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Volume 33 • Number 9

Marine News

SEPTEMBER 2022
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Marine Group Boat Works

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Tidewater

On the Cover

Marine Group Boat Works recently completed a comprehensive $4.6 million repair program for Golden Gate Ferry.
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Editor's Note

Eric Haun, Editor,
haun@marinelink.com

Shipbuilding and repair has always been a challenging business, and today's U.S. shipyards have no shortage of obstacles making their jobs even more difficult, from crippling labor shortages to unpredictable pricing fluctuations and hard-to-navigate supply chain issues. But it's good to know that many yards are winning solid business despite these challenges. After all, the world is relying on the maritime industry, and vessels need to be built and serviced to maintain security, transport people and keep the vital flow of commerce moving. This issue includes a feature story on a California shipyard that does all of the above. Marine Group Boat Works has mastered the art of balancing yacht repair with commercial and government vessel repair and a little bit of newbuild activity. This edition also features an op-ed from one of the leading names in U.S. shipbuilding, Bollinger Shipyards president Ben Brordelon, who calls for more steady and predictable government funding to help shipyards build and maintain America's national and domestic security assets. Another builder covered this month is Silverback Marine, a relatively young company looking to bring fresh blood—and ideas—to the workboat sector.

As I write this, the ***Marine News*** team is digging in to produce our annual MN100 awards edition, which recognizes 100 of the leading names in the North American maritime industry. Be sure to check back next month to see who made the cut.

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New York: 118 E. 25th St., New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271
www.marinelink.com

CEO
John C. O'Malley • *jomalley@marinelink.com*

Publisher & Editorial Director
Greg Trauthwein • *trauthwein@marinelink.com*

Editor
Eric Haun • *haun@marinelink.com*
Tel: 212-477-6700

Contributing Writers
Tom Ewing, Don Gale, Jim Kearns, Barry Parker, Jeff Vogel

PRODUCTION
Production & Graphics Manager
Nicole Ventimiglia • *nicole@marinelink.com*

SALES
Vice President, Sales & Marketing
Terry Breese • ***breese@marinelink.com***
Tel: 561-732-1185 Fax: 561-732-8414

Advertising Sales Managers
Lucia Annunziata • ***annunziata@marinelink.com***
Tel: 212-477-6700 **ext 6240** Fax: 212-254-6271

John Cagni • ***cagni@marinelink.com***
Tel: 631-472-2715

Frank Covella • ***covella@marinelink.com***
Tel: 561-732-1659 Fax: 561-732-8063

Mike Kozlowski • ***kozlowski@marinelink.com***
Tel: 561-733-2477 Fax: 561-732-9670

Gary Lewis • ***lewis@offshore-engineer.com***
Tel: 516-441-7258

Managing Director, Intl. Sales
Paul Barrett • *ieaco@aol.com*
Tel: +44 1268 711560 Fax: +44 1268 711567

CORPORATE STAFF
Manager, Marketing
Mark O'Malley • *momalley@marinelink.com*

Accounting
Esther Rothenberger • *rothenberger@marinelink.com*
Tel: 212-477-6700 **ext 6810**

Manager, Info Tech Services
Vladimir Bibik

CIRCULATION
Kathleen Hickey • *k.hickey@marinelink.com*
Tel: 212-477-6700 **ext 6320**

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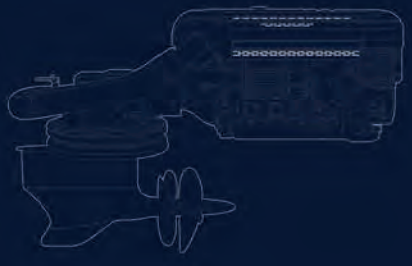

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Contributors


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1 Stewart Bell
Captain Stewart Bell has been a commercial mariner since 2001, having sailed on research and survey vessels, fast crew suppliers, ROV and dive support vessels, tugboats, landing craft and CTVs around the world, from Alaska to Australia, the Caribbean to Bangladesh, and Iceland to Brazil. He holds an Oceans endorsement as a USCG Master 500 tons with Master of Tow.

2 Ben Bordelon
Ben Bordelon is President and CEO of Bollinger Shipyards and also serves as the Chairman of the Shipbuilders Council of America.

3 Tom Ewing
Tom Ewing is a freelance writer specializing in marine, energy and environmental issues. He contributes regularly to this magazine.

4 Don Gale
Don Gale is a freelance writer with over three decades of engineering and naval architecture experience. His background covers naval, commercial and recreational craft.

5 Fred Goldsmith
Frederick B. Goldsmith practices admiralty and maritime law with Pittsburgh-based Goldsmith & Ogrodowski, LLC. Licensed in Pennsylvania, West Virginia and Ohio, he formerly worked as a defense lawyer in Texas and as general counsel of a major harbor tug and shipyard operator. He is also a court-approved mediator.

6 Barry Parker
Barry Parker of bdp1 Consulting Ltd provides strategic and tactical support, including analytics and communications, to businesses across the maritime spectrum. He is a freelance writer and regular contributor to this magazine.

7 Jeff Vogel
Jeff Vogel is a partner in Cozen O'Connor's Transportation & Trade Group. He focuses his practice on strategic and operational matters affecting the United States maritime industry and on government contracts across all industries.

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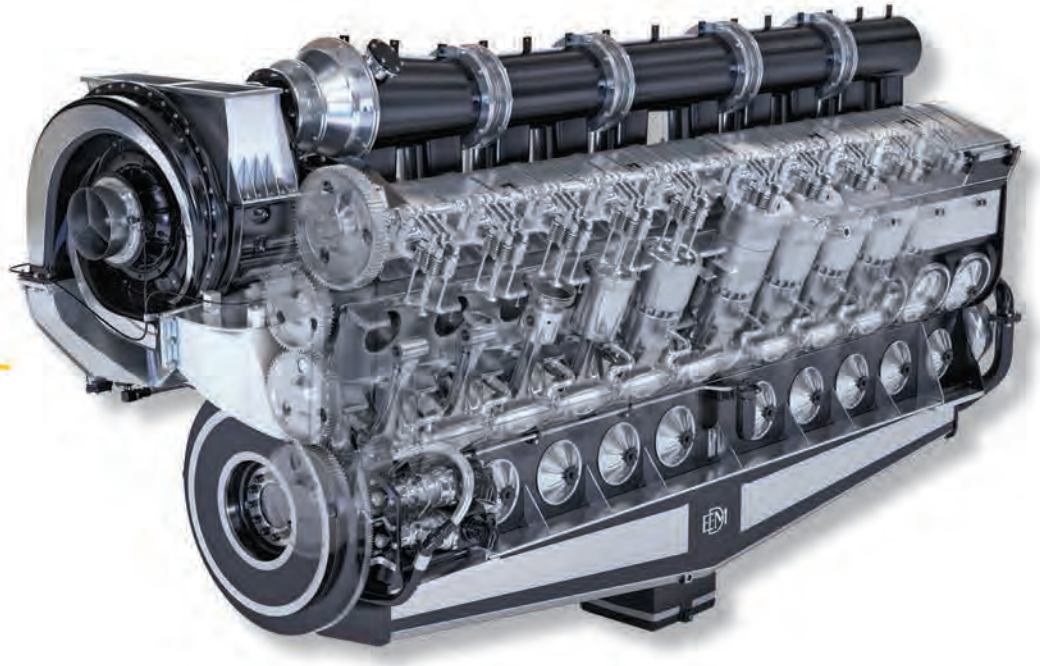

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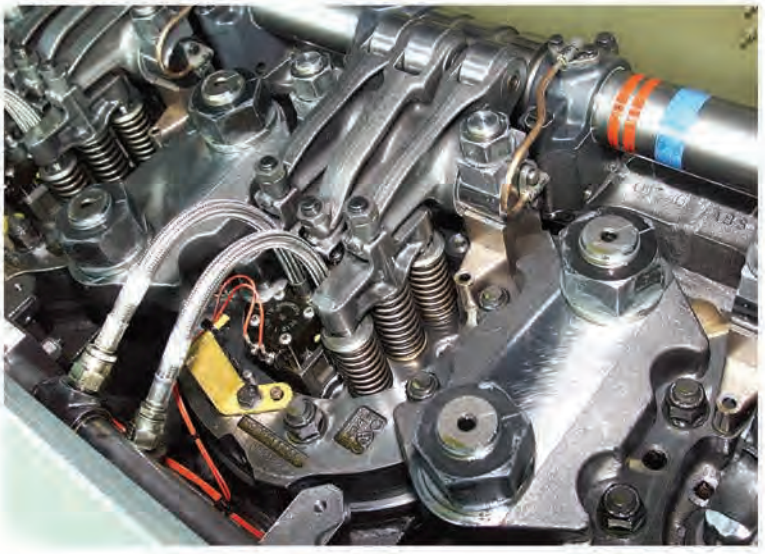

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By the Numbers

MARAD Small Shipyard Grants

The U.S. Department of Transportation's Maritime Administration (MARAD) in July announced $19.6 million in grant awards to 24 small shipyards in 19 states through the Small Shipyard Grant Program.

The funds will help awardees—many of which being family-run businesses—modernize, increase productivity and expand local employment opportunities while competing in the global marketplace, MARAD said.

"Small businesses are the lifeblood of the American economy, and small shipyards play a critical role in America's maritime industry, helping us get the goods we depend on every day," said U.S. Transportation Secretary Pete Buttigieg. "These grants will help modernize small shipyards in communities across the country, creating and protecting local jobs, strengthening America's maritime industry, and securing our economic future."

Since 2008, MARAD's Small Shipyard Grant Program has awarded $282.2 million to nearly 300 shipyards in 32 states and territories throughout the U.S.

"These grants will allow small businesses to do what they do best, which is to build essential infrastructure while creating long-term and well-paying jobs for Americans," said Maritime Administrator Ann Phillips. "Better equipment means increased productivity and more ships and watercraft moving through our small shipyards. Growing this industry further supports and strengthens our domestic maritime industry."

Below is a complete list of shipyard grant recipients from Fiscal Year 2022:

Alabama

Blakely Boatworks Inc., of Mobile, Ala., will receive $722,460 to support the purchase of major components of metal working equipment consisting of welding machines and a variety of material handling equipment.

Alaska

Catalyst Marine Engineering of Seward, Alaska, will receive $418,903 to support the purchase of two welding units and one propulsion unit. These units are designed to be comprehensive, mobile shipyard repair and service platforms that support a variety of services at one time, in multiple locations. This flexibility will allow crews to be dispatched to different ports at the same time and allow for expanded revenue and an increase in employee base and training.

California

Bay Marine Boatworks, Inc. of Richmond, Calif., will receive $875,968 to support the purchase of a 100-ton marine travelift and a 60 self-propelled vessel transporter.

Florida

International Ship Repair & Marine Service, Inc., of Tampa, Fla., will receive $880,758. These funds will support the purchase of a plasma cutting table, a 36,000-pound forklift, welding equipment and a 20-ton overhead crane.

Patti Marine Enterprises, Inc. of Pensacola, Fla. will receive $1,200,000 to construct a new 800-ton drydock.

Louisiana

Turn Services, LLC, of New Orleans, will receive $988,742 in funding to add a 60-ton pedestal crane to their shipyard facility.

Massachusetts

Duclos Corporation dba Gladding Hearn, Somerset Mass., will receive $949,899 to support the purchase of a set of Hanging Shop Doors; Transporter, and a One-ton Overhead Crane.

Maryland

Chesapeake Shipbuilding, Corp., of Salisbury, Md., will receive $1,114,539 to support the purchase of a Plasma Table, 30-ton mobile travelift crane, 250-ton automated tooling computer numerical control (CNC), and a 14-foot CNC press brake.

Michigan

Moran Iron Works, Inc., of Onaway, Mich., will receive $500,561 to support the purchase of a CNC Fabri-

cating System. This project will greatly enhance automation of complex fabrications and drastically reduce time of production.

Mississippi

ST Engineering Halter Marine and Offshore, Inc., of Pascagoula, Miss., will receive $1,154,670 to support the purchase of an Electric "Green" Blast and Paint Booth Project.

Missouri

Arcosa Marine Products, Inc., Caruthersville, Mo., is set to receive $869,951 for panel line improvements and welding equipment.

New Jersey

Dorchester Shipyard, Inc. of Dorchester, N.J., will receive $796,143 to facilitate upgrades to their marine railway used to haul/launch vessels repaired/constructed in their shipyard.

New York

May Ship Repair Contracting Corporation, of Staten Island, N.Y., will receive $436,800 to support the purchase of a computer numerical control (CNC) Cutting Table, three rotating jig positions, and a blasting booth.

Robert E. Derecktor, Inc., of Mamaroneck, N.Y, will receive $294,483 to support the purchase of a new CNC Flatbed Lathe that can shape metal into complex parts from any solid modeling program.

Ohio

McGinnis, Inc, of South Point, Ohio, will receive $770,250 to support the purchase of a 110 Ton Crane to shorten the time it takes to complete major construction, renovation, fabrication, or re-power projects and improve material handling capabilities.

The Great Lakes Towing Company of Cleveland will receive $781,627 to support the purchase package of tooling and equipment to improve the shipyard operations and to foster efficiency, competitive operations and quality ship construction, repair, and maintenance.

Oregon

Blackfish Solutions, LLC dba ReconCraft, of Estacada, Ore., will receive $638,667 to support the purchase and installation of new overhead 25-ton cranes and rigging to fully maximize this space's functionality and utility. Additionally, funding will support the acquisition of additional welding equipment.

Shaver Transportation Company, of Portland, Ore., was awarded $649,638 for their new Shipyard Electrification Project to include electrical upgrades, 18-ton pedestal mounted electric crane, and installation of solar energy system.

Rhode Island

Blount Boats, Inc., of Warren, R.I., will receive $937,933 to purchase a telehandler, two 3-ton overhead cranes, a single forklift and four scissor lifts to significantly improve their material handling efficiency.

South Carolina

Detyens Shipyards, Inc., of North Charleston, S.C., was awarded $566,617 to support the purchase of new electric fire pumps to replace their current diesel pumps to support pier side and dry-docked vessels.

Virginia

Fairlead Boatworks, Inc., Newport News, Va., will receive $900,000 to support the purchase of a new 160-ton rough terrain crane.

Washington

Ice Floe, LLC dba Nichols Brothers Boat Builders of Freeland, Wash., has been awarded $1,234,408 to support the purchase and installation of a one-sided welder to include a material handling conveyor system, transitional magnetic bed.

SAFE Boats International, LLC located in Bremerton, Wash., will receive $716,983 to support the modernization of their facility acquiring an 80-ton self-propelled vessel transporter, new aluminum welding equipment and a mobile lifting equipment to include an extended reach forklift, scissor lift and large forklift.

Wisconsin

Fincantieri Marine Group, LLC – Bay Shipbuilding of Sturgeon Bay, Wis., will receive $1,200,000 to support the modernization of their graving dock pumps.

NAVAL ARCHITECTURE ROUNDTABLE

***Marine News** spoke to leaders at three North American naval architecture and marine engineering firms about some of the latest trends impacting their business today. **Mike Fitzpatrick**, president, Robert Allan Ltd.; **Jeff Bowles**, director, DLBA Naval Architects; and **Rich Mueller**, president and CEO, NETSCo., weigh in on topics such as digitalization, decarbonization and the naval architect talent pool.*

By Eric Haun

How do you view the maritime industry's ongoing shifts in areas such as digitalization and decarbonization, and how does your firm fit into the picture?

MF: Decarbonization is obviously one of the major factors affecting the marine business right now. A few years ago owners were asking us, 'How do we reduce emissions?' The question they're asking now is, 'What's our path to net zero?' That's a really big shift in planning for the future, because the answers are very different, and there's a lot more unknowns involved.

We're fortunate enough to have some of the more forward-thinking shipowners and shipyards as our clients. The shipyards want to be sure that they're among the first to adopt the new technologies into built vessels. The owners that are saying, "What type of vessels are we going to be operating 10 or 20 years from now? We better figure out what's going to work now." If there was one perfect solution for everything, this would all be easy, but there's not. In many cases, it's not a one solution fits all for any vessel to go down a decarbonization route. It is very much dependent on the operating conditions, the load profile, the areas of operation. And in many cases, what we're looking at is really a choice between a number of challenging options. Owners are asking us which of these are going to work.

RM: If we look at decarbonization, that is something that every ship owner wants to do, but as they start to explore it, they find that it's not a simple task. They find that they need engineering support to do that. And whether that's changing out engines, whether that's changing out fuels,


Robert Allan Ltd.

Mike Fitzpatrick, president, Robert Allan Ltd.


DLBA Naval Architects

Jeff Bowles, director, DLBA Naval Architects


NETSCo

Rich Mueller, president and CEO, NETSCo

whether that's economic studies that look at, "Hey, should I go slower? What are some of the things that I should be doing in order to reduce my carbon footprint?" Those take engineering support, and most shipowners—not all, but most—over the years have shed their in-house engineering departments. They're more focused on operations and don't have a lot of engineering support; many ship owners just don't have the bandwidth, so they rely on outside firms like ours to help them.

Digitalization is a little different animal because those are tools that we need to use in order to help us become more efficient, or to help us put ourselves in a position where we have the tools and the software that we need to do the modeling and to be able to show the owner what he needs to see in order for them to make the decision on capital expenditures. For us, it means finding different ways to do business. It isn't just guys sitting at drawing boards with T-squares and slide rules like in the really old days. It's not even just doing drafting work because digitalization implies that we're building manipulable, 3D models of their vessels that they can use to perhaps optimize loading or optimize speed power curves or any of the things that will help them to operate more efficiently.

JB: We are interested in these trends and are on the leading edge of their implementation. Gibbs & Cox was one of the early adopters of computer aided design (CAD) and began exploring laser scanning technology as soon as it appeared. We are currently working with virtual reality (VR) tools and software to support design efforts. We are looking forward to augmented reality and how that might help construction, training and maintenance activities. There are many potential uses for the technology, and we are collaborating with industry to find the right applications.

Regarding decarbonization, we have established a new office in Houston to focus on the oil and gas market, but more importantly to lead our entry into the Blue Economy market with projects associated with alternate sources of energy production. These could include wind energy, wave energy, hydrogen production, fuel cell integration, etc.

Are you seeing growing interest in vessel electrification and alternative fuels, and where is most attention being directed? How do you see the evolution of power/propulsion solutions in the marine business?

RM: Yes, we are seeing a definite increase in interest in alternative fuels. But as you might suspect, at least in our business, it's in a certain segments of the market. Shipowners that are making long transatlantic, transpacific voyages are not as interested, or at least that's been our experience so

far. The folks who are really coming to us and saying, 'Hey, let's take a closer look.' They're tug owners, they're coastwise trading folks. They're folks who are in shorter, more defined trade routes, not in the tramp business. They're in trade routes where they're coming to defined places, they know they're going to be at port X so they can put a fueling station there, and they know they're going to be there every four or five days, or some manageable amount.

One of the things we see with most of the alternative fuels is they either take up a lot more volume in terms of space than using diesel, or the BTU content is not as high, and therefore they need more of it in order to have the same endurance rating for their voyages. We're seeing it more in the tug and barge market. We're seeing it in the short sea shipping markets. We're seeing it just in the short run coastwise trading. Tampa to New Orleans, or Houston to Tampa, or Charleston to New York, or whatever, just in a very small defined trade route.

JB: We are seeing a growing interest in alternative fuels and electrification. We focus on high-speed craft in our group, and the technology is not mature enough yet for widespread application on these craft. Maybe for recreational craft, but not for commercial or military craft where endurance is valuable. The shortcoming here is that the total weight of the electrified propulsion system far exceeds the weight of a conventional propulsion system, and the vessel's performance capabilities are negatively impacted significantly as a result. But there are great use cases, such as harbor tugs, because they are not often weight limited. There are hybrid tugs and now all electric tugs in operation today. There will be a hydrogen tug soon. And that's a great application for hydrogen technology because these boats always return to the same port, so a single refueling station can be installed to support the vessel over its life.

There is no doubt that the marine industry has the initiative to go all electric, pulling power from the grid or from renewables such as solar and hydrogen. But I don't believe that we will see all electric ships or fast craft in my lifetime. I don't think that the energy storage or onboard hydrogen generation systems will evolve to have the capacity and power density necessary for the operating profiles for those type of craft.

MF: I'm going to talk mainly about the part of the market that I know best, and that's the tug market. Somewhere between 70 and 100 tugs of our design are built every year around the world, which represents a fairly significant percentage of the world market. The easy path to decarbonization for some of those tugs is pure battery electric. That's a technology that we now consider to be completely a proven technology and relatively straightforward to integrate into a tug. Unfortunately, because of the operating profiles of tugs and the power density needed, there's probably only about 10% of our typical tug client operations that would be suitable for pure battery electric.

More widely used is going to be some form of hybrid battery electric where we've probably still got some kind of combustion engine together with batteries. And that's maybe another 30% of the market where that might be economically feasible for typical ship handling tug operations. But for at least 60% of the market, electrification isn't really the answer. The tugs have to operate too long. They need too high a load profile power required. So really alternate fuels is the only feasible solution for most tug operations, and I would say for most commercial vessel operations, alternate fuels is ultimately going to be the solution we're looking at down the road.

Where do you see greatest opportunities in the U.S. market currently? What is your firm doing to capitalize?

JB: I would have to say offshore wind. With talks about needing 300-400 crew transfer vessels (CTV) to support U.S. wind farms over the next 10-15 years, that's a lot of boats. Our team is trying to break the CTV paradigm for the boat and operational tempo. Our operational landscape is different from the North Sea, and what is great there may not be the best for us. We are working on a monohull design that meets or exceeds the performance parameters that wind farm developers are looking for, but at the same time has a lower total ownership cost. Stay tuned for updates on our design!

RM: Well, certainly looking forward, offshore wind—and whether that's with support vessels involved in construction of offshore wind platforms or installations, or whether it's in helping offshore wind developers come up with new designs for floating platforms or offshore installations that can go in ever deeper water—we see that as a real up-and-coming market. It's still a ways out, but we're pretty heavily invested in trying to be a part of that market right from the get go because we think it's going to be big in the long run. There's

certainly a lot of activity, but not yet a lot of construction.

MF: While we're strongly in favor of decarbonization because it's the right thing to do, it also presents an opportunity for our company. Robert Allan is somewhat unique in that we're a relatively large firm of naval architects that focuses almost entirely on small commercial workboats, whereas most of our competitors in that market are quite a bit smaller than us without necessarily the breadth of experience, certainly in terms of the number vessels that get built. So as the vessels get more complex technically, that plays into our strength here as a company. The fact that we build so many vessels means we get the opportunity to learn from each one. If you're only having five vessels built of your design every year, it takes a while to build up that experience, whereas if we're doing 100 a year, each one's an opportunity for us to learn and then apply that knowledge to the next one.

When a vessel owner comes to us, they need to trust that we're going to give them a working vessel at the end. And I think we've built up over the years a pretty good reputation for integrating new technologies and delivering not R&D platforms, but actual working vessels. That puts us in pretty good stead going forward with most of the operators in the U.S. We have a number of really good and very loyal owner clients in the U.S. that we've developed good boats for in the past, and they look to us to develop more in the future. So, maintaining our leading position in terms of technology creates opportunity for us, for sure.

What do you see as the number one technology or innovation over the course of your career that has most impacted commercial marine operations?

RM: Certainly among the biggest things that have impacted our work have been the advancements in software. It started with AutoCAD and other products like AutoCAD, CAD drafting, computerated drafting, but it's gone well past that. The power that software is giving us, modeling software, and in particular computational fluid dynamic (CFD) software, has been incredibly helpful in terms of doing things that we used to have to just often guess at. It really has helped change some of our work, which used to be more art than science. And now we can bring the science to bear because the computer modeling software is just so much better. And whether that is evidenced by improved loading manuals or hydrostatic modeling software, or CFD modeling, or vessel interaction, this has all been incredibly improved.

MF: Digitalization has made our job much easier and we're able to deliver a greater package to our shipyard clients that covers a lot more. CFD has been a real game changer for a lot of areas in what we do and allows us to know with near certainty how a vessel's going to perform, even though it, at this point, just exists only on paper and in a computer. That allows us as a firm of naval architects to take on more challenging one-off projects, knowing that the risks can be mitigated in CFD. So, that's a pretty big one for us.

Many firms in the commercial maritime sector cite the attraction and retainment of qualified/talented staff among top challenges. What does the talent pool and job market for naval architecture/marine engineering look like? Are these challenges as present in your part of the industry?

JB: The DLBA Division of Gibbs & Cox has doubled in size over the last four years, so we are acutely familiar with the challenge of finding good staff in the present marketplace. We are seeing a strong desire to work from home, which doesn't suit our business model. We find we are much better as a co-located team because of the small size and fast pace of our projects, as well as the need to be dynamic to address customer needs, all the while training and mentoring our junior staff. We are also specialized in small and high-speed craft, which limits our resource pool. But the winners are out there for those who are patient. We have built a team of A-gamers here at DLBA, and they are a pleasure to work with daily.

MF: Finding experienced staff, for us, is a challenge. There's not many here in Canada so we do hire people from overseas; about 50% of our staff were not born in Canada, which makes for a diverse workforce. And we've had good luck hiring straight out of university. But really, the way we've been able to mitigate the challenge of finding staff is by having very good staff retention. We went through a period a few years ago where we went four years without a single person leaving the company. Even at its worst, out of a workforce of about 100, if we have two people leave the company a year, that would be a lot for any given year. Staff retention is really important to our business, and we've done a really good job of it. We have someone here who's just celebrating their 50th work anniversary.

Our average experience time with the company here is probably 15 to 20 years. We have a lot of people that stay here and plan to stay here, and that means we don't lose that experience and everybody gets better and more efficient at their jobs. People don't make mistakes twice, so if we keep the same people, then those mistakes don't reoccur. Our way of dealing with the challenge of finding experienced new people is not to need any new people because we've kept all the old ones.

Treating people with respect is key. And, as an engineering firm, giving people interesting and challenging work is probably the secret sauce. As much as I'd like to say it's the way we treat people—we value a work life balance, we pay people for every single hour of overtime they work—I think really what keeps people here is we get a lot of stuff built. We get a lot of different, interesting projects.

RM: We start with the premise that the number of naval architects and marine engineers is far smaller than what the market needs right now. If I look at the U.S. Navy and then I add in class societies, and then I add in design firms, and then I add in operating companies, the demand on the number of naval architects and marine engineers is far outstripped by the school's capacity to train new ones. And the Navy and some of the bigger companies can maybe afford to bring on young people right out of school or with very little experience because they can provide the training, but I can't. I can't afford to hire people right out of school in many cases because my clients pay us for the knowledge and the experience that we have. I'm looking for people with 10 years, or 15, 20 years of experience, because they're

the ones who can be turned loose on projects, and I don't have to put somebody else to watch over them and make my whole staff less efficient. It's been a challenge to find experienced people, although in the last four months we've brought a couple of new folks in at NETSCo., and it's been really a good fit for us. But I'm still short a few people.

What is one recent project you are most proud of, and why?

RM: I happen to be in Boston right now in the midst of commissioning a barge mounted ship unloader that essentially has turned our Boston-based client's terminal into a new import facility. Now the client is able to import product directly to their Boston terminal, unload it and put it into their silos at a rate that they never could have dreamed of before. This is not the first import facility we've done, but the most recent. And it's right here in the busy Northeast where infrastructure and the need for concrete has really been increasing in scope, and they can't build new plants. They can't make more product here in the U.S., so they have to import it. This has been a very interesting project for us. It combines our bulk material handling expertise, our machinery expertise, our dock and facility expertise all into one project. It's something I'm very proud of.

JB: We recently supported OceanAero with their Triton platform, a sail- and solar-powered, autonomous unmanned surface vessel (USV). Our effort focused on modifying the wingsail geometry to improve sailing performance. Our DLBA team collaborated with our new counterparts at Leidos to create a computerized routine to refine the geometry and evaluated the results using computational fluid dynamics (CFD). We achieved great results on paper and the new geometry test article is under fabrication, with testing scheduled for later this year. I'm proud of this project because working with sail powered vessels is new for DLBA, and we were able to collaborate with new teammates, both internal and external. It's relationships that lead to success, and it looks like this team's initial effort will be a success.

MF: One recent project that's really quite interesting for us is right here in British Columbia. Shell is building a massive new LNG export terminal up in Kitimat, LNG Canada, and one of our good clients, Seaspan, together with First Nations have a joint venture to operate the support vessels for the contract.

There's five of these vessels under construction right now, and they're of two different designs to support the LNG terminal. Three of the tugs are 60-ton battery electric with a diesel generator—by far the largest tugs with the largest battery banks ever built. They have something in the area of just under 6,000 kilowatt hours of batteries. To compare that, most of the other battery electric tugs that are being built are in the 2,000-3,500 range. They will be able to conduct most of their normal operations completely on batteries. Those are being built in Turkey at Sanmar Shipyard right now, and we'll be expecting those coming to B.C. next year. In addition, there's two big hybrid LNG fueled escort tugs, over 100 tons bollard pull, that will be escorting the LNG carriers in and out of the terminal. These are technically very advanced, very, very powerful escort tugs. These are going to be two of the designs that are the most technically advanced designs that have ever been built.

OpEd

Shipbuilding

Congress: Short-term Funding Decisions Create Long-term Domestic and National Security Issues

By Ben Bordelon

Year after year, America's shipyards that make up the defense industrial base get their hopes up that the annual federal government funding process will produce stable and predictable budgets for the U.S. Navy and Coast Guard acquisition programs. Every year, the yards are disappointed as the U.S. Government bounces from spending crisis to spending crisis.

At the same time, the yards look favorably upon the shipbuilding plans that significantly grow our Nation's fleet beyond today's 296 ships. However, to meet the increased demands that these plans would require, U.S. shipyards would need to expand their work forces and improve their infrastructure – a requirement our Nation's shipyards are eager to provide.

But to build these ships in a timely and affordable manner, stable and robust funding is necessary to sustain those industrial capabilities which support Navy and Coast Guard shipbuilding. In the absence of this type of certainty, shipyards like mine that compete to build these national security assets are sustained by commercial shipbuilding and repair so that we can remain viable when the time comes to build and repair the national security fleets.

While the yards have made this work year after year, many shipyards are reaching a breaking point. Between supply chain-, labor-, access to capital- and inflation-related challenges, something has to give.

Instead of another short-term fix or worse, our critical U.S. national security assets deserve a long-term, comprehensive solution. Continuing along the same worn path is now threatening our domestic and national security while our adversaries continue to advance.

Look no further than the massive investment China has made into its navy and coast guard, which by ship count is now the largest naval power in the world at nearly 400 ships. China's naval prowess has been on full display of late in its recent war games and live fire drills in the Taiwan Strait. And earlier this year, China participated in naval drills alongside another growing naval power – Russia.

While alarming, these developments should not come as a surprise. Over the years, Washington has tossed aside the traditional appropriations process and become over-reliant on Continuing Resolutions that are more closely aligned with election cycles than business cycles or fiscal years.

According to the U.S. Navy, the use of short-term funding mechanisms unnecessarily forces the immediate prioritization of forward-deployed forces at the long-term expense of essential maintenance. For the yards responsible for building critical programs, Continuing Resolutions introduce uncertainty into the future of previously-authorized programs and put unnecessary pressure on our industrial base, which is already showing signs of strain. The U.S. Coast Guard, which has become integral to maintaining the United States' forward presence in the IndoPacific and the Middle East, is similarly harmed by Continuing Resolutions.

The long-term consequence of short-term thinking is a further depleted military and commercial fleet struggling to keep up with our adversaries and strategic competitors around the globe. This sentiment is clearly articulated in U.S. Sen. John Kennedy's recent op-ed where he discusses curbing China's ambitions in the Pacific. He says, "The U.S. can't afford to be ignorant of the economic invest-

ments and military overtures China is making to our neighbors in the Pacific."

China, under the guise of its Belt and Road Initiative, has progressively built a commanding fleet presence, endangering our allies and regional partnerships across Oceana and the Indo Pacific. For example, only five years after an international court ruling that rejected 90% of Beijing's claims in the South China Sea, the presence of Chinese vessels within the Philippines' Exclusive Economic Zone is more frequent than ever. China has also continued to conduct dangerous military exercises in the Taiwan Strait that risk potential escalation and severely endangers the democratic independence of the nation.

Beijing has spent billions expanding its ports network to secure sea lanes and establish itself as a maritime superpower. Beijing's shipping lines carry more cargo and deliver more containers than those of any other nation. All told, the South China Sea carries an estimated one-third of global shipping, of which $1.2 trillion accounts from trade with the U.S. And as we have seen from the global supply chain and shipping crisis, China is taking every advantage to fuel its ambitions at the expense of American businesses and consumers.

Meanwhile, the entire U.S. fleet of oceangoing commercial ships numbers fewer than 200 vessels, out of a global total of 44,000. By allowing China to control the waters of the Indo-Pacific, America is ceding its leadership, severely endangering our critical supply chains and threatening our

Bollinger Shipyards recently delivered USCGC William Chadwick, its 50th Fast Response Cutter built for the U.S. Coast Guard.

Bollinger Shipyards

economic security and that of our allies.

The United States must reaffirm its position as the world's unequivocal maritime superpower. The U.S. shipyard industry and industrial base stand at the ready, annually supporting nearly 400,000 jobs across the United States, producing $28.1 billion in direct labor income and contributing $42.4 billion in direct GDP to the national economy.

As we face these significant challenges ahead, we must start first with stable and predictable government funding processes that are designed to build and maintain our national and domestic security assets and invest in our mariners and industrial base. Budgets need to be designed for decades, not political cycles. Our domestic and national security depend on it.

MARINE GROUP BOAT WORKS: STANDING STEADY ON FOUR LEGS

By Eric Haun

All photos: Marine Group Boat Works

Ask anyone working in the shipyard business, and they'll tell you balancing yacht, commercial and government vessel repair work concurrently is no easy task. Add a bit of new construction to the mix, and you've got Marine Group Boat Works (MGBW), a Chula Vista, Calif. shipyard that has seeming mastered the balancing act.

"There are a few tricks to the trade," said MGBW president Todd Roberts, a Cal Maritime graduate with a U.S. Coast Guard license for vessels up to 1,600 tons. "The biggest thing we do is run an extremely clean, environmentally friendly operation. . . What that means is you don't have anything on the ground, you don't have anything in the air and you don't have anything in the water, and this avoids contamination on the yachts. I don't want to undersell it and say it's good housekeeping, but that's exactly what it is, and in our case, it's to a pretty meticulous level."

"Now on the flip side, when yachts are washing, which they do frequently, we ask them to do that during low wind period so that we don't have water going all over our commercial boats when we're trying to weld and paint," Roberts said. "It's a bit of a ballet managing it, but the key is running a really clean operation. If you can do that, then you can do both."

The other side of the coin, Roberts said, is personnel. "It's just sort of the way we were raised. When we started the yard, we cross-trained everybody from day one. A welder was a welder, and you're a craftsman, and what you weld on is irrelevant. And it's careful oversight by our supervisors and our quality assurance folks, to make sure that our crew members are abiding by yacht quality standards when they're on a yacht, which is everything from shoes and markings and no tool belts, and nothing that could scratch against something if there's not proper protection, to shoe covers."

Over the past three years or so, MGBW's workload has been about 60% yachts and the remaining 40% a mix of commercial and government vessel projects. From both an operational and business point of view, chasing multiple markets certainly presents a number of challenges. But on the other hand, this model also provides more opportunity as diversification can help a yard stay busy through market dips and cycles. "That's always been our mantra," Roberts said. "We call ourselves a three-legged stool, and years ago we added a fourth leg. Our yacht business is one leg of the stool, commercial is another leg, navy repair is another and new construction is the fourth. It's really hard to fall over when you have four legs."

MGBW's new construction work is primarily for the U.S. Navy, and it is currently building two high-speed patrol boats that the U.S. will transfer to Jordan. "We'd like to have a little bit of new construction going on all the time."

The repair workload is also balanced out by the changing of the seasons. MGBW sees a slowdown in yacht work during the summer months while those vessels are busy cruising, so it fills up with tugs and high-speed ferries because their work is not season-dependent. "We try to give that feedback to our customers. We let the commercial customers and the Navy know, to the extent that they can control their schedule, they probably will get a better value and faster turnaround when you hit us and we're not our busiest time," Roberts said. "It's no different than going to a restaurant on a Tuesday night versus a Friday night. You're just going to wait less for a table, and you're probably going to get a better meal."

MGBW recently completed a fairly large $4.6 million program for Golden Gate Ferry to service and repair four high speed, aluminum passenger ferries: Del Norte, Mendocino, Golden Gate and Napa. The work scope included everything from routine maintenance, inspection and paint, to waterjet replacements and major structural repairs that required MGBW to remove a superstructure from the hull of one of the ferries. Notably, the project wrapped up ahead of schedule at a time when many shipyards are plagued by supply chain challenges.

"Supply chain continues to be a challenge for us all. And the only thing you can do is work collaboratively with your customer to get the contract awards early and before the vessel arrives, and get that material ordered immediately and on the ground prior to the vessel's arrival. If you do, you can do amazing things for your customer."

Roberts said MGBW has taken that approach with Golden Gate Ferry, working collaboratively with their contracting team to change how contracts are awarded. "It used to be that they awarded the contract and you took the boat and did the work. Now we're working in an environment where the contract is awarded, then we receive a notice to proceed before we take delivery of the boat, allowing

"We call ourselves a three-legged stool, and years ago we added a fourth leg. Our yacht business is one leg of the stool, commercial is another leg, navy repair is another and new construction is the fourth. It's really hard to fall over when you have four legs."
- Todd Roberts, president, MGBW

us to get our materials lined up," Roberts explained. "We also take an extra step of doing a survey of the boat prior to arrival to identify any potential growth work. And then, given that we have such a strong relationship with Golden Gate, we typically order material—aluminum, bearings, whatever it may be—and keep it in inventory. At the end of the day, it's a collaborative effort with your customer to make sure that the scope is well defined and the material is procured as early as possible."

MGBW has been keeping busy, thanks in part to its reputation for a job well done—and completed on time. Its yacht business has been strong, with two recent multimillion-dollar refit awards, and the company seems to almost always be servicing a vessel from the Golden Gate Ferry fleet.

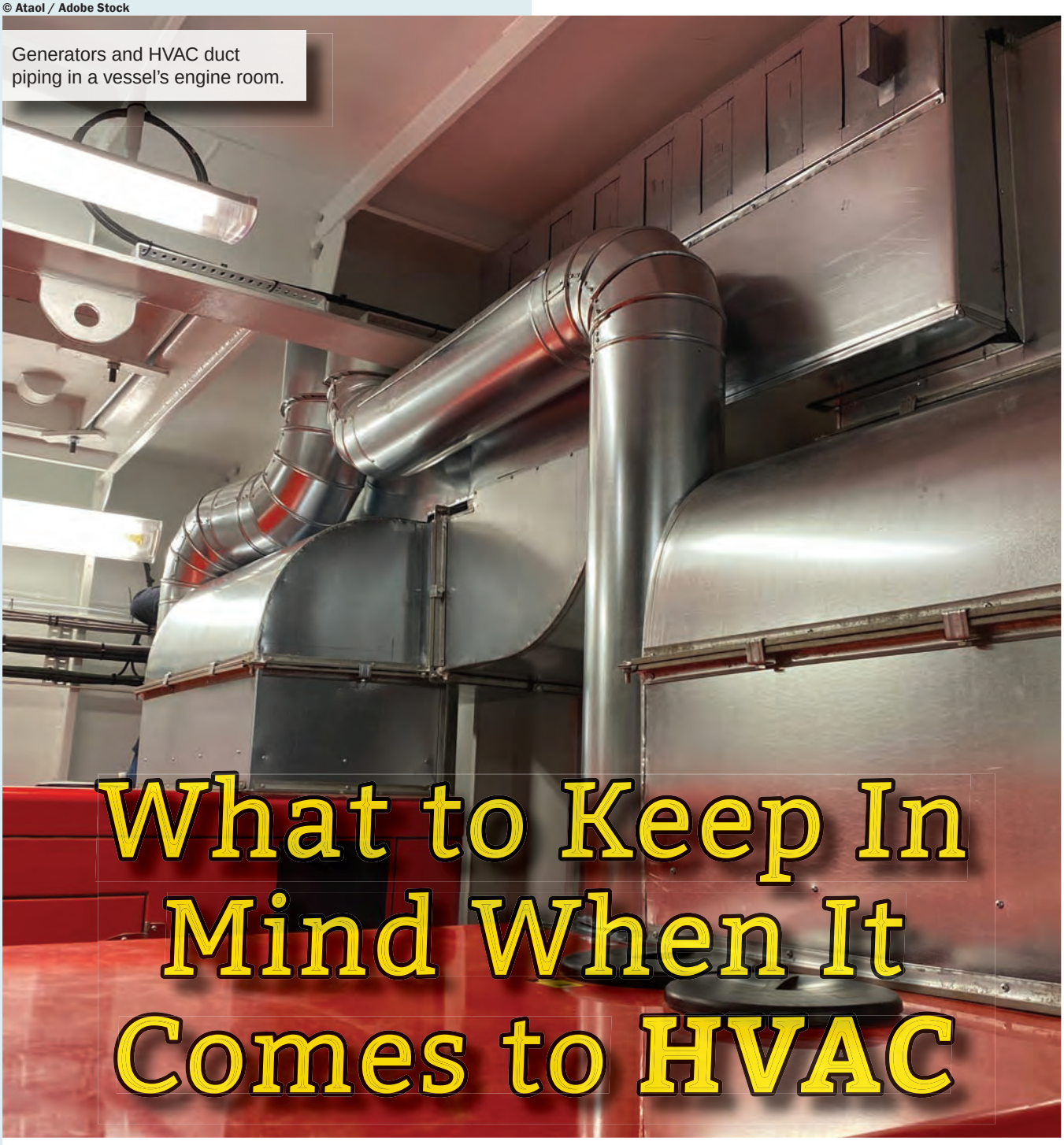
MGBW's 665-ton mobile travelift is a key business driver. It's also the most environmentally friendly of its kind in the world with a CARB Tier 4 engine.

Roberts said MGBW recently did some work for Edison Chouest Offshore where it as able to haul a series of tractor tugs in a row to get them through their credit dry dock process. "There's seven of these tugs, and they're used to support the Navy's fleet here in San Diego. Obviously having those boats up and down very quickly is important," Roberts said.

Roberts also mentioned two large tug projects for Corwley, including one that saw MGBW repaint the vessel from red to Crowley's new blue. "According to Crowley, nobody has been able to maintain their schedule as well as Marine Group's been able to. And they've been very happy with the value that we're offering," Roberts said.

And with new stricter emissions rules coming down the line for harbor craft in California, MGBW is about to get a whole lot busier amid a sharp demand increase for repower and even new construction projects. "We were ready to see an uptick in the activity and then CARB pushed the rules to the right a little bit," Roberts said. "What we're seeing in the industry is everybody just sort of put their head down and breathed a sigh of relief. They're going to worry about it another time."

But Roberts said this approach may backfire, leaving owners in a game of musical chairs as they try to find a yard that can take on their repower or newbuild project amid soaring demand. "If I were a vessel owner, I would be repowering sooner rather than later because there's very limited facilities in California that can do the kind of work that will be necessary. And if you rush them all at one time, capacity is going to get swallowed up, and you could be left sitting at the dock."



Generators and HVAC duct piping in a vessel's engine room.

What to Keep In Mind When It Comes to HVAC

By Stewart Bell

Heating, ventilation and air-conditioning (HVAC) systems keep you cool in the summer and warm in the winter. That's the simple explanation. It does not encompass the complexities of what needs to be done to assure the all-important continued conditioning of the air in your vessel.

The systems installed in vessels today can run the gamut from static vent scoops that force air into an area to a raw water chiller system whose workings take up the same amount of space as a 40-foot cargo container. The equipment is there to meet the need of the end user. Selecting the right system will come down to the budget, the vessel, the long/short term needs and the amount of hands-on maintenance the user can provide. No system is foolproof, and any system placed into the mostly salt-water environment that is found on seagoing vessels will need its share of upkeep.

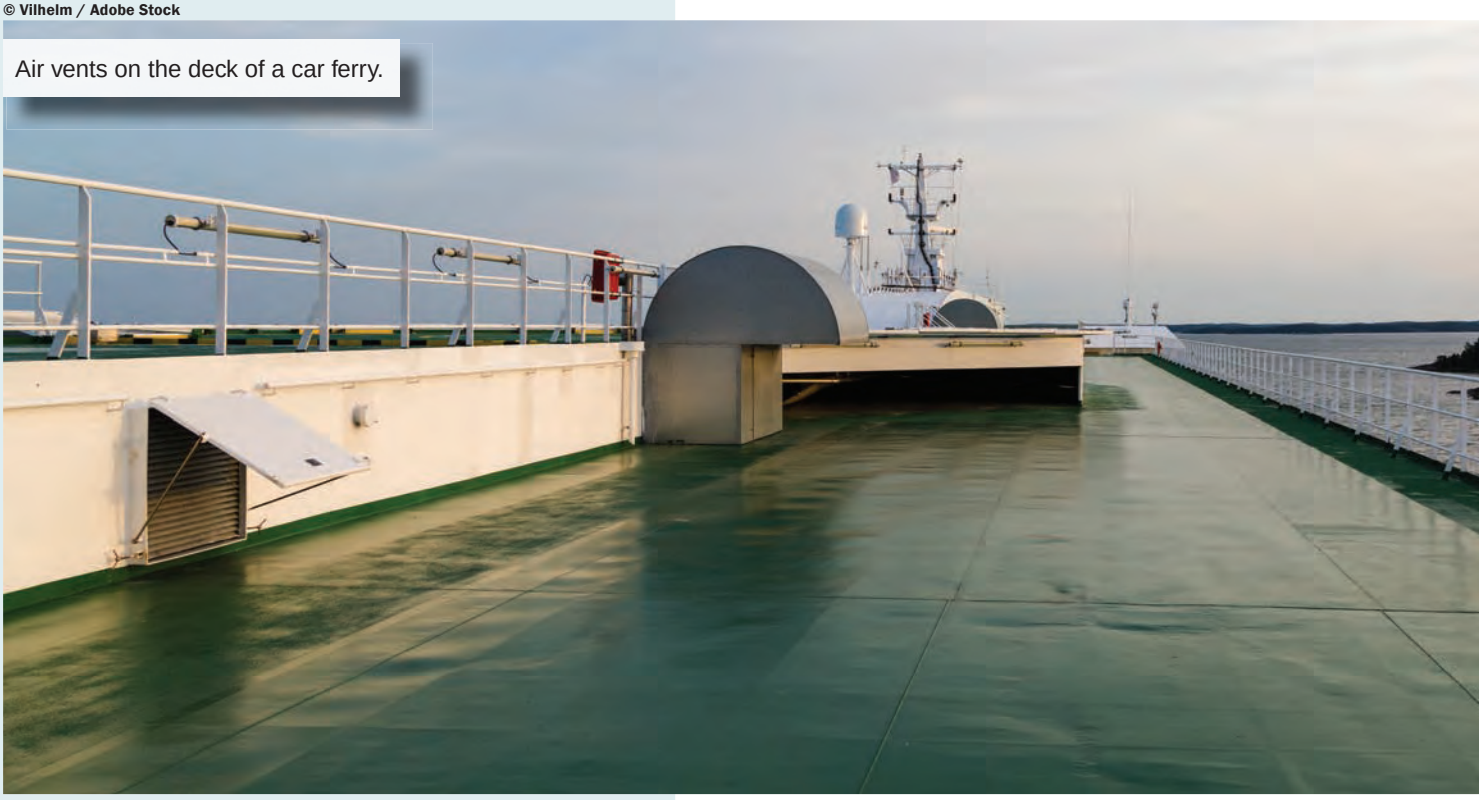
Modern equipment is controlled and regulated using circuit boards. Small on-board processers in the equipment that can regulate the operation with an efficiency that will leave the inventor of the original swamp cooler sweating in envy. With great technology comes great responsibility. The units work efficiently and help control the conditions on board if they are installed by certified professionals and placed in an area on the vessel that allows for protection and regular access to inspect and maintain them.

The vessel type is key to the equipment needed. A weekender on a 30-foot trawler is not going to require a commercial chiller unit when smaller self-contained units are readily available stemming from the recreational vehicle market and adapted for use on a small boat. Here a small self-contained unit consisting of a compressor, evaporator, coils, blower and electrical components can be made to fit a cabinet under a bunk or seat and keep the space comfortable on an average day. This unit, if installed correctly, can be easy to access for maintenance and will also be more economical.

The builder of a new crew transfer vessel (CTV) for the offshore wind market emerging in the United States will be looking for something more robust. With the importance placed on passenger and crew comfort for the offshore commute to the turbine, a reliable system with enough power and efficiency to cool or heat the spaces while being economical to purchase, install and maintain will be the target. Units that use raw water to provide the heat transfer process will not be what the average CTV builder will look for, most will follow the trail blazed by workboat construction and install split systems. Here the condenser unit can be in one area, such as machinery spaces or the exterior deck, and the evaporator/s are located in the space to be cooled. On the smaller and space conscious CTVs the machinery spaces are occupied by critical machinery and condensers will be placed on an upper exterior deck and resemble the units seen at apartments and homes the world over.

Chief Engineer Chris Larsen, who has been sailing commercially for 16 years, the last six while holding a Chief Engineer Unlimited, said domestic units that have some level of corrosion protection installed (stainless steel housings, protection for internal components from seawater or spray) will still have a diminished working life at sea. These units are seen on many offshore support vessels (OSV) working the fields of the Gulf of Mexico. Larsen commented that marine environment corrosion and improper maintenance are prevalent issues found on HVAC systems in a marine environment. Present day circumstances and supply chain issues could cause these types of issues to escalate, where before the ease of finding a whole new unit to replace the faulty one and get back underway was simpler. Preventative maintenance as specified in the OEM manuals done by, if not certified then trained individuals would help prolong the life of components in the marine environment. Taking a unit that was built to be installed outside of a home and bolting it to the deck of a vessel will not make for a crew that stays cool in summer and warm in winter.

Raw water, in the case of a marine environment, refers to that most abundant resource: salt water. Salt water is abundant and corrosive to metals. In a raw water supplied chiller system, the salt water is used to conduct the heat transfer. A chiller, usually located in the engine room, will heat or cool the water and then pipe it to the air handlers located in various spaces where the air is cooled or heated and pushed into the space by the air handler. These systems work well on larger vessels where space is not so much at a premium. They also allow for more air handlers being fed from a single chiller unit where distances are less of a concern if there is flow through the insulated pipes and a large

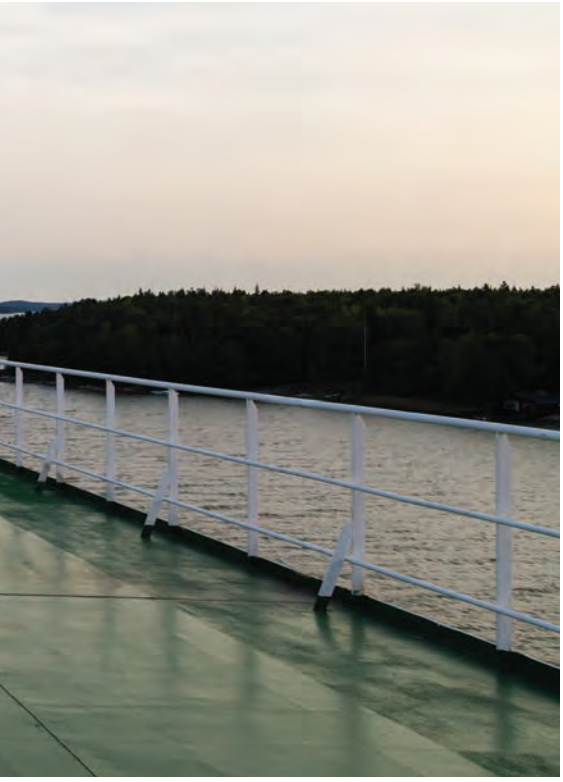


Air vents on the deck of a car ferry.

enough horsepower chilled water pump. I recall a saltwater chiller system installed on a South Florida research vessel of 100 feet in length during a period of modernization. The chiller plant was built on the upper deck into a custom-built aluminum box of about 10 feet long by 4 feet deep and 7 feet tall. This worked around the lack of space in the engine room and used a larger seawater pump to lift the raw water from the hull sea chest to the upper deck, close to 20 feet. The cooled or heated water was then pumped to 17 different air handlers, in this case split wall units, for the accommodations and common areas of the vessel. The engineering department had to make sure their preventative maintenance was up to date on these units to help ensure the system kept running without downtime. The regular inspection and scheduled maintenance of a system will prolong its useful operating life.

Small boats in the 25- through 40-foot range can also explore the options of an engine driven HVAC system. Coming back around to the common theme that boats always lack enough room, this system uses the main propulsion package to provide power to the compressor, which is mounted to the front of the engine. The raw water feed can be siphoned off the pickup for the main engine prior to where it enters the main engine to provide cooling. The condenser is also low profile, and most would be in the engine space mounted above the water line, but not so far as to cause the pump to have to work harder. The cooling units are usually set up as low profile to be easily mounted behind a bulkhead or below a decking and feed cooling or heating to the space through four to six vents. Heating in these units uses coolant from the engines to help the efficiency of the internal heating coil and generate the heat to warm the space. The system can be set up to use both heat and cool at the same time in a de-humidification effort.

The systems all need to be maintained. Raw water coming in through the hull must be filtered through a particulate strainer in the sea chest. This needs to be inspected on a regular basis for obstructions such as sea life and sea growth. The engineers who design the system need to consider the amount of water that will be needed, so the de-



cision will need to be made whether the feed will be dedicated only to the HVAC system or shared with other systems, such as a raw water toilet system. Then space and economics comes into play again, because larger pipes and stronger pumps will need to be used to ensure the water flows where it needs to without the two systems needing to compete. Systems such as a basic residential or commercial landside self-contained split unit, where there is no need for raw water to be used in the system, remain popular because these units are available in plentiful supply from manufacturers globally. The units should have some methods of corrosion protection to help prolong their operational life.

The type of system will always de-

Feature
HVAC

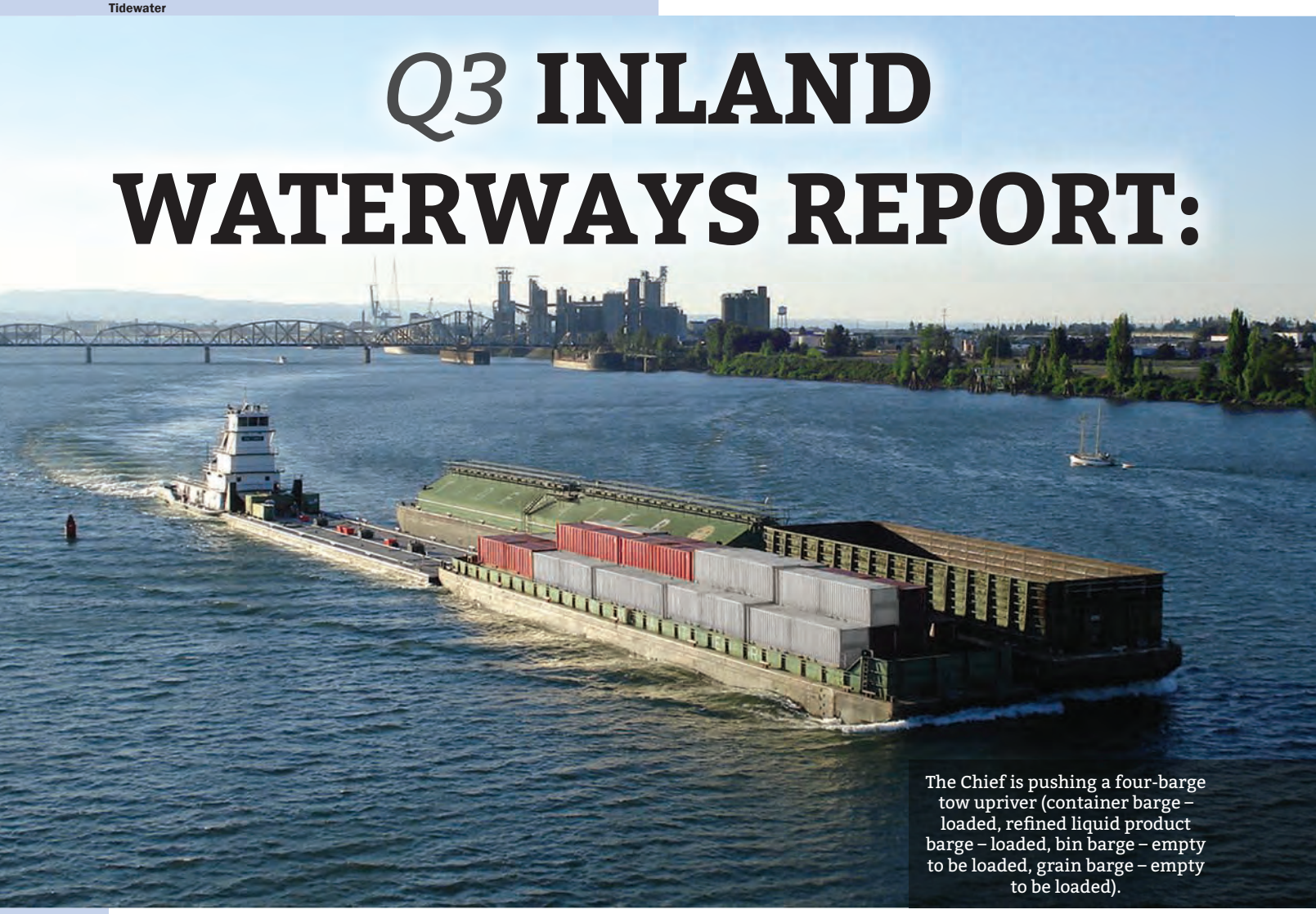
Eric Haun

Engine room ventilation is a key component of any working vessel.

pend on the type of vessel and area of operations. HVAC systems provide cooling and heating, and their efficiency is determined by the power available for the units and their size, which is determined by the size of the vessel. Vessels that cater to passengers such as cruise ships and ferries need larger reliable systems because loss of cooling during the record heat waves being felt these days could result in injury to persons from the heat and loss of revenue. Increasingly, as the maritime industry continues to evolve, many companies are placing a greater emphasis on crew comfort in order to aid in retention of crews as the industry finds itself growing with a shrinking skilled workforce. Whether it's large chiller plants, small self-contained units, or a window unit from a hardware store mounted in a porthole, these must work to cool or heat the area and be able to maintain operation in the working environments of vessels in fresh or salt water and in the rivers, bays, nearshore or ocean crossings that they are built for. No one wants lose their HVAC three days into a 12-day trip in the Solomon sea during the month of December and have to resort to opening port holes, building wind scoops out of cardboard, or sleeping and working on deck in little more than a pair of shorts until landfall is made in Australia where the nearest parts are.

Tidewater

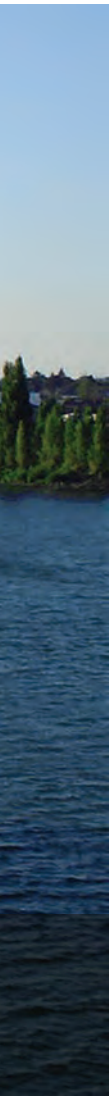
Q3 INLAND WATERWAYS REPORT:



The Chief is pushing a four-barge tow upriver (container barge – loaded, refined liquid product barge – loaded, bin barge – empty to be loaded, grain barge – empty to be loaded).

Columbia-Snake Rivers System

By Tom Ewing



It's amazing to consider that a commercial vessel in the Pacific Ocean, approaching the mouth of the Columbia River, can continue its eastward journey to finally tie up at the Port of Lewiston, in Lewiston, Idaho, America's most inland West Coast port, 465 miles from the Pacific Ocean.

The Columbia and Snake Rivers form that critical east-west waterway, an economic powerhouse regionally, nationally and internationally. According to the Pacific Northwest Waterways Association (PNWA), the Columbia-Snake River System (CSRS) is the nation's single largest wheat export gateway, second largest for soy and corn exports and in the top ranks for wood products, autos, bulk minerals and a growing market for inland river cruises. Eight dams – four on the Snake River (see sidebar) – create and maintain waterway performance – importantly, not just for commercial navigation but for energy, flood control and recreation. Petroleum is a top commodity moved upriver.

Now, this national asset is under critical scrutiny; it could be scrapped. There are a number of concerns but topmost, particularly along the Snake River, is the survival, the sustainability, of northwest salmon and the impact of dams on their storied lifecycle of river to ocean and their return upriver to spawn. There are suggestions now to breach the four Snake River dams. Otherwise, supporters charge, Snake River salmon face extinction.

Obviously, such a drastic move does not proceed casually. Columbia-Snake River waterways operators are right in the middle of these swirling currents, trying to keep one eye on immediate business demands and one eye on a hazy future. If the dams are breached, the Snake River is no longer commercially navigable.

National-Federal issues and initiatives

Briefly, there are three very high-profile Snake River initiatives:

- From the White House: On July 12 Administration officials released two studies, one focusing on salmon recovery, the other on electric power replacement if hydro generation were lost. "Business as usual will not restore the health and abundance of Pacific Northwest salmon. We need a durable, inclusive, and regionally-crafted long-term strategy for the management of the Columbia River Basin," said Brenda Mallory, who chairs the WH Council on Environmental Quality.
- In June, U.S. Sen. Patty Murray and Washington Gov. Jay Inslee released a draft report to inform upcoming recommendations from their Joint Federal-State Process regarding the Lower Snake dams and salmon recovery.
- In February 2021, Idaho Congressman Mike Simpson unveiled the "Columbia River Basin Initiative," a $33 billion plan to at least start on compensatory costs if the dams were breached and the costs to build alternatives for lost assets, including power and transportation, i.e., new highways and rails.

In August, ACE's Inland Waterways Users Board met in Walla Walla. Northwest issues were on the agenda – deliberately so, commented Chairman W. Spencer Murphy, with Canal Barge Company. Murphy introduced Robert Rich, VP Marine Services, with Shaver Transportation, based in Portland, Ore. Rich is a member of the Users Board.

Rich provided the balance of comments, presenting regional concerns about the increasing political intensity on dam breaching but without a full presentation of impacts – to waterways operators, farmers and agricultural businesses, regional energy operations and markets, multi-modal shippers and, really, food security for millions, worldwide, who depend on a very dependable system.

Rich posed a rhetorical question to Board members: If we were starting with a clean slate in 2022 what would be prioritized? His answers: green transportation – waterways. Clean, low-carbon energy – hydro. Irrigation and flood control. Multimodal – barges, trains and trucks each contributing best value across the supply chain. Accessible recreation. All at a scale that expands from singular farms to eventually encompass national and international markets and consumers.

Shaver

AWO

Peter Schrappen, CAE, VP for The American Waterways Operators Pacific Region, based in Seattle.

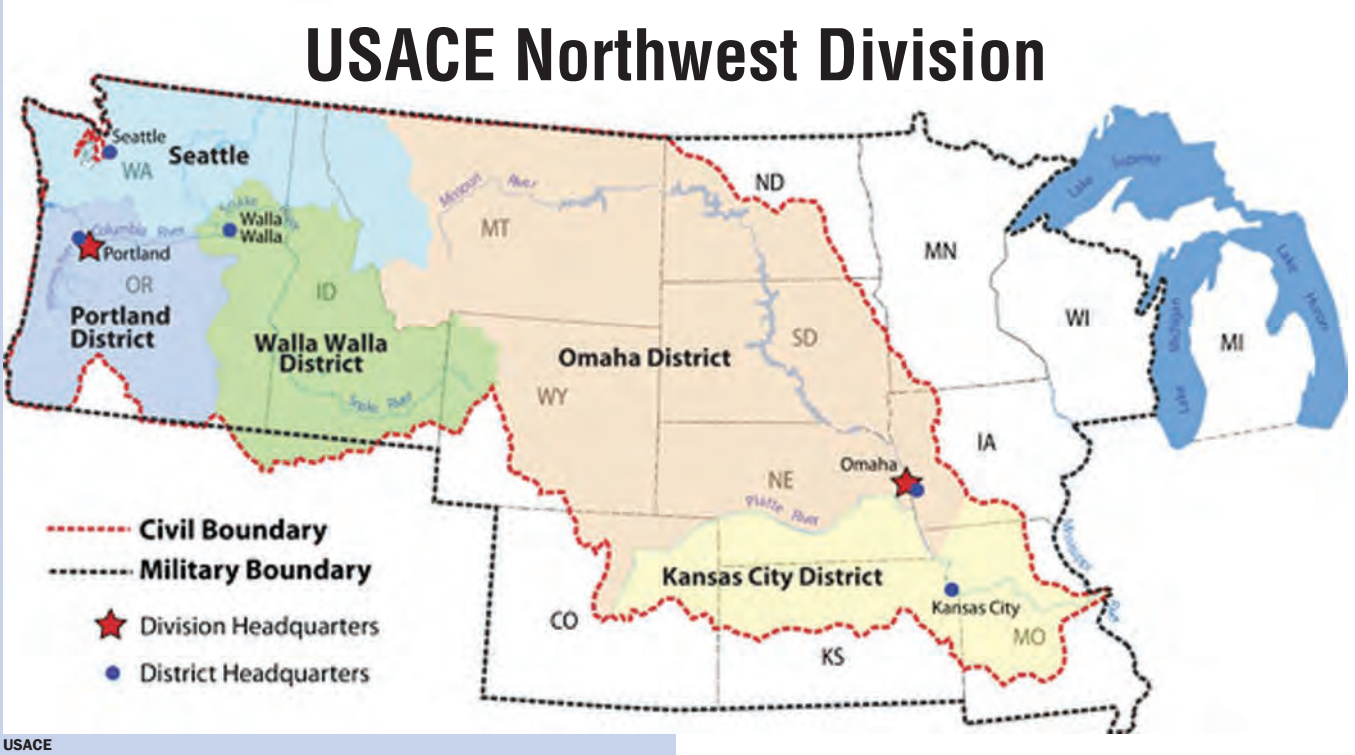
It's the dams that make this possible, Rich reminded the Board. "This is working now – in 2022," he emphasized.

Business perspectives

Heather Stebbings is Executive Director of the Pacific Northwest Waterways Association. The PNWA, established in 1934, with 150 members, is a collaboration of ports, businesses and public agencies.

Stebbings and her team are closely watching the dam issues. Major concerns include:

- That White House documents are tilted in favor of established interests, including the Nez Perce and State of Oregon, who have long supported dam removal.
- Giving too much weight to the notion that salmon mortality in the ocean results from hydro system impacts. "This is unproven," Stebbings says, citing research showing that salmon returns are similar in dammed and undammed rivers. She notes research that the Pacific itself is the largest driver of salmonid mortality, not the dams. She said that the four Lower Snake River dams "provide greater than 97% successful fish passage for juvenile salm-



USACE

on making their way to the ocean and have had improved salmon runs over the last three years."

• Dam breaching poses significant, and negative, energy-environmental impacts. PNWA calculates it would take 162,153 semis or 42,160 rail cars to move the 4.2 million tons of cargo currently barged on the SR. "That means an increase in CO2 and other harmful emissions by over 1,251,000 tons per year – the same as opening a new coal plant every six years," Stebbings writes.

• Finally, there's energy: hydropower provides the baseload function necessary to integrate intermittent solar and wind into regional transmission and distribution systems. If lost, there's no system, no grid.

Peter Schrappen, CAE, is VP for The American Waterways Operators Pacific Region, based in Seattle. AWO is zeroed-in on these various proposals. In response to the Murray/Inslee report Schrappen wrote the following:

• The loss of the Snake River dams would "devastate regional and national food security, the supply chain, and clean energy generation."

• Schrappen challenged the report's claim that dams' significant benefits could be replaced or mitigated.

• Northwest rail and truck capacity are challenged to meet current demands. "It is unrealistic to believe that these two modes can absorb the additional 4 million tons of cargo moved through the Snake River locks each year."

Regional and day-to-day challenges

In addition to these looming mega-

issues, Columbia-Snake River operators face the "regular" array of day-to-day challenges.

"The labor shortage is an ongoing concern and top priority for our members," Peter Schrappen commented, citing both recruitment and retention. Demand for river transport is increasing. New people are needed – not just replacements.

Supply chain issues continue. Schrappen said engine components and maritime paints are hard to get, as are buoys and navigational aids. These west coast challenges could drive traffic to east coast ports.

Regarding infrastructure, Schrappen highlighted the following:

- Planned dredging for the Columbia and Snake main and side channels and turning basins. "This is welcome news," Schrappen commented.
- The Columbia River bridge project is key and deck height for vessel clearance is a critical decision. Schrappen is pleased that the CG seeks a height of 178 feet.
- Also positive is $146 million in system maintenance funding from the recent Infrastructure act.

PNWA's Heather Stebbings cited regulatory challenges, particularly with timely permitting, as a top issue. She said that despite statutory, 135-day deadlines for inter-agency consultations, Northwest port projects "routinely wait one to three years for permits and some even longer."

Stebbings said that recent NOAA programmatic changes with maintenance projects has led to a backlog – over 100 projects – in the Puget Sound region. NOAA expects it will take two years to work through that backlog, Stebbings said, calling it a very problematic delay for ports whose permits have been "on hold for up to four years."

Stebbings predicts these Puget Sound tie-ups present national implications because, she explains, the Army Corps has adopted NOAA's mitigation cost and maintenance policies which the Corps will apply nationwide. Right now, she says it is "unclear how the agencies will develop tools to apply this policy and if they will implement moratoriums in other regions during the development process."

In an interview separate from his Board comments, Rob Rich, with Shaver, said high fuel prices are impacting northwest operators. He said fuel prices have nearly tripled since 2020. And the focus on decarbonizing transportation is particularly challenging, Tugs are an investment

Two towboats passing each other on the Columbia River.

Tidewater

that can have a 50-year lifespan; running out of fuel is not an option. There are parallel concerns. Rich cited a Portland City Council policy to limit, and eventually shutter, petroleum storage facilities (Council will vote in August, but prior to deadline for this report).

Importantly, Rich noted that business "is good on our system right now." The grain crop is big, and so is demand, particularly from Pacific Rim countries while world-wide supply has been constricted by the Ukraine-Russian war. Shippers are moving a lot of wood and wood products, concrete and petroleum.

Looking ahead

Schrappen expects new opportunities from offshore wind. He said AWO members "are investing and preparing to play an important role in this new market." He added, though, that safe fairways for vessel traffic have to remain a top priority. And, on the west coast, new aquaculture areas are under development, presenting additional territorial constrictions for commercial traffic and operations.

Alt-energy business possibilities go beyond wind. Tidewater Transportation and Terminlas, based in Vancouver, Wash., for example, has its eye on a new low carbon fuel standard adopted in Washington, effective in 2023.

Jennifer Riddle is Tidewater's corporate communications and marketing manager. She said this will establish a green corridor from California through British Columbia. "We see this as an opportunity to increase movements of various alternative and renewable fuels as the program gains traction," Riddle said. She explained further that Tidewater owns and operates a biodiesel blending facility at its Umatilla Terminal in Oregon. Now, the company is contemplating additional investments at terminals in Pasco and Vancouver, Washington, sites which already provide transportation, storage, pipeline, and multi-modal transfer services.

For Tidewater, though, and all other operators, the mega-decisions hanging over the whole northwest system weigh heavily. Riddle cited the "reliability" of the C-SR locks and dams, a critical aspect allowing Tidewater to work 24/7, 365. "This robust and vital river highway," Riddle emphasized, "is one of the most efficient networks for moving commodities in the nation."

If the four Snake River dams are breached, the world may not end, but it will be a far different world – for everybody.

Army Corps of Engineers (ACE) District: Walla Walla, Wash.

Established: 1948. Boundaries generally match the watershed boundary of the Snake River drainage and include approximately 107,000 square miles in six states: Washington, Oregon, Idaho, Wyoming and small parts of Nevada and Utah.
Dams: Dworshak – North Fork Clearwater River, Ahsahka, Idaho
Mill Creek – part of a flood management project, Walla Walla, Wash.
McNary – Columbia River, Plymouth, Wash.
Ice Harbor – Snake River, Franklin and Walla Walla Counties, Wash.
Lower Monumental – Snake River, Franklin and Walla Walla Counties, Wash.
Little Goose – Snake River, Columbia and Whitman Counties, Wash.
Lower Granite – Snake River, Garfield and Whitman Counties, Wash.
Lucky Peak – Boise River, Boise, Idaho
Energy: The District is the second largest hydropower producer among ACE districts (Portland District is first), providing a total generating capacity of 4,413 megawatts to the Federal Columbia River Power System. McNary Lock and Dam can produce 980 megawatts from 14-hydropower turbines. One hydropower turbine at McNary produces as much electricity as 211 Walla Walla FPL 660 KW wind turbines.
Salmon: A juvenile fish transportation program, begun in 1968, uses specially equipped barges and tank trucks to carry migrating salmon and steelhead fingerlings around Snake and Columbia River dams. Construction on fish hatcheries started in 1976.
Navigation: The Columbia-Snake Rivers system allows commercial maritime transport from Portland, Ore. to Lewiston, Idaho – four-hundred miles inland. US agriculture (particularly wheat) is the critical export at international scale. Petroleum products are the most important upstream cargo.

Profile

Silverback Marine

Silverback Marine Brings Fresh Blood—and Ideas—to Boatbuilding

By Eric Haun

Elliott Bay Design Group

Tacoma, Wash.-based Silverback Marine is a relatively new name in boatbuilding, formed with the tall ambition to "change the way the world thinks about workboats".

"We started Silverback with the vision of essentially bringing, what I would call, the big boat experience to smaller workboats. Enabling people to get a smaller workboat, but also have a real naval architect and engineer go through it—give them renderings, give them that tailored experience that you would normally only find if you're getting a much larger vessel," the company's founder, Ian Gracey, said.

Silverback Marine is among a number of U.S. builders aiming to accelerate delivery times by keeping an inventory of stock vessels—which is especially beneficial given the current supply chain issues that are plaguing newbuild projects. "The way the industry is now, the lead time can be anywhere from six to 24 months if you want to get even a basic workboat because most people build to order," Gracey said. "For our Grizzly, which is kind of like the F-150 of workboats, we premanufacture in production runs of 10 at a time and have them sitting either fully or partially complete. If a customer needs a boat quickly, they can have it in as little as one to two days."

Silverback's customers range from ports and municipalities to oil response and tug and barge companies, "anyone who's in the market for a workboat between 21 and 60 feet," Gracey said. The company is now in its third year of business, and to date, it has built 51 vessels with four builds currently underway.

In July 2022, Silverback began building what it calls a STS CTV, a crew transfer vessel for ship-to-shore applications. Scheduled for delivery in 2023, the 35' 5" vessel will be operated by Portland, Ore.-based Shaver Transportation on the Columbia River. "It's not a crew transfer vessel in the sense of offshore wind. This vessel is designed to bring crew and items from various places onshore out to larger vessels. For example, if they need groceries delivered to a bigger ship, or simply need to get a number of personnel from one vessel to another quickly, then this boat will allow them to do that," Gracey said.

The vessel will have full fendering, enabling it to sidle up to a larger ship, and push knees for utility work moving floats or any kind of maintenance around the harbor. The wheelhouse will seat up to six people, including pilot and co-pilot plus four crew. It will feature windows and a wheelhouse door from Diamond Sea Glaze and will be powered by twin 300-horsepower OXE Diesel outboards. Among other innovations, the flat deck sheds all water overboard, thus eliminating the need for auto bailers.

The initial design for the vessel was based on Silverback's standard Grizzly, which is a 21-footer. "Essentially, Shaver gave us a list of the things that they wanted to be able to do, and some rough ideas of the weight, and size, and length that they were aiming to keep within. From there, we drafted up a rough concept. Once that was approved, we contracted Elliot Bay Design Group to flush out the whole gamut," Gracey said.

Silverback has worked with EBDG on a number of other projects, including a truckable tug, a compact (25' 10 ⅞" length, 14' 6" beam 3' 4" draft) tugboat that can be transported to job sites by truck over the road. Available with either electric, hybrid or outboard propulsion options with up to 500 horsepower, the tug will produce a bollard pull over 12,500 pounds and has a still water range of 60 nautical miles pushing approximately 10,000 pounds at 4.1 knots. The vessel can be operated with a one-person crew and does not require compliance with USCG Subchapter M regulations.

Profile
Silverback Marine

"Elliot Bay has been a very key partner for us because they share our vision that having quality renderings available for people to review is such an important thing, more than just blueprints," Gracey said. "Their team is very flexible in accommodating customers' needs. Then, not only is the design side of what they do very good, the actual engineering of it is very good. Often, we will come up with the look of the vessel and hand that off to them to basically translate into a buildable project. That just adds a lot of value to us. We have that freedom to come up with a concept, and then they take it from there."

In fact, collaboration is very important for Silverback. "I'd like to see more boatbuilders working together, rather than against each other," Gracey said, referencing Silverback's good working relationships with other Pacific northwest builders such as Wooldridge Boats and SAFE Boats International. "We're able to meet together, talk about ideas, brainstorm, share resources."

"I think that if boatbuilders could network more, and share resources, do joint ventures, taking the top talents, or the top value offerings from multiple different companies, combining it into one could help a customer realize an outstanding vessel. Boatbuilder A might be really good at one thing, and boatbuilder B might be really good at another. If you could get a meeting of the minds, and get those people to collaborate and cooperate, that's where we'll see a catalyst for change in this industry."

Gracey said that Silverback, as still a relatively young name in the industry, is looking to gain people's confidence as it eyes opportunities for growth. "We would like to increase awareness with government agencies, and go after the multi-vessel contracts," he said. "But it's usually the old established builders that [win these contracts], just because they're the ones that have been around."

"I think that the blue economy can embrace change by trying new ideas, trying new concepts. When fresh blood comes in, that's when innovation happens," Gracey said. "Just because we're new doesn't mean we can't be better."

A truckable tug design developed by Silverback Marine and Elliott Bay Design Group is an example of the fresh approach the builder is trying to bring to the workboat industry.

Elliott Bay Design Group

Vessels

Mark W. Barker

The Interlake Steamship Company

The Interlake Steamship Company christened its new vessel, Mark W. Barker, the first U.S.-flagged freighter built on the Great lakes in nearly four decades. Built at Fincantieri Bay Shipbuilding in Sturgeon Bay, Wis., the new River-Class, self-unloading bulk carrier is the first ship on the Great Lakes with engines that meet EPA Tier 4 emissions standards. The Jones Act qualified vessel, measuring 639 feet in length, 78 feet in beam, 45 feet in molded depth and 28,000 deadweight tons, will transport raw materials such as salt, iron ore, and stone to support manufacturing throughout the Great Lakes region. It is also capable of transporting specialty cargoes such as steel coils and windmill towers and blades.

New Research Vessel for Scripps

Glosten

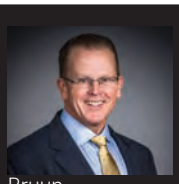
UC San Diego's Scripps Institution of Oceanography selected Glosten as the naval architect to provide the preliminary design, contract design and detailed design for the university's new California coastal research vessel. The vessel will feature a hybrid propulsion system that integrates hydrogen fuel cells alongside a conventional diesel-electric power plant, enabling zero-emission operations. The anticipated schedule for design and construction includes one year to complete the basic design. Following U.S. Coast Guard approval of the design, the university will select a shipyard to build it. Construction and detail design will likely take an additional three years.

American Symphony


American Cruise Lines

The newest riverboat for the Mississippi River passed sea trials in early August before making its way to New Orleans for an on-time start to its inaugural season on the Mighty Mississippi. American Cruise Lines said it has accepted delivery of the American Symphony—the fifth riverboat in the Line's new series—from Chesapeake Shipbuilding as scheduled. The new boat immediately joined the company's expanding Mississippi River fleet, with its first cruise departing August 27, 2022, from New Orleans, followed by a christening on August 30 in Natchez, Miss. Accommodating 175 guests, American Symphony features five decks and offers 100% private balcony staterooms, including suites and single rooms.

People & Companies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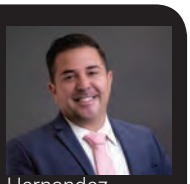
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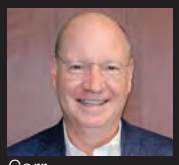
Carr


Mack


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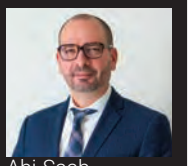
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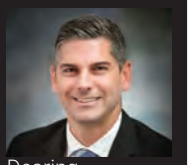
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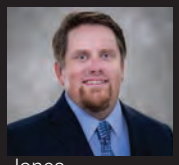
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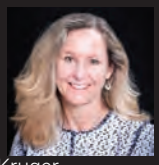
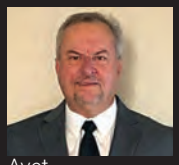

Kruger


Morgan


Hendren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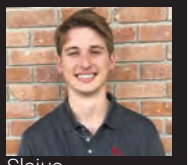
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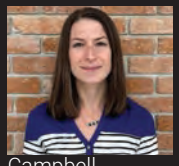
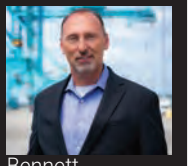

Campbell


Bennett

Bruun Takes the Helm at KVH

KVH Industries, Inc., has appointed Brent C. Bruun as president, CEO and member of the board.

Hernandez to Head ABS' Offshore Division

ABS appointed Miguel Hernandez to head its offshore division as senior vice president of offshore business development.

Carr to Lead Port of New Bedford

The New Bedford Port Authority has named Gordon Carr as its next executive director.

Mack Named Foss COO

Foss Maritime promoted Chris Mack Jr. to chief operating officer (COO), responsible for all of the company's harbor services activities.

Karl Tapped as Crowley Wind Services SVP

Crowley has appointed Bob Karl as senior vice president and general manager of the company's new business unit, Crowley Wind Services.

LR Names Abi-Saab CTIO

Lloyd's Register has appointed Chakib Abi-Saab to its newly created role of chief technology and innovation officer.

Crowley Names Jors Chief Naval Architect

Crowley has appointed Charles "Charlie" Jors as chief naval architect to lead its vessel design and marine engineering teams.

Callan Promotes Two VPS

Callan Marine announced the promotions of Chris Dearing to Vice President of Engineering and Production and Oliver Jones to Vice President

Austal USA Names Kruger VP

Austal USA welcomed Michelle Kruger as vice president of global services and support.

Morgan Joins IMTRA

IMTRA has hired Rusty Morgan to take on the role of regional commercial sales manager for the Pacific Northwest.

Hendren Joins TDI Exective Team

TDI-Brooks named Rich Hendren Ph.D. to its executive leadership team as vice president of operations integrity and quality development.

Twin Brothers Promotes Avet

Twin Brothers Marine has promoted Ranis "Ray" Avet to director of business development.

TSGI Hires Two

Naval architecture, marine engineering and marine surveying firm The Shearer Group, Inc. (TSGI) announced it has hired Charles Slajus and Jacqueline Campbell.

Bennett Named JAXPORT COO

JAXPORT has promoted James Bennett, P.E., to the role of chief operating officer (COO).

Products

1 VETUS

2 In-Mar Solutions

3 Marlink

4 Ocean Marketing

5 Schottel

1. BOW PRO Boosted 300 mm Series

The VETUS BOW PRO Boosted 300 mm series thrusters are available with 285, 300, or 320 kgf. Available in 48 volts, these thrusters feature DC-to-DC charging technology, a maintenance-free brushless motor, precision proportional control and commercial-rated runtimes.

www.vetus.com/usa/bowprofamily/

2. In-Mar Solutions: Alu Pilot Chairs & Deck Rails

In-Mar Solutions offers a complete line of Alu Design & Services Marine Pilot Chairs and Deck Rails. There is a standard line in addition to the option for custom designs to suit specific needs. Sleek, modern design and maximum utility and comfort are emphasized.

www.inmarsolutions.com

3. Sealink 60

Marlink unveiled Sealink 60, a Ku-band VSAT service designed to provide flexible, regional connectivity to smaller merchant, offshore or fishing vessels seeking to upgrade from L-band services. Sealink 60 offers users a choice of two 60cm antennas and is available with different service plans, with or without guaranteed bandwidth. It can be provided to vessels in several regional coverage areas as well as during transits between areas. The service is offered with unlimited usage, data speeds up to 5 Mbps and a choice of Maximum Information Rate (MIR)-only or combined MIR/Committed Information Rate (CIR) plans.

4. CRC SmartWasher

Represented by Ocean Marketing, the CRC SmartWasher Bioremediating Parts Washing System saves time and money and makes the parts washing process safer for employees and the environment. Bioremediation is the use of microbes to break down and "eat" oil, grease and carbon-based contaminants. CRC SmartWasher meets or exceeds the cleaning performance of manual solvent and aqueous parts washers, even on the toughest carbon, grease, gunk and oils. The bioremediation process keeps the fluid clean and always ready to use. CRC SmartWasher is available in a convenient kit that includes a Smartwasher, 15 gallons of non-irritating and eco-friendly SmartWasher OzzyJuice cleaning fluid and a month's supply of SmartWasher OzzyMat cleaning fluid filters.

5. SRP-D

Schottel has launched a DP-optimized rudder propeller for the offshore wind market. The SRP-D ("Dynamic") is a further improved variant for highly demanding DP operations in service operation vessels, Schottel said. According to Schottel, the new SRP-D variants are characterized by reduced propeller acceleration/deceleration times. In combination with a high-speed azimuth steering system with reinforced gear components, the SRP-D enables faster thrust allocation than conventional rudder propellers. Thanks to the shorter response times, it is possible to react faster and in a more targeted manner to external forces from wind, weather and currents, thus achieving a higher positional accuracy of the vessel. At the same time, fuel consumption is reduced, Schottel said.

Marine News 2022 Editorial Calendar

January 2022

Workboat Propulsion

- Passenger Vessels
- Distance Learning: Remote Classroom, Simulation, Online Training
- Police & Fireboats
- Pipes, Pumps & Valves

E-Magazine Edition:

U.S. Offshore Wind: The Growth of an Industry

March 2022

Pushboats, Tugs & Barges

- Shipbuilding Report
- Coatings & Corrosion Control
- ECDIS, Radar & Navigation Equipment
- Fluid Handling Pumps and Filtration
- Spotlight: Q1 Inland Waterways Report

April 2022

Offshore Energy

- Vessel Repair & Conversion
- Rope & Cordage
- Marine Cranes
- Marine Electronics: Communication & Controls
- Heavy Lifters: Deck Machinery & Cranes

Event Distribution:
OTC: May 2-5, Houston, TX
IPF: April 26-28, Atlantic City, NJ

May 2022

Dredging

- Barges
- Material Handling Equipment
- Maritime Training & Education
- Spotlight Q2: Inland Waterways Report

Event Distribution:
Inland Marine Expo: May 23 - 25, St Louis, MO

June 2022

Combat & Patrol Craft

- Multi-mission Workboats
- Patrol Craft Propulsion : Inboard, Outboard and Water Jets
- Marine Lighting
- Workboat Communications

Event Distribution:
MACC: Jul 2022, National Arbor, MD
Seawork: June 21-23, Southampton, UK

July 2022

Propulsion Technology

- Autonomous Vessels
- Workboat Engines
- Water Treatment
- Fuels & Lubricants

E-Magazine Edition:

Inland Waterways: Operations, Expansion & Dredging

September 2022

Shipbuilding & Repair

- Naval Architecture/Marine Engineering
- Barge Loading & Unloading Equipment
- HVAC
- Spotlight: Q3 Inland Waterways Report

Event Distribution:
SMM: September 6-9 Hamburg, Germany
SNAME Expo: October

October 2022

MN100

- Offshore Wind
- U.S. Shipyards
- Inland Waterways
- Health & Safety

November 2022

Great Workboats of 2022

- TBest New Tech
- Power & Propulsion
- Deck Machinery
- Spotlight: Q4 Inland Waterways Report

Event Distribution:
Clean Gulf: December 2022
Workboat Show: December 2022

E-Magazine Edition:

Patrol, Escort & Fast Craft Operations

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NEW PRODUCTS

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39	Creative Systems	www.ghsport.com	(360) 385-6212
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25	Ebac Systems	www.ebacusa.com	(757) 873-6800
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C2	Incat Crowther	www.incatcrowther.com	61 2 9450 0447
8,9	Marine Systems, Inc	www.marinesystemsinc.com	(985) 223-7100
31	McDonough Marine Service	www.McdonoughMarine.com	(504) 780-8100
C4	R.W. Fernstrum & Company	www.fernstrum.com	(906) 863-5553
29	SEATAC Marine	www.seatacmarine.com	(206) 767-6000
1	Sennebogen LLC	www.sennebogen-na.com	(704) 347-4910
5	Volvo Penta Americas	www.volvopenta.com	(757) 403-8404

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INTERNATIONAL WIND TURBINE & FOUNDATION INSTALLATION VESSEL MARKET FORECAST

The new report from World Energy Reports - brings you all the data and analysis you need to get a foothold in this growing market!

- Over 100 turbine and foundation installation and maintenance vessels will be required for planned offshore wind projects during the next decade.

- Rapidly growing wind turbine sizes, greater water depths and increase in foundation size will soon make almost all current vessels redundant by 2025.

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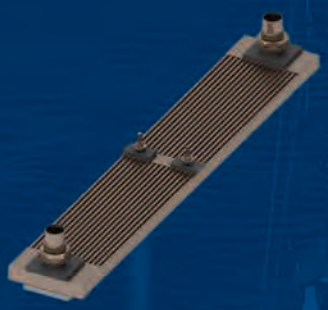

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- **Higher Silver Content Braze Joints** resist fatigue and maintain the strength of surrounding material.
- **Better Penetration at Braze Joints** places more braze material with less heat, making joints stronger.
- **2-Year Warranty on Copper Nickel GRIDCOOLER Keel Coolers:** Industry-leading design, craftsmanship and materials create industry-leading products.
- **70 Years of Experience with Fully Assembled Packaged Keel Coolers**. Our focus is and always has been heat exchangers.

WEKA Boxcooler®

- **Over 20 Years of Experience with Copper Nickel Boxcoolers** offering longer product life cycle than standard coated tube units.
- **Manufactured in the USA and The Netherlands:** provides the greatest product availability.
- **Weka Guard and Protector** eliminate the need for bulky and costly copper sacrificial anodes.

Omega Laser Plate™

- **Omega Laser Plate** provides an efficient and cost effective alternative to traditional split pipe heating for bulk cargo, ballast and other applications.
- **Wide Variety of Materials** available for use in stainless steel, titanium, and a variety of exotic metals.
- **CNC Laser Welded Plates** allow for a wide range of customization to meet your specific application needs.

Tranter® SUPERCHANGER®

- **Modular Design** allows for easy disassembly for maintenance, inspection, and expansion by adding new plates.
- **Highly Versatile** with hundreds of plate styles,patterns, and draw depths to meet your application's requirements.
- **Wide Range of Alloys,** including titanium, and a variety of gasket elastomer compounds allows precise matching to your fluid characteristics for maximum uptime.

FERNSTRUM®

R.W. Fernstrum & Company

fernstrum.com | 1.906.863.5553 | sales@fernstrum.com | ISO 9001:2015