STRESS
- ALL WELDING IS CARRIED OUT BY CWB (EQUIVALENT TO AWS) CERTIFIED WELDERS.
- MANY ADDITIONAL OPTIONS TO CHOOSE FROM

HIKE BOATS ARE BUILT "TUFF" FOR *PURPOSE INTENDED* COMMERCIAL APPLICATIONS

"CONCEIVE, CREATE, INNOVATE, EVOLVE"

THIS HAS BEEN OUR MOTTO FOR SUCCESS

REFERENCES OF DOZENS OF POLICE DEPARTMENTS AND GOVERNMENT DEPARTMENTS WHO PURCHASED AND USE HIKE VESSELS BUILT OVER THE LAST 50 YEARS..."SPEAKS FOR ITSELF".

HIKE METAL PRODUCTS LTD
Box 698, Wheatley. Ont.
Canada. NOP 2PO
E-mail: Sales@Hikemetal.com
Web site: www.Hikemetal.com
Telephone: (519) 825 - 4691
Fax No.: (519) 825 - 7572

HIKEMETAL

... As the documents were being prepared, it was discovered that the restrictive covenants in BargeCo's existing debt facility did not permit BargeCo to grant liens on its accounts, which would include its rights under the time charter, and its existing lenders were unwilling to waive this covenant for this transaction. Therefore, BargeCo concluded that it was not able to grant the assignment of HopperCo's payment obligation under the time charter, as the leasing company was expecting.

High Drama? Not Really ...

Ah, but not so fast. From the leasing company's perspective, a critical component in this type of structure is the assignment by the bareboat charterer to the leasing company of the time charterer's unconditional payment obligation in the time charter. As the documents were being prepared, it was discovered that the restrictive covenants in BargeCo's existing debt facility did not permit BargeCo to grant liens on its accounts, which would include its rights under the time charter, and its existing lenders were unwilling to waive this covenant for this transaction. Therefore, BargeCo concluded that it was not able to grant the assignment of HopperCo's payment obligation under the time charter, as the leasing company was expecting.

This at first appeared to be a major roadblock. In fact, the initial reaction of the leasing company's counsel was, "the deal is probably dead." But the underlying agreement between the leasing company and HopperCo remained the same; namely, that HopperCo was to be the credit support for the transaction. Based on this fundamental agreement, counsel for the leasing company and for HopperCo were able to find a solution. They took advantage of a document called the Agreement to Acquire and Charter, which is a standard component of vessel lease financing transactions. This document typically spells out the conditions and other documents that are required for closing, but does not usually have many on-going covenants that have application throughout the overall term of the lease financing. Such longer term covenants and provisions are primarily found in the other transaction documents.

However, the Agreement to Acquire and Charter had the advantage of being one to which all parties were already intended to be signatories. As such, it provided a useful setting for including newly drafted provisions designed to convey the commitment of HopperCo directly to the leasing company.

This approach had never been used before, to the knowledge of any of the counsel in the transaction, each of whom had more than 30 years of experience in maritime financing transactions. Therefore, it required that counsel work together to resolve a variety of issues and to craft the necessary language in order for the leasing company to be assured by its counsel that its recourse to the credit of HopperCo was as firm as it would have been had the usual transaction structure been followed. These issues included several provisions of the Bankruptcy Code that would be implicated in the event of a bankruptcy of BargeCo. In the end, the issues were resolved, the necessary language was worked out, and the deal proceeded to close. This might be as close to high drama as it gets in the world of vessel financing.

You might never encounter the exact circumstances and issues described in this article. But many readers will identify with the satisfaction that comes from the mutual efforts by the parties and their counsel to tackle difficult issues and to find solutions, often in unprecedented ways, so that the ultimate business goals of all parties can be achieved.

BRYAN CAVE

James A. Kearns *has represented owners, operators, financial institutions and end users for more than 30 years in the purchase, construction and financing of vessels engaged in both foreign and coastwise trades of the United States. Kearns has earned an LL.M. (in Taxation) from New York University, J.D. cum laude from the University of Notre Dame, and a B.S.E.E., summa cum laude from the University of Notre Dame.*

Count on Cummins.

When Uptime Is Key, Count On The New QSL9.

"We're a 24/7/365 operation, making uptime paramount. A lot of times we're given only 45 minutes notice that the boat is going to run. We have had very good luck running our QSL9 Tier 2 engines for the last seven years. That's why we jumped on the opportunity to serve as the field test boat for the new Tier 3 engine."

Walter Prause, Port Engineer

With Cummins XPI fuel system and latest Cummins Electronic Control Module the QSL9 meets the world's most stringent emissions requirements while maintaining the performance, reliability and fuel economy our customers expect.

YouTube
cumminsengines

 1-615-871-5101 cumminsengines.com/marine

Cummins

Taking Inland Waterways *To the Mainstream*

By Chip Jaenichen

It takes nonstop work to maintain America's position in today's global economy. Every day we compete against strong international rivals for demanding foreign and domestic customers. Thankfully, the American economy has a large-scale, crucial asset that gives us an edge on the rest of the world: over 28,000 miles of inland river and coastal waterways with consistent navigation at suitable depths (9 feet during 9 months of the year) – more any other nation on earth.

Although we have the world's greatest industrially-useful waterway network, we are barely using its full capacity. In 2013, the U.S. moved just under 5 percent of our domestic freight shipments by water. Imagine if the Denver Broncos played Peyton Manning for just three minutes each game. That's essentially what our nation is doing. We are hardly utilizing our greatest competitive advantage. But you can rest assured, other nations are using theirs. Inland waterway shipping currently accounts for over 40 percent of all European Union freight transportation, and that percentage is rising.

Today, the United States moves roughly 80 percent of all goods on just 10 percent of our nation's landside trade corridors. Congestion and delays have become as American as apple pie, and as a nation with a rapidly-growing population, this arrangement should not be acceptable to any of us. If we remain on our current course, it will inevitably choke freight flows, limit our economic growth and impact our international standing.

America's future hinges on our ability to move goods to markets both at home and abroad. If our nation is to succeed going forward, we have to better utilize the untapped capacity of our U.S. inland and coastal waterways.

The Maritime Administration's (MARAD) foremost effort on this front has been the development of a National Maritime Strategy, a framework of vital actions necessary to fully leverage America's inland and coastal waterway network and reinvigorate the U.S. Maritime Industry. To launch this endeavor, MARAD hosted two public symposiums with over 600 maritime stakeholders representing all segments of our industry. The innovations, ideas and solutions that came from those events provided the foundation for our preliminary strategy, which MARAD took to the Marine Transportation System National Advisory Council (a chartered, non-federal body that advises the Secretary of Transportation on Marine Transportation System issues) for evaluation last fall. We have since coordinated our working strategy with numerous interagency partners and a private sector strategic communications firm, and made great strides towards generating an actionable, accessible and viable product.

Our draft strategy includes numerous measures that will strengthen domestic marine highway services, initiate investments for essential inland waterway infrastructure and further develop the Marine Transportation System. MARAD intends to post our draft strategy on the Federal Register for public comment soon and we hope to receive at least as much high quality input from stakeholders as we did at our National Maritime Symposiums. We also hope that you, the maritime-knowledgeable readers of MarineNews Magazine will make the time to evaluate the draft strategy and provide us your assessments as well.

MARAD will make use of this final public consultation as we forge our ultimate National Maritime Strategy. We will then deliver the strategy to Capitol Hill, and collaborate with policymakers to construct practical actions needed to implement the strategy on a national basis.

Parallel to the development of the National Maritime Strategy, MARAD is advancing other actions to benefit the inland waterways. One great example is our continued work to expand America's Marine Highway Program – an initiative that is seamlessly merging waterborne routes with our nation's surface transportation system. The Marine Highway System currently includes 22 all-water Marine Highway Routes and 11 designated Marine Highway Projects, and MARAD has been working with a number of state, county, local and private stakeholders to promote more designations.

Just this spring, MARAD welcomed a large group of mayors representing communities all along the Mississippi River – from St. Paul to New Orleans – to the U.S. Depart-

The Gulf Coast's Premier Shipyard

Since 1966, Sneed Shipbuilding has been a leading provider of American-made marine vessels for both inland and offshore applications. We engineer, design and build a wide variety of steel vessels, including tug boats, large and small inland and offshore deck barges, tank barges, push boats, pressure barges and custom-designed dry-docks to fit specific customer needs.

Rely on Sneed Shipbuilding to Keep You Moving

- New Construction, Repair & Maintenance
- Quality Manufacturing in U.S.A. – Texas & Louisiana
- Engineered to Perform – Quiet, Powerful & Efficient Designs
- Integrated Manufacturing to Ensure Enhanced Value
- Strong Safety Culture in All Facilities
- Committed to Total Customer Satisfaction

Inland and Offshore Marine Specialists

- Tugboats and Towboats - 2,000HP to 10,000HP
- Push Boats, Lift Boats & Shift Boats
- Inland & ABS Offshore Deck Barges
- Inland Tank Barges & Pressure Barges
- Custom Dry Docks
- And More!

For more information, please contact:
Mitch Jones or Clyde Sneed
Office: 281-862-2266

Locations

Corporate Headquarters
Sneed Shipbuilding, Houston Yard
17112 Market St.
Channelview, TX 77530
281-862-2266

Sneed Shipbuilding, Orange Yard
2011 Dupont Dr.
Orange, TX 77630

CENTRAL GULF SHIPYARD, LLC
5310 Cornelius Voorhies Rd.
New Iberia, LA 70560
337-367-9235

SNEED SHIPBUILDING, INC.
sneedshipbuilding.com

ment of Transportation Headquarters in Washington, DC. MARAD facilitated a candid discussion between the mayors and representatives of private vessel operators, shippers, ports and terminals. We addressed opportunities and challenges facing Mississippi River shipping, and as we did so, we developed a healthy atmosphere of information exchange, collaboration and achievement.

I am sure that some of you are familiar with how this effort turned out. During the last week of April, Secretary Anthony Foxx announced the designation of the M-55/M-35 Container-on-Barge Marine Highway Project, which will provide services between Chicago and Minneapolis and New Orleans. In addition, I can proudly report that the public leaders and industry stakeholders behind this effort have already made strong progress developing a container-on-barge service for the route.

As I noted earlier, our inland rivers and waterways can be the edge our nation needs going forward. That's why MARAD is working hard to spearhead recapitalization and reform efforts, and why we want elected representatives to reach across party lines, partner with the private sector, and make investments and models for growth on the inland waterways.

It's also why MARAD is asking you – the readers of ***MarineNews*** – to do your part to help us create a more robust inland waterway system. While some of us are in prime positions to assist dredging efforts and/or reinforce our aging lock and dam infrastructure, every one of us can make a difference through information and education.

Almost 319 million people live in the United States, and far too few of us understand the value of the Marine Transportation System. So take advantage of every opportunity to tell others how the inland waterways bring coal to the utility plants that provide electricity to our houses; how 15-barge tows move grain and other agricultural products to markets domestic and ultimately abroad; and how the waterborne supply chain ensures cement and gravel for construction sites nationwide.

Building awareness is a valuable but often overlooked means of building support for our inland waterways—and it's an approach that we can't afford to dismiss. Our inland waterways have significant untapped capacity, and with prioritized investment, they are a logical solution to some of the mounting problems facing our surface transportation system. As maritime proponents, you and I understand this. Now it's time for others to realize it as well.

Paul N. Jaenichen, Sr. *is the U.S. Maritime Administrator.*

Shear Stability

The key to proper EAL Gear Oil selection.

By Ben Bryant, Marine Market Manager and Craig Desrochers, Application and Service Engineer at Klüber Lubrication NA LP.

Selection of gear oil for marine thrusters or a stern tube lubricant for use with propeller shaft bearings is often based on analyzing price/performance characteristics of the lubricant and its availability. Now with the implementation of the 2013 Vessel General Permit, this analysis must be expanded to include environmentally acceptable lubricants (EALs) that meet the new EPA standards. To meet environmental requirements, EALs are blended from base oils other than mineral oil. They still meet the same lubricant objective – providing long-term equipment protection. That said, it is also worthwhile to focus on how the new EALs meet one particular criterion for analysis; namely, their ability to resist shearing under load.

Applications Requiring EALs

The 2013 Vessel General Permit requires that lubricants used in applications with an oil-to-sea interface meet specific requirements for biodegradability, toxicity and bioaccumulation. The permit allows for a phased transition to EALs based on product availability, dry-dock schedules, and approval of the lubricant from the original equipment manufacturer (OEM) of the application. OEMs are now in the process of testing and approving EALs for use in their equipment. All of the major stern tube system manufacturers have approved at least one EAL. Many of the thruster manufacturers have also approved EALs for new installations as well as equipment retrofitted with compatible seals.

In general, a complete performance analysis of an EAL gear oil or stern tube lubricant should include an assessment of thermal, oxidative, and hydrolytic stability to estimate the projected life of the oil under operating conditions. These results can be compared to the initial purchase price of the lubricant for a total cost of ownership value. Other measures include its ability to protect the equipment from wear, scuffing, pitting, and corrosion. A high performance lubricant will extend equipment service life and reduce unplanned downtime, therefore contributing to your bottom line profits.

Evaluation of lubricant viscosity is imperative to protect all the components in a system. The kinematic viscosity of oil is affected by a number of factors. One inherent physical property of a lubricant is its tendency to thicken in cooler temperatures and thin at higher temperatures. This change in viscosity as a function of temperature is called Viscosity Index, or VI. As a general rule, the higher the VI, the less the oil is affected by temperature change.

When formulating a lubricant, viscosity improvers (which are often polymer based) can be used to increase the VI. Viscosity modifiers are used in some EALs to push the viscosity of low viscosity biodegradable oil to a higher viscosity value. Using viscosity modifiers with a low viscosity base oil to manufacture a lubricant can be more cost effective than to use a high viscosity base stock. However, a lubricant containing viscosity improvers may not be as effective in high shear, high pressure, and extreme temperatures. In these conditions, the oil can exhibit a temporary loss of viscosity. When shearing continues or if the forces are high enough, the polymers can break down, eventually causing a permanent loss of viscosity.

Shear Stability Factors

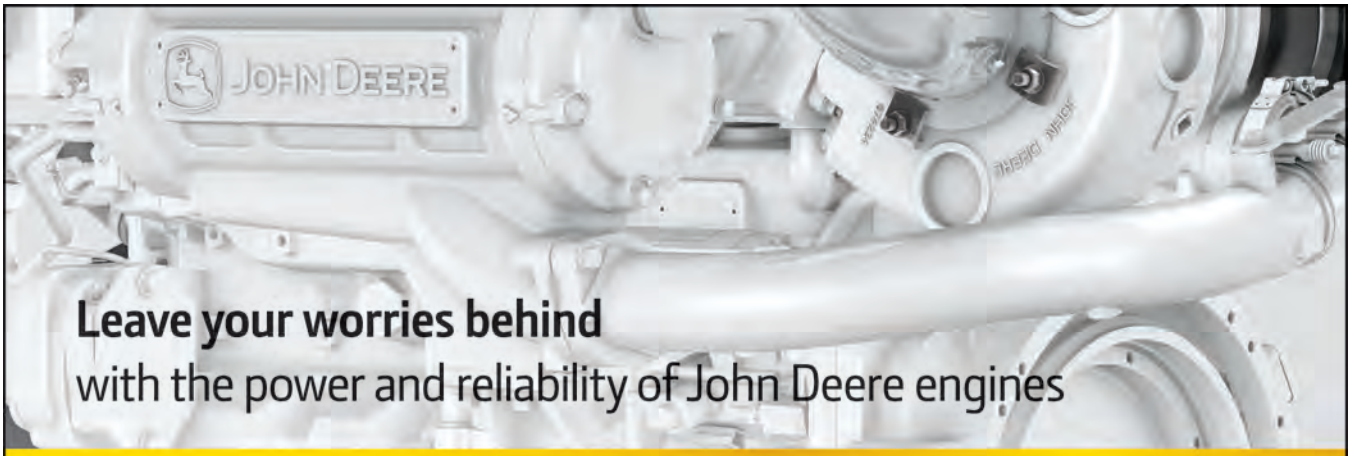
One measure of a lubricant's protective value is its ability to withstand shearing under pressure. Shear stability describes a lubricant's ability to resist a decrease in viscosity due to exposure to mechanical loads. Maintaining the appropriate and OEM recommended viscosity is critically important to both protect the equipment and to extend the time between oil change intervals.

Lubricant thinning under stress is the result of the breakdown of viscosity modifiers. Under stress, viscosity modifiers can either align at the molecular level causing a temporary loss of viscosity – or they can break apart causing a permanent loss in viscosity. Either scenario reduces their effectiveness in service. Increasing viscosity through the use of high viscosity base stocks, without the use or only moderate use of viscosity modifiers, tend to have better shear stability.

Lubricant Effects on Stern Tube Bearings/Shaft & Thrusters

Stern tube systems and thrusters stress the lubricant due to high loads, speed of rotation, and heat. In a stern tube system, the weight of the propeller shaft and high thrust forces, combined with the speed of rotation and surface area create significant shear stress on the lubricant. As the lubricant protects the components and improves efficiency by reducing friction and generation, it also relies upon two main properties: viscosity and additives.

Determining proper viscosity is necessary to ensure a proper elastohydrodynamic (EHD) lubrication film. This film is a wedge of oil that builds up between two moving



Leave your worries behind
with the power and reliability of John Deere engines

With expanded power from 56 to 559 kW (75 to 750 hp), John Deere PowerTech™ engines can take you wherever you want to go. Go to work with the confidence and satisfaction only John Deere propulsion, auxiliary, and generator drive engines can deliver.

Our U.S. EPA Tier 3 marine engines* are quiet and fuel efficient, making long work days seem a little shorter. With high torque and low-rated rpm, you also get excellent vessel control and reliable auxiliary drives. For worry-free power on the water — Nothing Runs Like A Deere™.

*Product offerings vary by country.

JOHN DEERE

JohnDeere.com/marine

WHEN DIESEL FUEL QUALITY COUNTS...

1 Gal. TREATS 10,000 GALLONS

BIOBOR JF®

Diesel Biocide and Lubricity Additive

Please join us at...
INLAND MARINE EXPO
June 15 - 17
BOOTH 228

RECOMMENDED AND APPROVED
by Diesel Engine Manufacturers Worldwide*

- **Prevents clogged filters,** algae and bacteria
- **Adds Lubricity,** protects injectors and pumps
- **Prevents corrosion** of tanks and fuel lines
- **Approved for Military** use (MIL-S-53021A)

DIESEL ENGINE MANUFACTURERS
BioborJF®
APPROVED
Recommended by Diesel OEMs
WORLDWIDE

NEW PRODUCT

ALSO TRY...

BIOBORDC®

Diesel Performance Enhancer and Conditioner

- **Cleans** and **lubricates** injectors
- **Controls** water and corrosion
- **Improves fuel** quality and performance
- **1 gallon : 3,000** gallons of fuel

Available at...
Port Supply, Donovan Marine, U.S. Distributing, West Marine, Les Hall Filter, Diversified Marine, Fisheries Supply, Englund Marine, Paxton, Hamilton, LandNSea, Kellogg, Defender, Mesco, or call us for more information.

www.biobor.com
(800) 548-9166
"All the Fuel...All the Time."®

*Visit our website to see the impressive list of recommendations and approvals.

HFA-706

surfaces and provides separation. It is this separation that helps protect the surfaces from wear, pitting, and scuffing. EHD film thickness is a function of speed, pressure, surface condition, temperature, and viscosity.

A reduction in viscosity, either temporarily or permanently will reduce the lubricant's ability to create a fluid film to separate the shaft from the bearing. Thrusters operate under extreme loads as they transfer power generated by the vessels engines, through the bevel gears of the z-drive and on to the propeller. When the correct viscosity is not maintained, an increase in micro-pitting and gear wear may occur. The lubricant selected to protect shafts, bearings, and gears must be able to withstand high shearing forces.

In practice, a good sampling program can be used to monitor the condition of the oil. Tracking the viscosity over time will detect loss of viscosity due to shearing. That's why monitoring trending data is part of a successful oil analysis program. The condition of oil should always be checked against a representative baseline. A baseline can be established by directly sampling the sump soon after filling with fresh oil and after a short duration of operation. The frequency of sampling is typically established by the OEM or depending on the application and operating conditions. An adequate interval is typically based on the number of service hours or at set intervals to check for viscosity stability. If one of the tested parameters ever falls out of the OEM recommended range for the equipment, it should be replaced and a new baseline should be established.

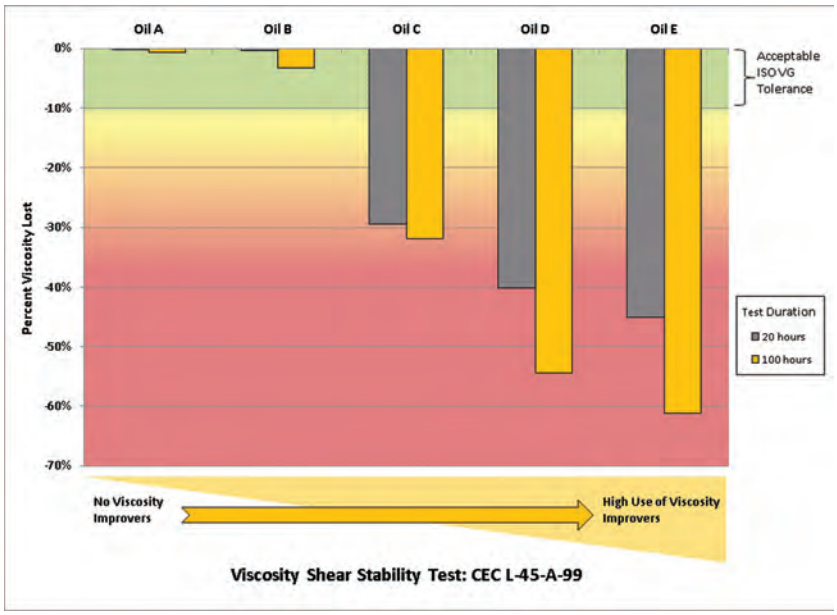
While an oil analysis program will help accurately measure how the current oil is performing, there are numerous tests that a manufacturer can perform in the lab to characterize the oil performance to help the OEM or end user make an informed purchasing decision prior to filling the system/gearbox.

A preferred method is the standard test method CEC L-45-A-99, also known as the KRL Tapered Roller Bearing test. Used by OEMs and lubricant manufacturers, this test simulates lubricant performance under shear stress in actual gear and bearing applications. It is considered the most severe of the available shear stability tests and offers the best correlation to actual field performance. The CEC L-45-A-99 test simulates a high shear condition to accelerate the breakdown of oil viscosity. To accomplish this, tapered roller bearings are used because the large surface area of the roller exposes the oil to a high percentage of shear. The test bearings are run at 1,450 rpms for 20 or 100 hours under a load equal to 5,000 N, at 60° C. The results are calculated by measuring the percentage of viscosity change between the oil viscosity pretest and the oil viscosity post test. A small value indicates a high shear stability, while a high value indicates poor shear stability.

Results of Testing Shear Stability

Internal testing of various EALs using the test method CEC L-45-A-99 has produced a wide range of results among the sample lubricants. Synthetic ester based products that did not use viscosity modifiers produced the best results. Even after a short test duration of 100 hours, two of the samples with viscosity modifiers showed a minimum of 50% loss in viscosity. However the two oils that were formulated without viscosity improvers maintained a consistent viscosity.

Even a small drop in viscosity can drop the ISO viscosity grade down into the next VI category permanently. Running too light of an oil viscosity can reduce the lubricant's ability to provide a sufficient oil film. If this occurs, lubricant protection is compromised, leading to higher probability of premature wear, scuffing, and pitting.



Conclusion

EALs are formulated to protect the environment. But there is no need to select an EAL that compromises the protection of thrusters or shaft bearings. Careful selection of EALs is necessary to prevent failures of bearings and gears. Protecting against shearing stresses is achieved by selecting EALs with a high VI. But lubricants that employ viscosity modifiers to raise VI can compromise shear stability. Selecting an EAL using a base oil with an inherently high VI – assisted by a logical sampling program – will ensure the high level of shear protection that meets today's environmental and equipment requirements.

VIDA Vital for Inland Operators

The Vessel Incidental Discharge Act slowly moves forward through the federal legislative process. But, that's just one of many issues facing domestic inland commerce.

By Joseph Keefe

In terms of advocacy for the inland waterway system, The American Waterways Operators' (AWO) annual "Barge In" on Capitol Hill ranks as one of the more visible signs that the domestic maritime industry – and inland stakeholders in particular – are not sitting back on their hands waiting for good things to happen. For the 13th consecutive year, 180 AWO members in April made more than 150 visits to Congressional office on the Hill.

Members from all over the country met with senior leaders from the house and the senate. The agenda was simple: protect the Jones Act, pass the combined (VIDA) discharge legislation in this calendar year, and finally, keep the inland waterways system open for business with adequate funding and common sense regulatory oversight. AWO Executive Vice President Jennifer Carpenter told *MarineNews* in May, "Those messages were well received." Whether that dialogue translates into real action in Washington, however, remains unclear.

Priorities & Pitfalls

According to AWO, the root of most inland waterway issues can be found in the regulatory structure itself. "We are stuck in a system that does not work. And, unless Congress takes action, every five years, we are subject to a new set of EPA (Vessel General Permit) requirements that may or may not dovetail with Coast Guard rules," says Carpenter, adding, "Beyond this and at any time along the way, any state can add any requirement that it wants to any of the discharge streams from a vessel. And, they are explicitly invited to do that every five years."

Image above: AWO members meeting with Rep. Larry Bucshon during the 13th Annual AWO Barge-In on April 15, 2015.

For inland vessel operators engaged in interstate commerce, decisions about critical equipment – like ballast water treatment, for example – can't be made if they don't know if those investments will be sufficient everywhere that they operate. Carpenter insists, "We have to have certainty, we have to have a system that works and we have to get ONE regulatory regime that's enforced by a knowledgeable federal agency. That metric is more important to use than any particular rule applying to any particular discharge at any particular time." For AWO and its membership, that one rule means VIDA.

VIDA is Vital

The Vessel Incidental Discharge Act (S373 / HR980) or VIDA is, according to Carpenter, making good progress on the Hill. Carpenter explains, "Chairman Thune of the Senate Commerce Committee, Senator Bill Nelson, and Senator Rubio have moved out smartly. The commerce committee favorably reported out the bill in February. That's lightning speed in congressional terms. Chairman Thune is looking for an appropriate vehicle to attach the bill to and pass it out of the Senate this year."

On the house side, the bill has been introduced by the bipartisan team of Reps. Hunter, Lobiondo and Cummings. The versions are essentially identical and introduced in roughly the same fashion. More than likely, says Carpenter, the language will be attached to another bill. In a nutshell, the bill would give the regulatory (discharge) authority to the Secretary of Homeland Security, in consultation with the EPA administrator. The Coast Guard would have the lead in establishing the two-part regulatory regime for ballast water and other vessel discharges, but at the same time the Coast Guard would then needs to listen to the advice of both EPA and individual states.

As the bill winds its way through the halls of congress, it is also true that vessel operators and their advocates have been pushing for a unified ballast water requirement – one that straddles the U.S. Coast Guard, the IMO and more than a dozen individual states – for more than a decade. But, this time, says Carpenter, it is different.

"There has been an increasingly science-based, technical and I think, political consensus that has emerged over the last several years. What I

"We have to have certainty, we have to have a system that works and we have to get ONE regulatory regime that's enforced by a knowledgeable federal agency. That metric is more important to use than any particular rule applying to any particular discharge at any particular time."

– AWO Executive Vice President Jennifer Carpenter

The American Waterways Operators

mean by that is that there is no state, federal agency or serious scientist that disagrees with the Coast Guard about what the highest level of ballast water treatment is today," said Carpenter. She continued for emphasis, "I really want to underscore that – the Coast Guard and EPA have the same standard for ballast water. We still have a problem because they get there in slightly different ways. They are accountable to two different statutory masters. So even though they do agree on the standard, the regulations don't completely align." As ***MarineNews*** went to press, those words were backed by almost 70 maritime advocacy groups spanning the full gamut of the waterfront.

Progress is being made. Even the states that set higher standards have acknowledged that those standards are not achievable. This includes California (1000x IMO) and NY (100x IMO). And, Carpenter insists, "What's great

PW Series Watermakers
Range from: 3,000-20,000 GPD
11-75 m^3/Day

Bilgewater Membrane Separators
Range from: 2,160-15,840 GPD
8.4-60 m^3/Day

Java Sea Watermakers
Range from: 790-3,200 GPD
3-12 m^3/Day

Together we can engineer solutions to meet all your offshore water requirements for your work boat applications.

Parker Hannifin Water Purification designs and engineers water treatment systems capable of producing Potable Water and Ultrapure Technical Water for a variety of applications.

At **Parker Hannifin** we aim to **delight our customers** by **partnering** with them and **responding** to **their needs.** We know our **success** is only possible through increasing our **customers' productivity** and **profitability,** thus **ensuring** their **success** as well. We are **committed** to **serving** our **customers** through **innovation**, **value creation**, and the **highest quality** system **solutions**.

Water Maker Features

- Compact Foot Print
- Vertical or Horizontal Configuration
- High Efficency Pump, Low Power Consumption
- Single Touch Operation
- Automatic Fresh-Water Flush

Bilgewater Membrane Separator Features

- USCG Certified to meet IMO MEPC 107(49) regulations
- MEPC 107(49) certified oil content monitor included
- Advanced three-stage design for maximum oil separation
- Fully automated system
- Certified compliant with European Union Marine Directive 96/98/EC section A.1/2.1 Oil Filtering Equipment

Parker Village Marine | Parker Sea Recovery

www.parker.com/watermakers • 1 800 C-Parker
www.searecovery.com • www.villagemarine.com • 1 310 608 5600

about VIDA is that it captures that standard, clears away any impediments to putting on board BWT systems. It also provides a mechanism to raise the standard over time, as the technology improves. This provides the certainty – through a regulatory regime – that allows vessel owners to make the decisions and investments necessary for compliance and to keep commerce moving."

BWT Requirements: An AWO Problem?

Although there is ballast used and carried on the inland system, both the Coast Guard and EPA recognize that there isn't a lot of value to monitoring ballast discharges by inland vessels – barges or towing vessels. That wasn't an easy place to get to, but although they both regulate ballast in slightly different ways, neither extends their requirements to inland towing vessels or barges. But that also doesn't prevent any state who wants from doing just that for ballast water or 26 other discharge streams that are regulated under EPA's VGP. On the other hand, coastal operators are subject to ballast water requirements, and, Carpenter says, that's a significant portion of AWO membership.

The EPA's small VGP (sVGP) has been shelved for now. By act of congress, last December, the exemption that has been in place for vessels less that 79' (that exemption does not apply to ballast water) and for fishing vessels of any size was extended to December 2017. From Washington's perspective, this means that the issue has been kicked down the road for another 3 years. That said; VIDA would permanently extend that exemption. That does not apply to ballast water. Today, small vessel operators can choose whether to comply with the VGP or the sVGP.

Today, two federal agencies and as many as 20 states regulate the same discharge stream in overlapping and inconsistent ways. For example, a vessel operating in interstate commerce, a tug-barge unit on a typical Pacific coastal voyage moving crude oil from Puget Sound, WA to the Port of Richmond, CA, traverses the waters of three states: Washington, Oregon, and California. In addition to EPA limits on ballast water and other vessel discharges found in the VGP, that vessel must comply with 25 supplementary, state-specific conditions added to the permit by Washington and California.

The vessel must also comply with Coast Guard regulations to manage and discharge ballast water and hull fouling organisms. Finally, in each of the three states it transits,

It isn't getting any easier: *The 27 discharges outlined in the 2013 Vessel General Permit:*

Bilgewater/Oily Water Separator Effluent	Sonar Dome Discharge	Deck Washdown and Runoff
Anti-fouling Hull Coats/Coating Leachate	Welldeck Discharges	Aqueous Film Forming Foam (AFFF)
Oil Sea Interfaces (props, tubes, etc.)	Fish Hold Effluent	Boiler/Economizer Blowdown
Motor Gasoline, Compensating Discharge	Elevator Pit Effluent	Equipment Subject to Immersion
Refrigeration & Air Condensate Discharge	Firemain Systems	Gas Turbine Washwater
Distillation and Reverse Osmosis Brine	Freshwater Layup	Non-Oily Machinery Wastewater
Graywater Mixed with Sewage from Vessels	Cathodic Protection	Seawater Piping Biofouling Prevention
Exhaust Gas Scrubber Washwater Discharge	Chain Locker Effluent	Boat Engine Wet Exhaust
Seawater Cooling Overboard Discharge	Ballast Water	Underwater Ship Husbandry

the vessel is subject to state laws and regulations, necessitating the submission of ballast water management reports to every state in which it will discharge ballast water (in addition to the reports required by the Coast Guard) and requiring the implementation of ballast water management practices in addition to those prescribed by EPA and the Coast Guard. And, that's what the passage of VIDA hopes to solve.

Since 2009, commercial vessels over 79 feet in length have been required to obtain coverage under EPA's Vessel General Permit in order to operate in U.S. waters. The VGP contains federal requirements for 27 types of vessel discharges, including ballast water, as well as federally enforceable

State and water body-specific discharge conditions added to the permit by states as part of the NPDES state certification process.

Upstream, Downstream & Inside the Beltway

It is arguably rare that a business sector collectively gets behind in a big way, so much in the way of new regulatory legislation. In contrast (perhaps) to the pushback that the federal government is receiving from the offshore industry in the wake of the Macondo disaster, the inland industry in particular is adamant that new legislation is needed. And, VIDA isn't the only proposed rulemaking on the table right now.

Separately, the so-called Subchapter M towboat rules have finally gone to DHS for review. Subchapter M will, when the final rule is published, bring more than 4,000 previously uninspected towing vessels (UTVs) into a new regulatory regime. And, despite the cost of significant cost compliance, industry has come out vigorously in favor of this rule, as well. Jennifer Carpenter told *MarineNews* in May, "OMB needs to review it. The Coast Guard has done a lot of homework and they sent the DHS a well-thought-out, well documented and well supported bill. And DHS recognizes the broad support that the rulemaking has – in industry and in congress. AWO is pushing hard for getting it done this year."

It remains to be seen what – if anything – will come out of congress in the final two quarters of this calendar year. And, while AWO and its stakeholders clearly have high expectations, matching those expectations to the reform of multiple, broken and balkanized regulatory schemes, is another thing altogether. Nevertheless, 2015 could be the breakthrough year that industry, for more than a decade, has been yearning for.

Metal Craft

North River


Ribcraft

Swiftships


Tampa Yacht

Competition, Quality and Demand Come Together


Metal Shark

Combat, Patrol and Law Enforcement Vessels Meet Multiple Missions with varied business plans.

By Susan Buchanan

U.S. firms building patrol, combat and law enforcement craft are weathering government budget cuts by strengthening ties with clients and public agencies. These unique boats remain in demand because of terrorism, crime, wars, piracy and fire, and most serve multiple missions. As maritime nations beef up their defense capabilities, U.S. Foreign Military Sales (FMS) and Direct Commercial Sales (DCS) programs help builders do business overseas. Some companies have successfully expanded sales through those channels.

At home, local counties and municipalities have limited funds, grants and matching grants to pay for waterborne assets. That said, sales and building for those entities hasn't gone away either. But, it will perhaps take a combination of all outlets for these niche builders to make a living in the coming year(s). It helps that U.S. builders can and do build series-style programs, economically and with better quality than what is typically found overseas in this sector. Indeed, U.S. builders today enjoy a surplus of trade for this type of vessel. The wide range of (domestic) companies involved in this business sector is impressive, varied in their approaches to obtain business, but commonly united in their success. How they make that happen is the real story.

Willard

Silver Ships

Euro Marine

Ribcraft Delivers for All Sectors

Close to home, Marblehead, MA-based Ribcraft, a manufacturer of rigid inflatable boats (RIBs) has bagged a contract to build U.S. Navy Shipboard 7 meter RIBs over the next five years. The RIBs will be built to commercial standards and Government specified requirements focused on hoisting weight and ship compatibility constraints. It is estimated the base year requirements will be for (32) 7 meter RIBs across all builders awarded the contract. Eventually, Ribcraft could build as many as 80. That contract was split with West Coast manufacturer, Willard.

Ribcraft builds inflatables in 14 to 40' range with most boats in the 22' to 25' range. Its backorder split is spread nicely across all sectors – Navy, municipalities, private buyers (yacht clubs, tours, etc.), first responders and industry (50%). The rapidly growing firm has made the

"2016 to 2025 looks great for boat builders and FMS clients because of tremendous demand from the Middle East – Saudi Arabia and others – for the U.S. Navy to deliver."

– Shehraze Shah, Swiftships CEO

7.8 meter rib their bread and butter for past 15 years. Specific output numbers weren't given but Ribcraft says that they've turned out several per month for the past 15 years.

According to ribcraft, the 7m RIB and its mission set has evolved over time. Initially used as a ready service life boat, but now, it is much more than that. Today, it is deployed for security, boarding, interdiction, perimeter guarding (preventing "Cole" style attacks). The vessel's engine selection, like that of many competitors, is driven by customer requirements, usually a function of which OEM is closest and can provide timely service. All Ribcraft models are manufactured domestically in New England.

Separately, Ribcraft recently announced the delivery of a specialized RIBCRAFT 7.8 for patrol and enforcement operations to the City of Decatur, Alabama. The 25' purpose built mission specific RIB will be used by the Decatur Police Department for tactical operations and on water patrols. Decatur's 7.8 also features CBRN capabilities (Chemical, Biological, Radiological, and Nuclear) for an advanced defense strategy.

Swiftships: Leveraging FMS, DCS programs

Morgan City, LA-based Swiftships has been in talks to provide Middle Eastern and North African navies with vessels ranging from 14 meters to 75 meters. "Interest in our 28-meter Coastal Patrol Craft (CPC), 35-meter Patrol Boats (PB), 45-meter Fast Missile Boat (FMB) and 75-meter Offshore Patrol Vessel (OPV), via U.S. Foreign Military Sales has been considerable," Shehraze Shah, the company's CEO, said last month. "Meanwhile, our Latin America team has focused on building customers in that region by offering co-production via U.S. Direct Commercial Sales for 15-meter to 28-meter vessels."

Two major avenues that exist for overseas business are Foreign Military Sales, with the U.S. Department of Defense as negotiator, and Direct Commercial Sales, Shah explained. DCS is arranged directly between a vendor and a customer, with an export license issued by the State Department to meet International Traffic in Arms Regulations or ITAR.

Swiftships' 75-meter OPVs are intended to join the Combined Task Force, a U.S.-led, anti-piracy coalition in the Horn of Africa. The company's PBs monitor the continental shelf in the Persian Gulf, and its CPCs are used to combat terrorism and militant threats. Both models are used for counterintelligence and drug seizures. OPVs perform counter-threat and rescue missions. Of note, Swiftships has leased and will move to 90 acres of yards in Morgan City, LA. The facilities will include 400-foot by 300-foot construction bays, with 30 acres of expansion space for future, composite-hull builds.

Silver Ships: military support craft

At Alabama-based Silver Ships, Inc. "We're mid-way through our second year in a five-year indefinite-delivery, indefinite-quantity IDIQ contract with the U.S. Navy for 11-meter cabin and center console, Surface Support Craft

or SSC, for the Naval Special Warfare community," Scott Clanton, the company's special projects director, said. "In another IDIQ contract awarded last year, we're providing the U.S. Navy with 8-meter High Speed Maneuverable Seaborne Targets or HSMST's, outfitted for manned and unmanned configurations for training scenarios as designated enemy vessels and designated targets. We delivered over 100 HSMST's last year alone, and have supplied the Navy with this type of platform since 1997."

"We're also providing 11-meter and 12-meter security boats to the U.S. Air Force," Clanton said. "Our U.S. government contracts being executed now are all for Department of Defense support vessels. Silver Ships continues to execute its state, federal and other government work, and we've increased our Foreign Military Sales in our commitment to delivering mission-capable platforms." The company has no FMS contracts at this time, however.

"The 11-meter NSW Surface Support Craft was designed to assist in worldwide airborne and all types of maritime training operations," Clanton said. "It is uniquely designed and the bow door allows divers and equipment to enter easily into the craft. The aft area has dive-relief sections along the sponson to ease in retrieval of personnel."

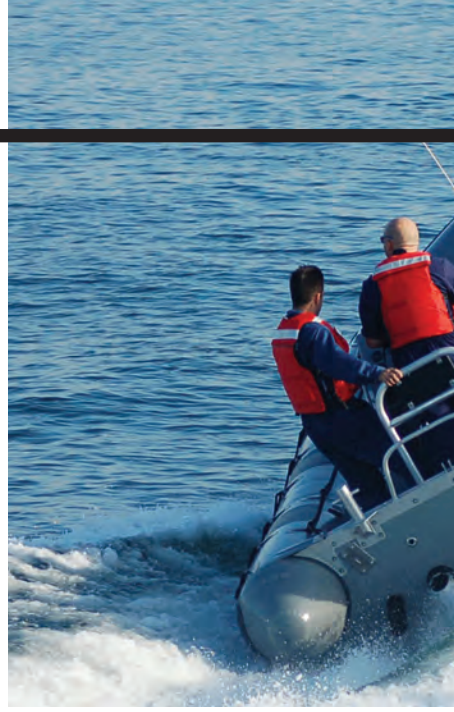
MetalCraft: U.S. Navy and USCG Focus

Cape Vincent, NY-based MetalCraft Marine is building six 30-foot multi-mission boats for the U.S. Navy over the next year. Emily Roantree, the company's sales and marketing manager told MarineNews, "In conjunction with Brunswick Commercial and Government Products, we're constructing two 36-foot international military and police patrol craft, and four 36-foot U.S. Coast Guard Long Range Interceptor craft." In mid-2012, MetalCraft was awarded a design and production contract for new-generation, Long Range Interceptor IIs for the U.S. Coast Guard's National Security Cutter operations.

Willard Marine meets military and patrol needs

"We'll deliver fiberglass and aluminum boats this year and next, used in blue- and brown-water missions and ranging in size from 16 to 36 feet, "Karen Jacquelin, Willard's marking director, said. These vessels are intended for Department of Defense domestic and foreign military operations. "Willard is working on a variety of contracts that require continual production throughout this year," she said. The company also has operations in Virginia Beach, Va. Most of Willard's patrol, combat and law enforcement boats are designed for multiple missions. That's how you stay competitive in this sector, says Jacquelin.

Tampa Yacht



USMI produces RIBS for navies

United States Marine, Inc., in Gulfport, MS has delivered, over time, 250 11-meter Naval Special Warfare Rigid Inflatable Boats, or NSWRIBs, to U.S. government agencies and friendly, foreign navies in Asia, the Middle East and Scandinavia since this craft was first manufactured in 1996," Barry Dreyfus, Jr., the company's CEO, said. He added, "Under a current U.S. contract, valued at up to $18 million with Naval Sea Systems Command, we'll provide these craft until August 2019. In addition, USMI continues to receive contracts for FMS sales of these boats to various foreign navies." The 11-meter NSWRIB is versatile, transportable and air deployable, Florane said. Its uses include insertion and interdiction missions and vessel boarding.

North River supplies local agencies, military

North River Boats in Roseburg, Oregon has also been busy "This year and next, we have orders for – or have delivered – 21 law-enforcement, patrol and military boats in various sizes and configurations," sales director Mike Blocher said. "Five of them are smaller, law-enforcement vessels in the 21 to 24 foot range. Eleven of them are primarily for law enforcement and patrol, and range from 26 to 38 feet in length." Most of these boats have twin or triple outboard propulsion, various electronics suites and law-enforcement-specific options. Nearly all the company's vessels perform several missions.

"We have completed or are building five boats under separate contracts for the U.S. military – including the Navy, the Air Force and one vessel for the Army – ranging in size from 36 to 38 feet," Blocher said. "The majority of them are part of our Valor (Force Protection) series, generally with twin or triple outboard propulsion systems. Our military boats are generally used for fleet protection in harbors or ports." Beyond this, the company's vessels are used by law enforcement units in city, county and state agencies. "Many of them are in support of port security or other grants for fire boats in counties in the Pacific Northwest," Blocher said. North River Boats reports a "healthy" backlog of boats to be built with deliveries stretching into the spring of 2016.

Euro Marine hopes to meet FMS rules

Euro Marine Ltd., based in Florida and the British Virgin Islands, produces 20-meter PI-65s – offshore and coastal patrol, interdiction and surveillance craft – in the Netherlands. The vessels are commonly used for fire and rescue and law enforcement. Bill Rigby of Euro Marine told MarineNews in May, "We're in discussions to build and equip them with U.S manufactured, marine gas-turbine engines to satisfy government contract requirements for domestic material content," He adds, "We're looking to build in the States, and we hope to meet FMS program and also U.S commercial requirements." PI-65s are designed to operate in severe offshore weather and sea conditions. "With their 3'10" draft, these boats can handle shallow waters, following the bad guys where others may fear to go," Rigby says. The company's vessel sales are forecast at roughly 60 million Euros for 2015 to 2017.

Tampa Yacht Manufacturing

Not to be outdone, Tampa Yacht Manufacturing recently announced the delivery of four (4) 50-FAC, Fast Attack Craft to South Asian Border Security Forces. The vessels are to be used in clandestine operations in remote areas of operation. The 50-FAC is a tactically sized (50 foot), reconfigurable, combatant craft capable of operating from land or maritime platforms. Well suited to provide Patrol, surveil-

Ribcraft

lance and interdiction in shallow coastal and riverine waters, its low draft, high maneuverability and 45-50 knot speed for day and night operations are all key features of the boat.

Separately, the Kuwaiti Ministry of the interior earlier this year placed an order with Tampa Yacht for as many as 29 Fast Coastal Interceptor craft for the Kuwaiti Coast Guard. The 14.42M craft are powered by Man R6-800 diesels rated at 1600hp, has a top speed of 55+ knots at full load and a range of over 300 nautical miles at 38 knots.

Outlook: Middle East, and Closer to Home

"2016 to 2025 looks great for boat builders and FMS clients because of tremendous demand from the Middle East – Saudi Arabia and others – for the U.S. Navy to deliver," Shah of Swiftships said, adding, "The Saudi Navy, for example, already has a fully-funded Letter of Request for Lockheed's Littoral Combat Ships, and that leaves 13 billion riyals in the Saudi budget for more naval ships and services." Lockheed Martin is based in Maryland and Texas. "Middle East needs will certainly increase opportunities for boat builders," Shah said.

Elsewhere, local municipalities and federal needs are keeping domestic builders busy. Multi-missioned, reliable and affordable boats capable of being customized to meet a wide range of tasks remain in demand, here and overseas. And, U.S. builders are happily supplying them. Neither scenario is expected to change, any time soon.

__Susan Buchanan__ is a New Orleans-based business writer, specializing in energy, maritime matters, agriculture, the environment and construction. She holds a master's degree from Cornell University in agricultural economics and an undergraduate degree from the University of Pennsylvania.

Photo credit: Glenn Hall Photography

The 'Greening' of America's Marine Highways

Ingram Barge Company sees two kinds of green in their newest venture on the inland rivers.

By Joseph Keefe

In late March, the Paducah-McCracken County Riverport Authority and Ingram Barge Company announced plans to assess the viability of Intermodal River Transportation, utilizing the largest flat-top crane in North America and Ingram's towboats and barges. On March 27th, that plan came to life as the Paducah Riverport Authority's 200-ton crane lifted 54 empty containers and stacked them neatly on an Ingram-owned barge. An Ingram towboat then transported the container laden barge to the port of St. Louis and then back to Paducah for unloading. The highly successful trial run tested the logistics of moving the intermodal containers via barge in the nation's heartland.

Ingram Barge Company, better known as a transporter of bulk products and commodities on the inland rivers, owns and operates 140 towboats and nearly 5,000 barges. The intermodal container move via barge now opens up a world of other opportunities and options – not only for Ingram, but also for shippers, environmental reform proponents and everyday users of the roadways that will see less traffic, if and when the fledgling enterprise takes flight.

From the start, commencing the first voyage from Paducah made a lot of sense. Located at the confluence of the Tennessee and Ohio Rivers, the inland hub also boasts the right equipment to be a major container port serving this new market. With the U.S. Maritime Administration predicting that the nation will need to move an additional 14 billion tons of cargo by 2050 in order to accommodate population growth, it is clear that the future intermodal picture will need to include inland rivers as a key component. Ingram's bold test run, which ended in April, certainly demonstrated the viability of the concept.

According to Ingram, a standard Jumbo Hopper barge

can accommodate up to 81 empty or 50 loaded Twenty-foot Equivalent Units (TEU's), or 36 empty or loaded Forty-foot Equivalent Units (FEU's). A towboat operating on the locking rivers like the Tennessee, Ohio or Illinois, can typically transport 15 barge tows, which equates to a possibility of up to 1,215 empty or 750 loaded TEU's or 540 empty or loaded FEU's. A towboat operating on the Mississippi River from St. Louis to New Orleans can transport up to 54 barge tows, which equates to a possibility of up to 4,374 empty or 2,700 loaded TEU's or 1,944 empty or loaded FEU's.

C-Suite Support

Chuck Arnold, Ingram's Vice President of Business and Strategic Development, says the new business concept has firm support starting at the very top of the Ingram corporate structure. "Credit goes to our owner, Orrin Ingram. His son had done a lot of work conceptualizing the idea. And then it came to us, the business development guys. They said they would support us and we decided to run with it," he said, continuing, "The genesis of this comes from looking at our highway systems and our rail system and our need to address growth going forward. We see ourselves becoming part of the intermodal network. And we've looked at the reports from the various DOT's and we say that we can be a part of the solution."

The test run distance, just 220 miles, was deliberately conducted at a measured pace. Ingram Business Analyst Andrew Luttrell explains, "We purposely took a slow trip, letting a lot of captains be on the barges, at the helm, and so forth. We wanted feedback from our fleeting areas. We didn't take our best barge – we wanted to see how the equipment we have on hand handled the containers." As it turned out, the equipment performed just fine.

At Paducah, the first container lift took some time. With a prevailing 20-25 mile per hour wind, the first swing took about 14-15 minutes, but by the time the operator got into a groove, that metric improved to just 5 or 6 minutes per lift (container). Looking ahead, loading one barge with 54 units might take less than 12 hours. As an added bonus, the bulk barges need no special reconfiguration or additional equipment to accommodate the containers.

Arnold explained further, "All we needed was a little bit of dunnage at the bottom of the barge. It was just amazing how well they fit. We went two high and two layers of nine by three – for a total of 54 units on one barge. It's just a beauty to see that we can take what we have now and we'll now have a lot more flexibility. We could take iron ore on one trip and containers on the next trip with the exact same equipment."

Ingram didn't set off down the river in a vacuum. Every aspect of the voyage was looked at and dissected. Draft – under the hull and/or above it (air draft) – wasn't an issue. Admittedly, the containers moved during the test run were empty, but 54 fully laden containers only displace about 1,600 tons and since the height of loaded containers was well below the wheelhouse, air draft wasn't an issue, either. "We had a lot of discussion about going three high, and if you look further into the future, there is economics for us in that stow, but safety really comes first. We talked to a couple captains who said they'd be a little bit concerned about visibility and if there was substantial wind, that could impact handling," said Arnold, adding, "We're just going to do our act 'with a net' at first, maybe we can get three high but safety is paramount and we want to make sure everyone is comfortable with two before we ever try three. And, if we ever get to three and decide that this involves safety risks, then we just won't do it."

Collaboration

Arnold insists, "We're ready to go. We're kind of a silent industry for transport, but this will give shippers an opportunity and for us, an opportunity to grow. As an industry, we think we could grow by as much as 50 percent without any impact on the environment or the recreational users." Moreover, Arnold sees a shift in how to market the new service in a manner that appeals to everyone.

"We've heard forever, transport by barge. We're trying to change that to 'collaborating with other modes – intermodal transportation. So, when people talk intermodal, we want them to think rail, think truck and, yes, think truck. And we want folks to ask, 'How are we going to put all of these assets together to put together the best intermodal plan?' So often, when we say 'Container on Barge,' a lot of the old timers tend to look at their shoes. So, inwardly and outwardly, we refer to this as intermodal river transportation. The enthusiasm here is rampant. Now is the time to get more shippers interested and comfortable with it," he said.

Selling the concept to new customers will involve education. Some potential shippers, says Luttrell, think that the (inland) system would freeze up for months out of the year, where that 's really isolated to the upper Mississippi, north of St. Louis. He adds, "People hear that we 'have constant floods and constant droughts.' These things do happen, but we continue to move – even in the most severe drought of 2012 – we still moved product, just in lighter loads and we pulled it off."

In theory, containers will move from point A to point B much faster via truck and/or rail. But, the disparity is actually much closer than that. The longer the distance involved, the better the economics and logistics will work. Chuck Arnold insists, "Certainly, we are the most cost efficient and environmentally friendly mode of transportation in this area. Short haul stuff? That's still going to go on a truck. More than 200 miles, this is very, very viable. And, with a pilot and captain on board, we can run 24/7 so that makes up for a lot of time differential. And, at certain times – look at the example of crude oil on the rails, for example – there are peak times when you do a little bit better taking the demand off the system." And, with the average speed of railcars in Chicago's congested yards now averaging around 9 MPH, he just might be right.

Ingram's 'container on barge' team says that it's all about understanding the needs of the customer and asking, "What can we do to make the service more efficient?" Starting out, Ingram sees the service as a pure container service, but also something that could evolve into a mixed, flexible route that sees containers in one direction and bulk in the other. Luttrell told *MarineNews*, "Even if we only have 15 to 20 containers to start – a loss leader of sorts – we're simply looking for a fair margin on our efforts. Without a doubt, this could be a 'win-win-win' for everyone: the environment, the barge operator and the shippers, too." Ingram is already talking to several potential customers now that the test run has been completed.

Looking Ahead

Following their successful and routine beta run, Ingram finds itself looking out to the horizon for a good business fit. Luttrell told *MarineNews* in May, "For starters, Chicago is where a lot of empty containers are generated. That's very viable – Chicago – Memphis, St. Louis. And, perhaps, a little bit further up on the Ohio River towards Cincinnati. And, obviously, New Orleans."

Separately, on March 23, American Electric Power (AEP) announced that

it was exploring strategic alternatives for its barge transportation subsidiary, AEP River Operations. AEP is one of the largest U.S. inland marine transportation companies providing transportation services for bulk commodities, coal and liquids. While it gave no details as to what might transpire next, it is also true that they have taken delivery of as many as 40 new tank barges in the recent past. As AEP transitions to a more diversified fleet that moves away from waning coal volumes, it also looks for new ways to make money on the river.

Ingram's Arnold addressed coal in a similar fashion, saying, "It's a component – a small part of the equation, sure. And, when we look at our order book, the best way to express our goal is that we want to have a diversified order book. Everything changes so fast – from grain to steel to coal to new commodities. We don't want to be beholden to any one cargo. Natural gas liquids can be moved in containers. You have to take what they can give you and we looked at this and said, 'Containers certainly need to be part of the pie here.'" Andrew Luttrell agrees. "We see a time where we can work together with all the systems in the intermodal picture, accommodating growth in the best way possible for the shipper."

Ingram sees the future and the future includes dry cargo barges that just happen to fit containers nicely in good numbers. Sure, it makes for a 'green footprint' but Ingram also sees a different kind of green. There are success stories. The I-64 Express, for example, that runs between the inland port of Richmond, Virginia and Hampton Roads, has over time removed tens of thousands of trucks from the crowded I-64 corridor, while at the same time reviving the 'container on barge' concept. Championed by former U.S. Maritime Administrator and VA Transportation Secretary Sean Connaughton, that service is exactly what Ingram hopes to duplicate – and more. Separately and further to the north of Richmond, a ferry system running between Long Island, NY and Connecticut has for many years done the exact same thing.

It's not about pitting one transport mode against another. There will always be a need for a truck to take that box to its final destination. In a perfect world, the truck driver is actually going to be able to go home at night and sleep in his own bed. And for an industry (trucking) which boasts among the highest turnover rates in their over-the-road employees of any business sector in the country, you would think that this sort of arrangement might hold some promise. Ingram Barge Company certainly isn't the first to try this service on America's inland waterways. But, sometimes, it isn't about being first – it's about collaboratively providing the right service, for the right reasons, in the right fashion, at the right time. And, when it is all said and done, that just might leave some competitors 'green' with envy.

Ducted Propulsion for Inland River Towboats

Photo: Nautican

The mature concept provides proven efficiencies in a customized package for varied inland conditions.

By John Eckart

The simple, yet highly effective design of what the marine industry knows today as the Kort nozzle, was initially developed by Luigi Stipa and Ludwig Kort in the 1930's. Later, the design was further refined into the Type 19A and the Type 37 nozzle. This research and development was performed at the Marine Research Institute Netherlands (MARIN). Since then, it has been shown that Kaplan-type propellers used in conjunction with a nozzle can provide increased thrust at relatively lower speeds of advance; generally less than about ten knots.

Nozzles have been in use on various types of vessels for more than eighty years; in particular, slower moving, highly loaded vessels such as fishing trawlers, tugs and towboats. And the basic design parameters of the system went virtually unchanged since the MARIN-developed designs worked exceptionally well at generating increased thrust compared to an open propeller of the same diameter. The MARIN nozzle shapes were designed to be easy to build and included a cylindrical section for the propeller and conical outer sections.

Enhancements & Efficiencies

In recent years, further research and development has been done to improve on the design by utilizing airfoil sections for the nozzle such as NACA airfoil sections. The benefits of this design are twofold. One is greater efficiency as a result of a decrease in the parasitic drag of the nozzle. Since the nozzle shape can be tailored for a specific operating condition, it is also possible to increase in thrust

generated by the nozzle in the design condition. This potentially allows the use of a nozzle over a wider speed range and thus greater applicability to vessels other than tugs.

And the nozzles aren't the only components in these systems that have been improved in recent years. Propeller designs have also advanced, especially with regard to cavitation and vibration mitigation for ducted systems. In cases where unsteady cavitation can be problematic, often times resulting in potential vessel vibrations, the use of skewed blade designs has been very effective. The evolution of these systems has gotten the attention of operators that stand to benefit from the increased efficiency as well as the enhanced crew comfort and vessel life span thanks to the potential reduction in vibration.

However, the environment in which inland vessels operate is highly variable. Ever-changing depths and currents make it a challenge to rubber stamp a ducted system across the entire inland river system. And with so many different vessel classes and potential missions, it takes a careful approach to get the desired outcome. The use of Computational Fluid Dynamics (CFD) is that approach. With these tools, the features of the propellers, nozzle geometry and propeller parameters can be explored in a particular situation to determine whether or not a particular candidate is appropriate for a ducted installation.

A key feature of nozzle propulsion for highly loaded applications is that the nozzle itself generates a significant portion of the total thrust. Thus the nozzle allows for higher thrust to be generated by smaller diameter propellers and with higher overall efficiency. The ducted propulsion system increases efficiency by increasing mass flow capacity of the propeller by increasing the velocity of water through the propeller disk. The nozzle is an

annular airfoil which develops thrust from the circulation created by the propeller. The nozzle airfoil has negative (inward) camber to develop ahead thrust. The shape of the nozzle airfoil can be tailored to the expected flow condition to achieve maximum performance at the design point of the particular vessel.

Inland River Towboats

A key consideration for inland river towboats is the need for backing thrust. The Type 19A nozzle was developed to provide good ahead performance, but backing performance is sacrificed. Typically, astern thrust is about 55% of 'ahead' thrust. There are several factors that cause this loss of astern thrust, including the small trailing edge radius of the nozzle, the small diffusion angle of the conical section aft of the propeller and the form of the stern of the vessel itself. The Type 37 nozzle addresses some those factors and generally does provide better backing performance. However, some of the ahead thrust potential is lost. But with the ever-increasing use of CFD, it is possible to customize the nozzle geometry for any operating condition, including the necessity to have greater backing ability. Off-design conditions can also be investigated to determine the effectiveness of the nozzle in scenarios other than the primary use of the system.

When the 19A nozzle was being developed at MARIN, a range of nozzle length-to-diameter ratios were tested and it was determined that a 0.5 length to diameter ratio was optimal. This gave engineers and architects a rule of thumb for considering nozzles on both new vessel designs as well as retrofits. In recent years, other CFD analysis of airfoil nozzles indicated that it may be possible to increase overall efficiency with slightly shorter nozzle lengths, with a length to diameter ratio of about 0.3. The shorter nozzle would make fitting into an existing arrangement easier and it would reduce clearance problems with rudders in all applications. It was also found that there may be some benefit in increased backing performance with a reduced nozzle length.

The MARIN tests also looked into the effects of propeller placement within the nozzle. It was determined that placing the propeller in the center of the nozzle, relative to the nozzle's length, provided the best efficiency. Other studies have shown that moving the propeller away from the center of the nozzle, especially forward of the center line, tends to reduce thrust.

In addition to the placement of the propeller in the nozzle, the clearance between the tip of the propeller blades and the inner diameter of the nozzle was also found to be a critical dimension that has quite an effect on the overall performance. Increased tip clearance was specifically addressed during testing and it was determined that efficiency suffered if the gap was greater than 0.4% of the propeller diameter. There are also cavitation effects due to the size and shape of the gap. Another very practical issue for brown water use is the ability for the propeller to shed debris. This is largely affected by the tip clearance and the shape of the leading edge of the propeller. Both can be optimized for use in the inland rivers systems.

Integration of a nozzle into the hull is another critical factor for towboats. The outside diameter of a typical nozzle is about 20-25% larger than the propeller diameter. In all cases, the nozzle will be tucked up close to the hull and may be in a tunnel in order to provide sufficient diameter. And in most cases, the bottom of the nozzle should be at or above the baseline of the hull. This likely makes the top of the nozzle inside the nominal hull line and in some cases, the base of the nozzle will have to be flattened. The upper section of the nozzle must be faired into the hull as reasonably as possible to avoid cavitation while moving ahead and to minimize flow disturbances into the propeller while moving astern. The lower portion must be thick enough to provide adequate strength and be well-rounded to minimize flow losses.

These compromises will reduce the amount of the thrust produced by the nozzle, but when properly designed, the overall outcome should be a more efficient operation. Cavitation is as always a key consideration for towboat propellers. Nozzle propellers are less sensitive to inflow velocity than open propellers, but blade pressures should be kept slightly lower for best performance. The ability of the nozzle to produce some of the thrust does allow for smaller diameters to be used for a given power.

For most fleets, fuel costs make up a large portion of the overhead. The efficiency of a properly applied ducted propulsion system can be a reliable way to keep fuel costs lower over the life of the vessel. For the design of new vessels with ducted systems, analysis of underwater features, optimizing for any parameters such as efficiency or vibration mitigation, makes a lot of sense. For existing vessels, evaluation of the current configuration can determine whether a conversion to a ducted system is feasible. And in every case, the propellers can be engineered and built to fit a specific system operating in any given condition.

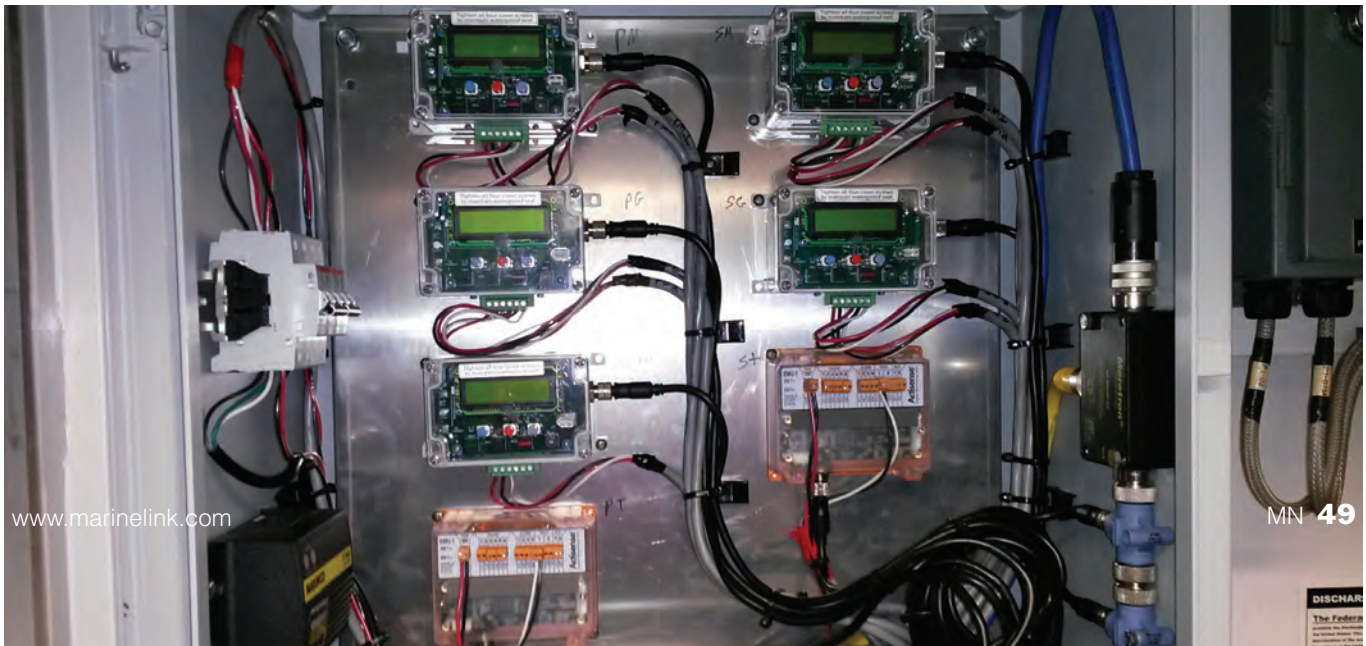
John Eckart *is the Principle Engineer at HS Marine Propulsion, LLC. He is a graduate of Kings Point and the University of Michigan with a degree in Naval Architecture and Marine Engineering.*

Geo-Fencing on the Waterfront

Floscan Instrument Company's fuel monitoring and measurement tool eliminates reporting hassles but provides much, much more for inland operators.

FloScan Instrument Company has been in the fuel monitoring and measurement game for a long time. Since FloScan flow meters were first introduced 40 years ago, more than 750,000 Floscan sensors and systems have found their way onto almost every make of gasoline and diesel engine in the world rated from 25hp to 6000hp. Floscan got started in the aircraft industry and worked its way into the recreational marine markets. The bulk of Floscan's marine business involves workboats, fishing and industrial generator applications. According to Floscan, where fuel consumption is a critical measurement, the product installs and runs at half the cost of some competitors.

Today, and through the use of Floscan's proprietary DataLog software, FloScan is helping tug and barge operators on the inland rivers save money by accurately tracking fuel consumption for calculating federal, state and regional tax levies. The process is called geo-fencing and it is as remarkable as it is simple.



Jerry Cardillo,
President of Enterprise Marine Services

One such client is Houma, LA-based Enterprise Marine Services (EMS), an operator of inland tow boats and tank barges with a small fleet of offshore tugs and barges. The majority of the EMS tug fleet works inland so geo-fencing is important for the operator's tax purposes. EMS President Jerry Cardillo told *MarineNews* that his fleet already boasted 17 Floscan units and that system typically installs in about one day. EMS and Cardillo operates 63 tugs and 134 barges, running up and down the inland and offshore waterways. But Cardillo depends on Floscan for many things, beyond the all-important tax reporting. Cardillo insists, "It's about customer satisfaction and providing them with the best possible service. When the charterer is paying for the fuel, we want to know that we are operating as efficiently as possible."

EMS regularly benchmarks many aspect of their business, including the installation of a new z-drive on one of their tow boats. EMS, for example, wants to know what the sweet spot for that system might be, whether or not it produces energy savings and other metrics above and beyond the standard propulsion system, as promised. As EMS embarks on its new build program, it is also building to a Tier III standard. And, says Cardillo, with Floscan, EMS can even monitor consumption and efficiencies not only vessel to vessel, but also based on the personnel on board the boat.

EMS only started installing Floscan onto its vessels in the fourth quarter of 2014, but Cardillo says that he and his team are already looking at many data points which will eventually yield dividends for EMS – and his all important customers. EMS is already looking ahead to the coming Tier IV requirements. "We'll want data from our current fleet, for comparisons, when that comes."

Geofencing 101

Operating commercial vessels on inland waterways requires accurate fuel consumption tracking for paying an array of fuel use taxes under the Inland Waterways Revenue Act in addition to those imposed by some states and

The M/V DAN L, a vessel that uses the Floscan system.

local jurisdictions. In most cases, these taxes apply only to fuel used for propulsion and are based not on gallons purchased, but on gallons burned while transiting specific areas. The complexity of tracking fuel burned for tax purposes has been, up until now, tedious, time consuming and for many little more than guesswork. But that all changed with the latest version of the FloScan DataLog software with Geo-fencing.

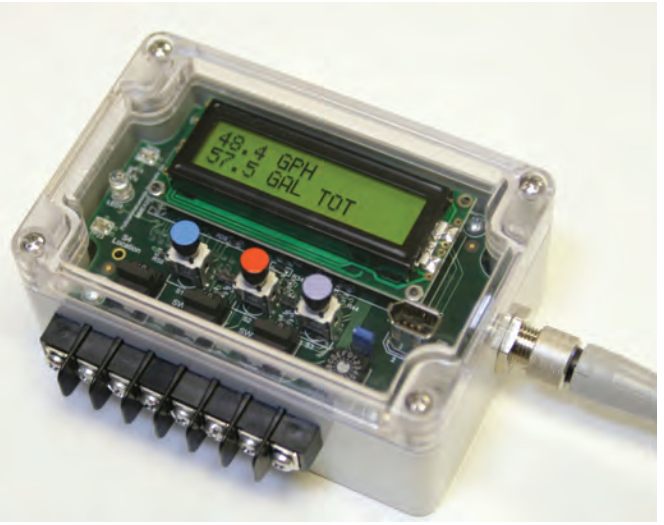
DataLog software is included FREE with the purchase of any FloScan FloNET fuel computer system. Here's how it works: FloScan fuel flow sensors are installed on the vessel's engines and generators and linked to the FloNET NMEA 2000 network hub. The hub is linked to the vessel's onboard GPS to provide locational data. The various data streams are supplied through the FloNET hub to an onboard computer system or laptop running the free DataLog software, which captures and displays the data in a very flexible spreadsheet format that can be customized to provide a wide range of information for the vessel and can be set up to report to fleet operations via email on a user-selected schedule.

The fuel flow parameters recorded and displayed in DataLog include net fuel usage total for the vessel, net fuel flow rate per engine; net fuel usage total per engine; supply flow rate; fuel temperature; return flow rate and fuel temperature. The vessel parameters recorded and displayed in DataLog include speed over ground; course over ground; fuel efficiency; and GPS coordinates. In both cases, this data is recorded continuously once per minute.

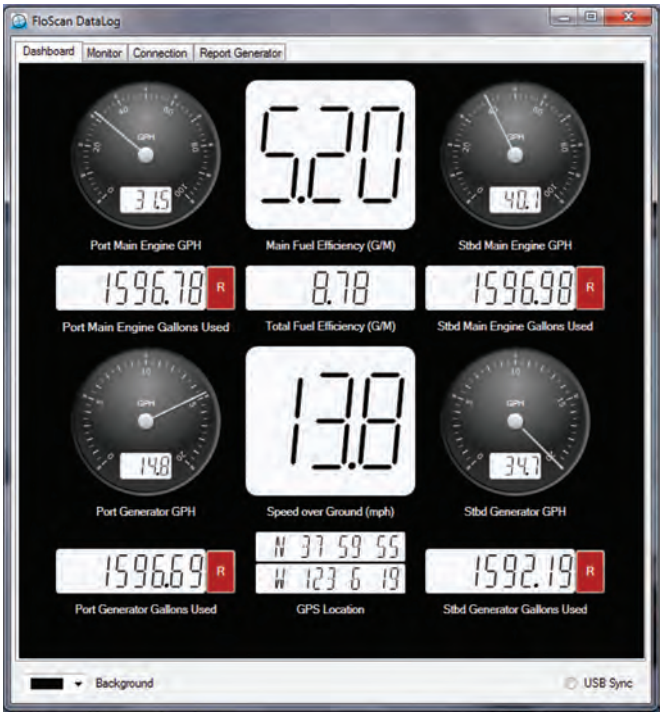
The data recorded on the PC is automatically transferred to a custom-programmed FloScan flash drive as a CSV spreadsheet file. The USB flash drive is automatically synched with the latest "unrecorded" data each time the flash drive is inserted. This can be done at whatever intervals the user selects from hourly to daily to weekly and so on. Data can be retrieved or the file can be manually e-mailed as an attachment directly from the vessel's PC. Each commercial copy can monitor and record up to 16 engines simultaneously on a NMEA 2000 or CANbus (network) backbone. Software also includes custom CSV spreadsheet report generation.

The latest version of DataLog has the added flexibility of geo-fencing or the ability to program in an infinite number of geographic "tax zones" for tracking fuel burned while transiting each zone. This is done by entering the latitude and longitude boundaries of each zone. When the GPS indicates the vessel has crossed a geo-fence into a tax zone it automatically begins recording the fuel burned by the propulsion engine(s) until it crosses the next geo-fence effectively leaving the zone and entering the next. The process continues as the vessel passes from zone to zone automatically recording accurate consumption data for each. The data is included in the spreadsheet for calculating tax liabilities for the vessel and making it available to fleet operations via the user selected data transfer from the vessel.
www.floscan.com

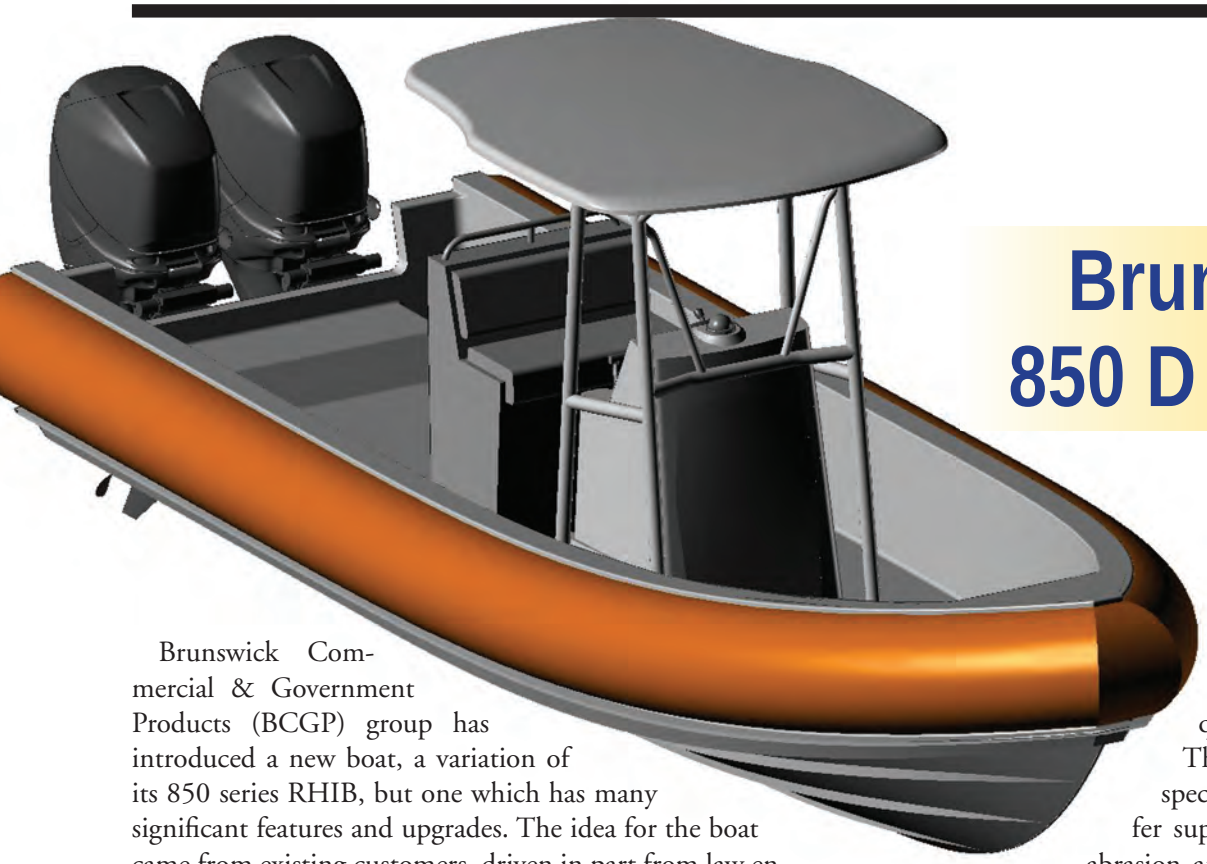
FloNet Module



FloNet Fuel Management Screen



Brunswick's 850 D IMPACT



Brunswick Commercial & Government Products (BCGP) group has introduced a new boat, a variation of its 850 series RHIB, but one which has many significant features and upgrades. The idea for the boat came from existing customers, driven in part from law enforcement side. Still in production, BCGP already has four 850 D Impacts on their backlog, with two being delivered this month to a southeastern state agency. The Edgewater, Florida-based builder is in discussions with other customers. The versatile hull can be used for many missions, including combat, special operations, homeland security, law enforcement, fire/rescue or in workboat environments.

850D Impact RHIB design takes advantage of Brunswick's existing designs. According to BCGP, there is no other manufacturer building a fiberglass hard sided RHIB. Combining the best characteristics of a standard fiberglass hull with the benefits of a RHIB, the 850 D will provide customers with a solid fiberglass gunnel as well as a hybrid air/foam filled collar which aids law enforcement during tactical maneuvers, where boarding another craft may be necessary. The interior gunnel additionally allows for stable footing when leaning on the gunnel as well as improved mounting surfaces for additional options.

BCGP uses Wing collars because of their quality and durability. These heavy-duty, mil-spec polyurethane tubes offer superior air retention and abrasion and puncture resistance. The new 850 D collar is a hybrid air/foam filled unit which mitigates the risk of deflation if punctured. It will still keep the same form and functionality if punctured or damaged, and the boat will remain operable. The non-marking collar will not only protect both vessels but mitigates the risk of injury to officers.

The new offering offers much in the way of optional equipment and configurations; literally something for every potential customer. For example the 850 D will offer an enclosed or open cabin arrangement, and will be able to accommodate myriad engine configurations.

The Brunswick Corporation, BCGP's parent, does own Mercury. In an effort to help customers maintain fleet continuity, a wide range of engine options – from outboards to inboards – is available. Typically, engine choice is driven by the customer's nearest OEM and service provider. Customers can choose either inboard or outboard configuration. According to Brunswick, state agencies tend to prefer

BCGP's 850 D IMPACT at a glance ...

LOA: 27'-10" / 8.2 m	Max HP: 500 hp / 373 kW	Weight Capacity: 4,043 lb. / 1,833 kg
Beam: 9'-04" / 2.8 m	Min HP: 300 hp / 224 kW	Fuel Capacity: 150 gal. / 567 L
Draft: 18" / 46 cm	Capacity Personnel: 17	Transom Height: 30" / 76 cm
Deadrise: 24"	Weight: 3,400 lb. / 1,542 kg	Maximum Engine Weight: 1,400 lb. / 635 kg

outboards (easy maintenance), whereas federal and international customers usually choose inboards.

Brunswick wants to be the "one stop shop" that allows for many design and mission combinations. The builders of the first commercially-used Boston Whalers in the late 1950's, today allows the customer design the interior based on specific applications and BCGP takes care of building a boat to match. Ballistic protection is available as an option, which hangs over the side when deployed. Later this year, BCGP plans to expand the D collar option to its 10, 11 and 12 meter IMPACT hulls.

www.brunswickcgp.com

EBDG Remembers
James A. Cole

EBDG is saddened to announce the passing of Jim Cole. Over the span of a half century, Jim distinguished himself as among the best in his field, demonstrating expertise in the design of a variety of vessels ranging from ferries, innovative tugs and his beloved fishing boats. Jim earned a degree in Industrial Design from the University of Washington in 1957 entering Seattle's marine industry during the crab-boat boom of the 1960's, and gaining experience in Tacoma during the era of large tuna seiners. He would eventually worked at Foss Shipyard for nearly 20 years. The latter half of Jim's career was spent at Elliott Bay Design Group where he worked until his retirement in December of 2014. A gifted Marine Artist and Historian, in 2013 Jim published *"Drawing on Our History: Fishing Vessels of the Pacific Northwest and Alaska."* The book weaves a fascinating history of the evolution of fishing vessel designs unique to the Pacific Northwest and earned him the prestigious Robert Gray Medal, from the Washington State Historical Society.

Gustafson

Sorenson

New to the Boksa Marine team:

Boksa Hannahs McNamara

Delta "T" Welcomes Gustafson as Sales Manager

Jon Gustafson has joined Delta "T" Systems as its application sales manager. Bringing over 15 years of broad marine experience to his new position, Gustafson will grow the application sales team. Prior to his move to Delta "T" Systems, Gustafson worked for Rybovich Boat Company as a shipyard logistics manager and Palmer Johnson Yachts as a designer engineer. He studied mechanical engineering at Roger Williams University and completed The Landing School's yacht design program.

Willard Marine Adds Sorenson as Regional Sales Manager

Jimmy Sorenson has been named Regional Sales Manager by Willard Marine for the Gulf Coast and Florida. Sorenson served 11 years with the U.S. Coast Guard in many roles and earned the prestigious boat coxswain certification. For the past 14 years, Sorenson managed business for an aluminum boat manufacturer, including proposal and quote development for a team of sales representatives.

Boksa Marine Design Welcomes 3 to Tampa Office

James McNamara and **Forrest Hannahs** have joined Boksa Marine Design as Jr. naval architects. **Bob Boksa** has joined the sales and marketing team. Previously, McNamara held design engineering positions with both Sea Ray and Catalina Yachts where he was involved with design projects for larger yachts and sailboats for the consumer market. McNamara is a United States Coast Guard licensed Captain (OUPV). Hannahs is a 2014 graduate of Florida Atlantic University (FAU) where he received a Bachelor of Science (B.S.) in Ocean Engineering. Boksa is a USCG licensed operator, and in 1996, established a Yacht Brokerage serving Lake Michigan.

Socha Joins Baker Marine Solutions as VP Business Development

Baker Marine Solutions (BMS) has announced the appointment of **Robert Socha** as Vice President Business Development for the Domestic United States and International operations of the company. Mr. Socha joins BMS following a 16 year career with Bollinger Shipyards as executive vice president marketing and sales, and an earlier 18 year career with Tidewater, Inc. in sales for their North America and International operations.

Great Lakes Towing Company & Great Lakes Shipyard Add Two

Graham Gajewski and **Patrick Owens** have joined the Great Lakes Towing Company & Great Lakes Shipyard. Gajewski has been named Naval Architect and Owens has been named Operations Coordinator. Both will work in the Cleveland offices. Graham earned his Bachelor of Engineering – Naval Architecture at the State University of New York Maritime College and is a licensed USCG Unlimited Tonnage Third Mate. Pat's


Socha


Gajewski


Owens


Gethings


Godfrey


Coyne

career includes 20 years of service in the U.S. Coast Guard and he earned his Bachelor of Arts in Public Safety Management, Homeland Security from Cleveland State University.

Seaspan Marine Names Gethings as VP, Business Development

Jenny Gethings has joined Seaspan Marine as Vice President, Business Development. Jenny has more than 25 years in the marine industry, including port operations and cargo logistics, and most recently served as Director of Global Projects for Schenker Canada.

Godfrey is New Chairman at SCA

The Shipbuilders Council of America (SCA) announced that **Tom Godfrey**, President and CEO of Colonna's Shipyard in Norfolk, Virginia, has been appointed as Chairman of the Board of Directors. Joining Mr. Godfrey as SCA's new Vice Chairman is Richard McCreary, Vice President and General Manager at BAE Systems. As a long-standing SCA board member, Godfrey brings extensive experience in the shipbuilding and repair industry.

KPI Bridge Oil Promotes Coyne

Brian Coyne has assumed the role of Managing Director at KPI Bridge Oil's New York office. Brian recently completed his MBA at New York University and has been with KPI Bridge Oil for more than 10 years. Brian brings broad knowledge of bunkering to his new role, having previously sailed and worked ashore for an oil major.


Sehrt


Leverette


Grove


Fireman


Davis


Buchwald

AWO Elects Chairman

The members of the American Waterways Operators elected a new slate of leaders during AWO's Spring Convention held recently in Washington, DC. **David G. Sehrt**, Chief Operating Officer and Senior Vice President of Ingram Barge Company, was elected Chairman. James F. Farley, President of Kirby Offshore Marine, LLC, was elected Vice Chairman. Mr. Sehrt succeeds outgoing Chairman Frank Morton, Director, Turn Services LLC. Sehrt said he is personally committed to the campaign to reach out to every carrier member of AWO over the next year. He called on members to take active roles in at least one initiative that affects the industry.

Leverette Named SNAME's Representative to OTC Board

Dr. Steven John Leverette, Vice President, Technology at SBM Offshore USA has been named as the next SNAME Representative to the Offshore Technology Conference Board of Directors. Members of the OTC Board are appointed to four-year terms by their organization. Dr. Leverette has been in the offshore industry for 38 years. His PhD is jointly from MIT and the Woods Hole Oceanographic Institution. His career includes eight years with Gulf Oil Company, 10 years as head of a small deep-water engineering firm, and 20 years with SBM Offshore.

ABS Group Announces New President & CEO

ABS Group has announced the appointment of **Todd Grove** as its new President and CEO. Grove most recently served as SVP and CTO for ABS Group's parent company, American Bureau of Shipping (ABS). With more than 30 years at ABS, in various senior technical and operational management roles, Grove holds a bachelor's degree in Naval Architecture and Marine Engineering from the University of Michigan, an MBA from the University of Houston and is a graduate of the Harvard Business School's Advanced Management Program.

ABS Appoints Fireman as New CTO

ABS has named **Howard Fireman** to the position of Senior Vice President and Chief Technology Officer (CTO). Fireman joined ABS in 2013 following a 35-year career with the U.S. Navy, where he served as Chief Naval Architect and Director of Surface Ship Design and Systems Engineering. Fireman holds a BSE and MSE in Naval Architecture and Marine Engineering from the University of Michigan and has a Master's degree in Technical Management from Johns Hopkins University.

Davis to Lead Inchcape's AK Office

Inchcape Shipping Services (ISS) has expanded its operations in North & Central America with the opening of a new office in Anchorage, Alaska. **Jessica Davis** has been appointed as Port Manager for the Anchorage office. With 12 years' experience in the shipping industry, Jessica previously worked in Dutch Harbor, AK.

SCA Honors Reps. Courtney, Wittman with Leadership Award

U.S. Congressmen **Joe Courtney** (D-CT) and **Rob Wittman** (R-VA) last month received the Maritime Leadership Award from the Shipbuilders Council of America (SCA). The award recognizes individuals who have demonstrated exceptional leadership, dedication and support to the shipbuilding and repair industry. A senior member of the House Armed Services Committee (HASC), Courtney has worked to bolster the nation's defense by calling for increased submarine production. Wittman is recognized as a leader in the Congress on maritime issues.

Dan-Bunkering Expands with Buchwald

Dan-Bunkering (America) Inc. named **Mads Buchwals** to lead its new office in Stamford, CT when it opened 1 May 2015. The opening is part of the Dan-Bunkering group's expansion strategy which was kicked off earlier this year by the opening of new offices in Valparaiso and Montevideo. Buchwald, a Danish national, has been active in the bunker business since 2008.

Global Diving & Salvage adds GTS to Service Array

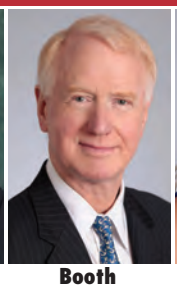
Global Diving & Salvage announced the addition of Global Technical Services (GTS) its existing core services, Marine Construction, Marine Casualty Response and Offshore Support. Joining forces with Alaska Technical, GTS is offering a wide range of Non Destructive Testing (NDT) In-


SCA

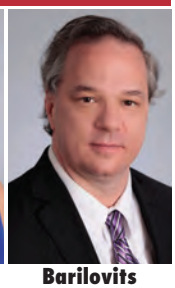

Anderson

Hinshaw & Culbertson LLP


Pace


Booth


Schultz


Barilovits


Manley

struction Services to industry. **Marty Anderson** founded Alaska Technical Services in 2005. He began his career as an inspector in 1990 and has since acquired certifications in a variety of training and inspection procedures.

Hinshaw & Culbertson Establishes Maritime Practice

Hinshaw & Culbertson LLP has expanded its San Francisco office with the addition of **Forrest Booth** as a Partner, **Pamela Schultz** as a Partner, **Phillip Barilovits** as Senior Counsel and **Bradley Pace** as an Associate. The new group launches the firm's formal Maritime practice. Booth focuses his practice on insurance and reinsurance with emphasis on admiralty and maritime claims. Schultz is Vice-Chair of Admiralty and Maritime Committee and the Maritime Law Association of the United States. Barilovits represents clients in both state and federal court and before regulatory agencies. Pace focuses his practice in insurance services, with particular emphasis in maritime and aviation law.

JMS Appoints Manley VP, Business Development

Justin Manley has joined Juliet Marine Systems (JMS) as Vice President of Business Development and Marketing. Mr. Manley brings over 20 years of experience in the marine technology sector including roles at Massachusetts Institute of Technology (MIT) and with the National Oceanic and Atmospheric Administration (NOAA).

Lakers Pays High Price for Thick Lakes Ice

Cargo movement in U.S.-flag Great Lakes freighters in March fell to its lowest level since 2009. Shipments totaled 825,000 tons, a decrease of 60 percent compared to the month's 5-year average. Another brutal winter, coupled with casualties to U.S. and Canadian icebreakers, slowed the resumption of navigation. Only 26 U.S.-flag lakers were in service on April 1. In some years, nearly 50 hulls are underway by that date. Iron ore felt the brunt of the delays. Loadings totaled just 535,000 tons, a decrease of 66 percent compared to the month's 5-year average. Lake Carriers' Association has called on the U.S. government to build another heavy icebreaker to pair with the MACKINAW and assign another 140-foot-long icebreaking tug to the Lakes while the 140s already stationed here are rotated to the Coast Guard yard in Baltimore for service life extension.

MARAD offers grants for LNG conversion

The U.S. Maritime Administration (MARAD) issued a request for proposals for projects focusing on vessel conversion to natural gas in an effort to measure changes in emissions before and after conversion. The total amount of funding available is $900,000. Eligible applicants include vessel owners, operators or sponsors of U.S.-flag vessels operating on inland, coastal waterways or the Great Lakes. Awardees will be expected to complete a natural gas conversion on an existing vessel and measure/document pre- and post-conversion emissions and other operational characteristics.

For more information, click: **http://www.grants.gov/view-opportunity.html?oppId=275685**

DOJ Clears Acquisition of Horizon Lines' Hawaii Business

Horizon Lines reported that, after a review by the Antitrust Division of the Department of Justice, Horizon's proposed sales transaction with The Pasha Group has been granted early termination of the premerger waiting period. Subject to the satisfaction of any remaining conditions to closing, Horizon expects the closing of the transaction to occur before the end of the company's second quarter.

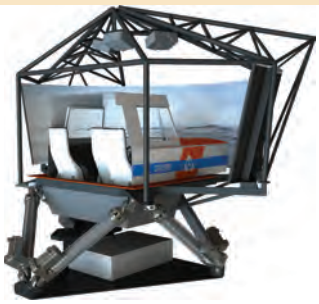
Caterpillar Acquires ESRG

Caterpillar Marine has completed the acquisition of ESRG Technologies Group, LLC, a provider of vessel monitoring and data analytics for the marine industry. The acquisition includes ESRG's comprehensive software suite for the remote monitoring and diagnostics of more than 65 on-board systems as well as the expertise to provide meaningful recommendations to ship owners to help increase efficiency, reduce downtime and assist shipyards in reducing warranty expenses.

Schottel: Propelling Inland Waterways for 65 Years

Since the 1950's, SCHOTTEL propels inland waterway vessels with Z-drives and individually fitted thruster concepts. On the Amazon River Schottel thrusters, modified especially for shallow draft operation with a flat bottom nozzle that is partially integrated into the vessels hull, are driven directly by diesel engines. This nozzle concept reduces the draft of the vessel and thus reduces the danger of grounding and enables more clearance in shallow areas.

www.schottel.de



New Fast Small Ship Simulator

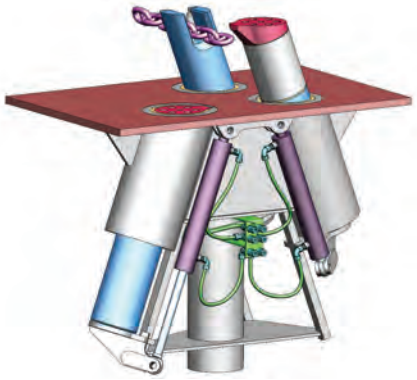
A new Fast Small Ship Simulator for training crews working on high speed boats is in development. Together with Cruden and Tree C Technology, the Royal Dutch Naval Defense School and the Royal Dutch Navy's Surface Assault Training Group, the consortium aims to reduce wear on front-line operational vessels and sharply reduce fuel costs, while also opening up the possibility of coordinating with other marine simulators.

http://www.marin.nl

Omega Towing Pin

Kooiman Group's stainless steel deck chock – the 'Omega-pin' – allows tugs to tow with the towing line at angles up to 135 degrees from center line and 45 degrees from deck. Designed with a SWL of 125 tons and design load of 400 tons (LR certified), its stainless steel finish is ideal for use with synthetic ropes. When not in use, it can be retracted.

www.thekooimangroup.com



Barge Ballast Pumps Run Smooth with Vesconite

Vertical turbine pumps keep barges trimmed and balanced by moving water ballast. Bearing failure at this critical time is not an option. Vesconite Hilube, an internally-lubricated polymer that can be used in wet and corrosive conditions, outperforms traditional bushing materials, even in the silty waters of the Mississippi River. A wear life of more than 10 times that of sintered bronze reduces maintenance costs.

www.vesconite.com

Survitec's Seacrewsader 290N Fusion 3D SOLAS Lifejacket

Survitec Group's new SOLAS lifejacket is aimed at the commercial marine market. The Seacrewsader 290N 3D is designed to provide increased levels of protection in extreme working environments. Ergonomic Fusion 3D technology ensures comfort for continuous wear, with the jacket sitting off the neck, giving the user total freedom of movement and comfort. This also provides greater protection in case of abandonment.

www.survitecgroup.com

Lightweight TYCAN Chains Made with Dyneema

Lightweight synthetic TYCAN chain, a non-metallic link chain made with Dyneema, was developed to replace the steel chains traditionally used to lash cargo dn steel on a weight-to-weight basis and up to 40% stronger than aramid materials. TYCAN weighs 8 times less than metal counterparts and is 50 times less noisy.

www.dyneema.com

EnviroLogic's NavalKleen for Marine Vessels

Developed specifically for marine vessels, NavalKleen breaks up the emulsions in the oily water mixtures so that the oily water separators can process the water out of the waste stream. Activate NavalKleen with the simple addition of water (salt or fresh) and carefully-formulated microbes will immediately begin digesting hydrocarbons. The product is non-toxic and non-caustic. Stay compliant, safe.

www.totalbiosolution.com

Lincoln Electric's SuperGlaze HD

SuperGlaze HD is an aluminum welding wire for use in heavy-duty applications where wire feeding is a challenge and arc performance is critical. Designed to address the welding of aluminum, SuperGlaze HD delivers a steady wire feed from the payoff to the arc and eliminates wire shavings, resulting in a uniform and uninterrupted weld. SuperGlaze HD ensures smooth and trouble-free wire feeding without wire shavings.

www.lincolnelectric.com

New Automatic Survivor Locator Light

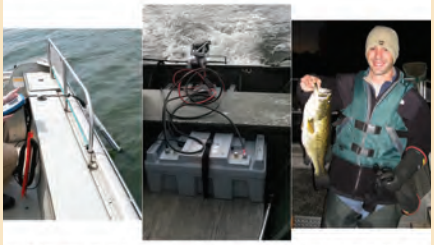
ACR Electronics' next generation of their survivor locator life jacket lights, the new ACR HemiLight 3, is more affordable, compact and features an LED light which illuminates brighter than its predecessors. The HemiLight 3 is automatically activated when it comes into contact with water. The high-intensity flashing LED light exceeds the IMO SOLAS battery life regulations by providing 10+ hours of functionality upon activation.

www.ACRARTEX.com

Maryland County Plugs in With Torqeedo

Carroll County, Maryland made the decision to restrict combustion engines, limiting pollution and preserving the water supply for an expanding population. An underpowered trolling motor wasn't going to cut it, but a Torqeedo electric motor was best for the job. The Torqeedo motor and lithium batteries would provide the power and range required for the county's municipal boats.

www.torqeedo.com



L to R: Collecting water samples; Torqeedo motor and lithium ion batteries; Byron Madigan

Click Bond Adhesive-Bonded Fasteners

Click Bond's ABS Type-approved fasteners are attached using structural adhesives that are resistant to saltwater and hydraulic fluids. The chemical barrier inhibits galvanic corrosion. Each fastener includes an installation fixture that holds the part in place under positive pressure, optimizing bond strength while the adhesive cures. The fasteners offer reduced holes, stronger structures, greater work sequence flexibility and require no hot work.

www.clickbond.com

Dayton Lamina Hydraulic Drills for Shipbuilding, Workboats

Dayton Lamina hydraulic drills are compact, yet have the power for heavy duty drilling and tapping operations, making them ideal for shipbuilding and workboat applications. The magnetic base attaches to the drilling surface at almost any angle, including vertical and horizontal. Suitable for indoor or outdoor usage, the Lamina power unit is caster mounted for easy movement to and within the jobsite.

www.DaytonLamina.com

Marine Marketplace

Powered by www.maritimejobs.com

Post Your Resume for Free • Energize Your Job Search @ MaritimeJobs.com

MaritimeJobs.com

where employers and job seekers connect

The Maritime Industry's Leading Employment Website. For more information contact: Jean Vertucci at vertucci@marinelink.com

VESSELS FOR SALE / BARGES FOR RENT

NEW PRODUCTS

Marine Marketplace

NEW PRODUCTS

Marine Marketplace

NEW PRODUCTS

PROFESSIONALS

ADVERTISER INDEX

Page	Company	Website	Phone#
44	Baier Marine	www.baiermarine.com	(800) 455-3917
27	Biobor Fuel Additives	www.biobor.com	(800) 548-9166
38	Breaux Bay Craft	Please call us at	(337) 280-1431
1	Brunswick Commercial & Government Products	www.brunswickcgp.com	(386) 423-2900
7	Citgo Petroleum-Clarion	www.clarionlubricants.com	855-MY-CLARION
34	Conrad Insutries Shipbuilding	www.conradindustries.com	(985) 384-3060
21	Cummins Inc. (Recreational Marine)	www.marine.cummins.com	Please visit our website
29	CWF Hamilton Jet	www.hamiltonjet.com	(425) 527-3000
31	David Clark Company	www.DavidClark.com/Marine	(800) 298-6235
47	DeFelsko	www.defelsko.com	(315) 393-4450
37	Dynamat,Inc.	www.dynamat.qc.ca	(450) 662-1803
17	Engines Inc	www.enginespower.com	(870) 268-3700
41	Foam Supplies Inc.	www.foamsupplies.com	(314) 344-3330
41	Gladding Hearn	www.gladding-hearn.com	(508) 676-8596
25	Great American Insurance	www.GreatAmericanOcean.com	(212) 510-0135
19	Hike Metal Products	www.Hikemetal.com	(519) 825 4691
45	HS Marine Propulsion	www.hsmarineprops.com	(228) 875-6611
27	John Deere Power Systems	www.johndeere.com/marine	Visit us online
C2	KVH	www.kvh.com	(401) 847-3327
11	Kvichak Marine	www.kvichak.com	(206) 545-8485
9	Louisiana Cat	www.louisianamachinery.com	(985) 536-1121
55	Mariner's House	www.marinershouse.org	(617) 227-3979
53	McDonough Marine Services	www.mcdonoughmarine.com	(504) 780-8100
15	Mercury Marine	www.mercurymarine.com	(920) 929-5040
24	Metal Shark Aluminum Boats, LLC	www.metalsharkboats.com	(337) 364-0777
3	Miller Electric Mfg. Company	www.millerwelds.com	Visit us online
38	Moore Boat, LLC	www.mooreboat.com	(410) 524-3456
43	MOP's Marine License Insurance	www.mopsmarineinsurance.com	(800) 782-8902
32	Panolin	www.panolin.com	(805) 676-1193
33	Parker Water Purification	www.parker.com	(310) 637-3400
25	Poseidon Barge Corp.	www.poseidonbarge.com	(260) 422-8767
C4	R.W. Fernstrum	www.fernstrum.com	(906) 863-5553
C3	Ritchie Brothers Auctioneers	www.rbauction.com	(778) 331-5318
29	Scania USA	www.scaniausainc.com	(210) 403-0007
23	Sneed Shipbuilding	www.sneedshipbuilding.com	(281) 862-2266
16	Tampa Yacht Manufacturing, LLC	www.tampa-yacht.com	(727) 954-3435
13	Transmarine Propulsion Systems, Inc.	www.transmarine.org	(813) 830-9180
47	Tri-State Coating & Machine Co, Inc	www.tscminc.com	(800) 477-4460
5	Unifrax I LLC	www.unifrax.com	(716) 768-6500
39	VapCor Inc.	www.vapcor.com	(905) 346-2638
35	WQIS	www.wqis.com	(212) 292-8700

The listings above are an editorial service provided for the convenience of our readers.
If you are an advertiser and would like to update or modify any of the above information, please contact: productionmanager@marinelink.com

RITCHIE BROS. Auctioneers®

Unreserved public equipment auctions

Barges & boats located in St. Paul, MN

200 Ft x 35 Ft x 10 Ft 6 In. Barge

140 x 36 x 9 Ft 6 In. Spud Barge & American 799 40 Ton

136 x 30 x 12 Ft Spud Deck, 150 x 35 x 8 Ft Barge &
200 Ft x 35 Ft x 10 Ft 6 In. Barge

200 Ft x 35 Ft x 10 Ft 6 In. Barge

800 HP Twin Screw "Michael G"

1 of 3 – Kan Survey

Minneapolis, MN auction

June 19 (Friday) 8 am

On-site inspection hours
(Mon–Fri), 8 am – 5 pm

Marine assets located off-site
637 Barge Channel Rd., St. Paul, MN

Call to inspect:
Steve Speer at 612.518.0095

Inspection hours by appointment:
(Thu–Fri), June 11–19

Bid in person or online
- No minimum bids or reserve prices
- Test and inspect on-site
- Open to the public, free registration

Location
6000 Frontage Road W., Medford, MN

More items added daily
Call about selling: **507.774.5050**

See complete listings at **rbauction.com/Minneapolis**

Motor Vehicle Dealer License #DLR25867 / Auctioneer: Eddie R. Graham #7014014

ENGINEERED COOLING SOLUTIONS.

Photo courtesy of Eastern Shipbuilding Group

OVER 65 YEARS COOLING THE MARINE INDUSTRY

R.W. Fernstrum is committed to providing long-lasting, quality cooling systems. Our sales and engineering team will work with you to custom design a solution that meets the needs of your vessel and operating conditions.

fernstrum.com
906.863.5553
sales@fernstrum.com

FERNSTRUM®
R.W. Fernstrum & Company