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

Volume 33 • Number 3

Marine News

MARCH 2022
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Tugs & Towboats

The Business Case for Going Green

2022 Shipbuilding Report
U.S. Shipyards Eye New Opportunities

Inland Waterways Report
Recovery, Resilience and Demand Shifts Drive Cargo Flows

Infrastructure
Funding Opportunities for Small Ports

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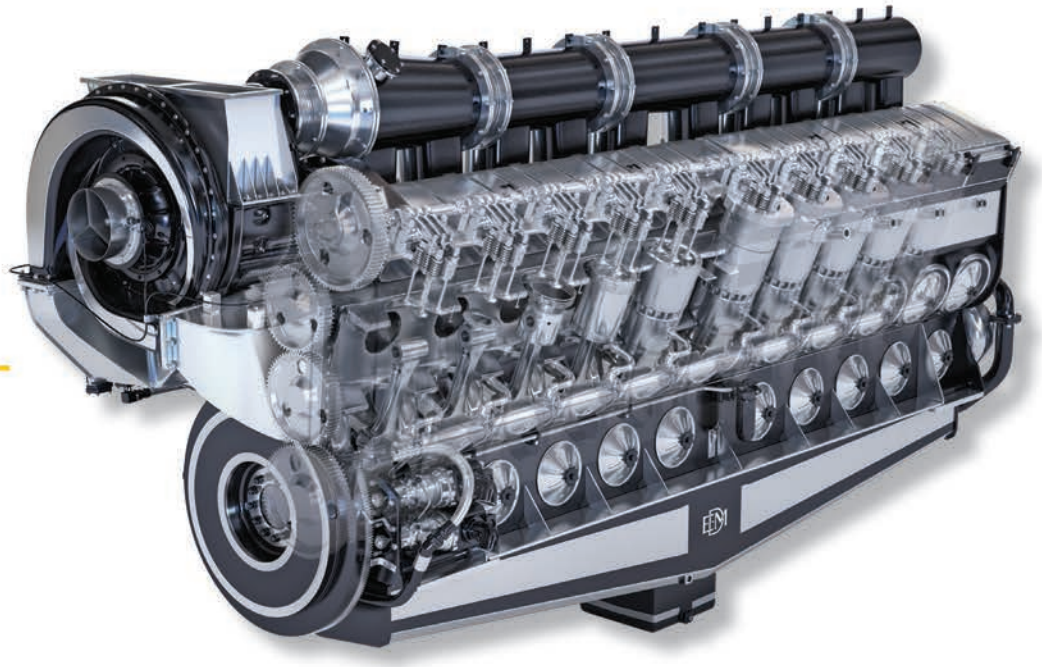

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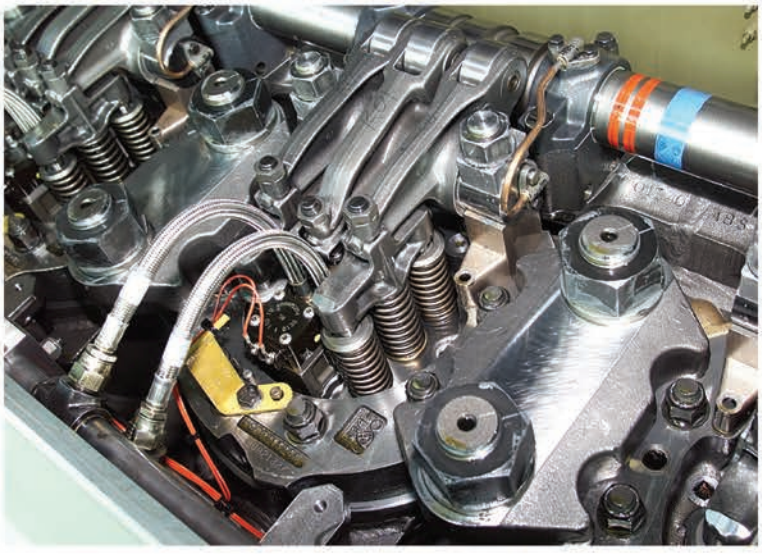

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On the Cover

Crowley's eWolf is among a raft of new "green" workboat projects coming to fruition as the maritime industry pushes to decarbonize. *(Photo: Crowley)*

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Editor's Note

Eric Haun, Editor,
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It's well known throughout this industry that marine transport is far cleaner than rail, air and road alternatives (see this month's By the Numbers report on page 8). But even with its environmental advantages, there is always room to improve.

What we're seeing today with the rollout of technologies that enable vessel electrification and the use of cleaner burning alternative fuels can be described as a green revolution. The cover story of this edition (starting on page 26) examines several of the groundbreaking clean workboat projects currently underway, and it explores the potential for more widespread adoption of new tech to fit the business case for going green. Will vessels like Crowley's eWolf electric tug and Maritime Partners' methanol-to-hydrogen fuel cell powered towboat lead the way for similar projetcs to follow? Only time will tell.

For now, the current decarbonization push is providing opportunities for American shipyards and their suppliers as they compete to build the next generation of environmentally friendly vessels. This trend is a highlight of *Marine News'* 2022 Shipbuilding Report starting on page 32.

Marine News (ISSN# 1087-3864) is published monthly except for February, August and December by Maritime Activity Reports Inc. 118 E 25th St. New York, NY 10010-1062. Periodicals Postage Paid at New York, NY and additional mailing offices. POSTMASTER: Send all UAA to CFS. NON-POSTAL AND MILITARY FACILITIES send address corrections to Marine News 850 Montauk Hwy, #867 Bayport, NY 11705.

Marine News

(ISSN#1087-3864) (USPS#013-952)

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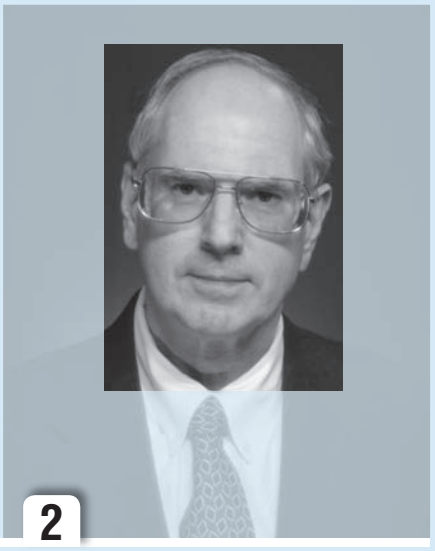

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By the Numbers

Advantages of Inland Waterways Shipping

Barge shipping on America's inland waterways remains the safest, most efficient and environmentally friendly form of cargo transport, as highlighted in a new study commissioned by the National Waterways Foundation (NWF). A Modal Comparison of Domestic Freight Transportation Effects on the General Public: 2001–2019 (January 2022) was conducted by the Texas A&M Transportation Institute's Center for Port and Waterways. Originally conducted and peer reviewed in 2007, the study was also previously updated in 2011 and 2017 when data sets were available. The 2021 update addresses cargo capacity, congestion, emissions, energy efficiency, safety and infrastructure impacts.

The study underscores the environmental impacts of rail, road and barge transport, with inland waterways shipping generating far fewer emissions of greenhouse gas emissions (GHG), hydrocarbons, carbon monoxide and nitrous oxide than rail or truck per-million-ton-miles. Of GHG emissions (metric tons produced per million ton-miles), barges emit 15.1 tons (vs. 15.6, 2014), while railroads emit 21.6 tons—43% more than barge transportation—(vs. 21.2, 2014), and trucks generate 140.7 tons or 833% more than barges (vs. 154.1, 2014).

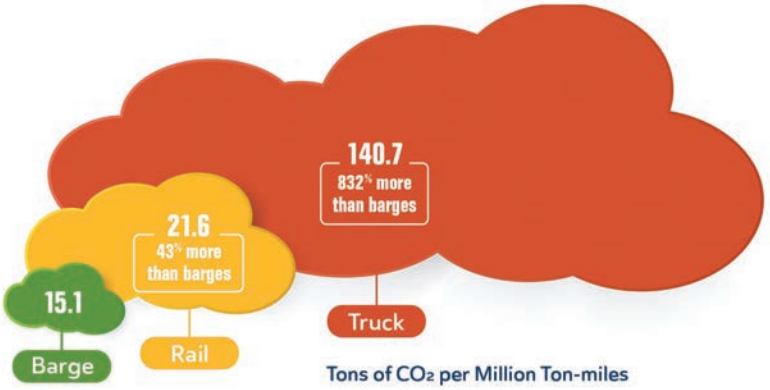
Comparing cargo capacity of trucks, trains and inland waterways barges, one 15-barge river tow has the same capacity as 1,050 trucks and 216 rail cars pulled by six locomotives. To fully appreciate this, the study notes that one loaded, covered hopper barge transporting wheat carries enough wheat to make a one-pound loaf of bread for every man, woman, and child living in Oklahoma in 2019. A loaded liquid tank barge with 27,500 bbl (US liquid barrel) of gasoline carries enough product to satisfy the current annual gasoline demand of approximately 3,072 people. In terms of energy efficiency, barges can move cargo 675 ton-miles per gallon of fuel (vs. 647 miles/gallon, 2014), trains can move it 472 miles (vs. 477 miles/gallon, 2014), and trucks can move it 151 miles (vs. 145 miles/gallon, 2014).

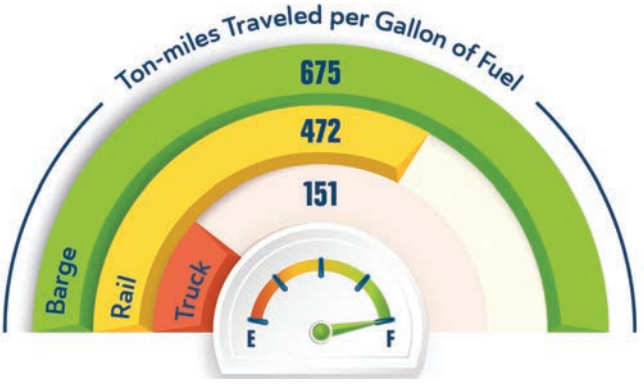
In addition, the study addresses the amount of cargo currently transported on major rivers and waterways (2018) and underscores traffic congestion impacts. That waterway cargo is equivalent to more than 43 million truck trips annually on the nation's roadways in lieu of water transportation. The hypothetical diversion of current waterways freight traffic to highways would add 867 trucks to the current 960 trucks per day per lane on a typical rural interstate. The percentage of trucks in average annual daily traffic would rise 11% (from 17% to 28%). These additional truck trips would cause the weighted average daily trucks per lane on certain interstate segments to rise to 138% of current levels nationwide.

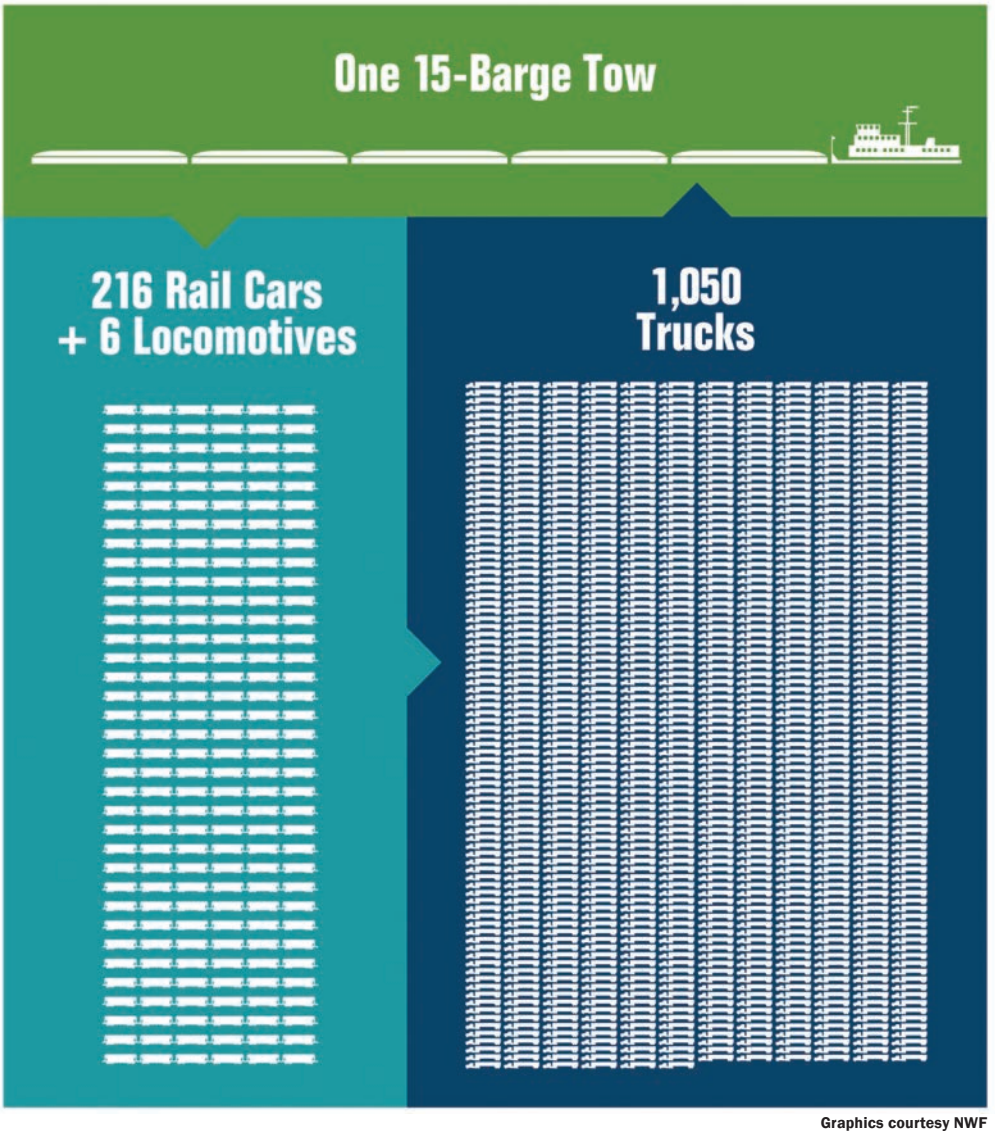
The study highlights significant infrastructure impacts if waterborne freight were diverted to highways or rail. Approximately 2 inches of asphalt would have to be added to the pavement of 119,885 lane-miles of rural interstate, given the higher levels of expected 20-year truck loadings and assuming an even truck traffic distribution over the national highway system. A hypothetical diversion of grain shipments from water to the current rail system would mean rail may not accommodate the shift, which would equate to 2.3 times the current number of grain carloads on both the UP system and the CN network in the U.S.

The study points out that barges are also safer to people and the environment (after adjusting for differences in cargo quantity moved by each mode via ton-miles of freight traffic). For every one person injured in a barge accident, 96 are injured in rail accidents (vs. 81, 2014) and 1,145 are injured in truck accidents (vs. 878, 2014). And for every one barge related death, there were 26 rail deaths (vs. 21.9, 2014) and 121 trucking deaths (vs. 99.9, 2014). Spills of more than 1,000 gallons per-million-ton-miles are very low for barges at 2.3 spills per-million-ton-miles (vs. 2.1, 2014), rail at 6.6 spills per-million-ton-miles (vs. 6.0, 2014) and trucks at 5.5 spills per-million-ton-miles—more than double the amount of barge spills—(vs. 6.0, 2014).

"While our society is intermodally connected, this study's rail, truck and inland waterways transportation modal comparison underscores the many benefits and advantages of moving cargo by water," said Matt Woodruff, Chairman of the National Waterways Foundation. "The inland waterways mode is simply the most energy efficient, safe, and environmentally sound surface mode to transport our nation's critical commodities."







Graphics courtesy NWF

Jennifer Carpenter

President & CEO, The American Waterways Operators

Jennifer Carpenter joined The American Waterways Operators (AWO), the national trade association representing the inland and coastal tugboat, towboat and barge industry, in August 1990 and became its president and CEO in January 2020. She weighs in some of the most important developments in the industry today, from "hugely exciting" opportunities in offshore wind , tech innovation and decarbonization, to labor and recruitment challenges.

AWO

The recent Infrastructure bill is a huge boost for many industries, especially inland waterways shipping which so desperately needs funding to help chip away at a long list of infrastructure projects. Please describe the impact the bill and these improvement and repair projects will have for the barging industry, as well as next steps to ensure benefits are maximized.

JC: Phrases like historic investments can sound trite, but in this case, the description is really apt. This infusion of funding into our ports and waterways infrastructure and specifically our inland waterways infrastructure is really the biggest since the New Deal. As an advocate for the barge industry, obviously I care a lot about the safety benefits to our industry, and the people who work in it, and the efficiency and reliability benefits for our member companies who move cargo on the water. There are big benefits to shippers who rely on barge transportation. There are going to be many more jobs for the skilled workers who are going to do the building and construction and repair of these locks. And all of that is true and all of that is big.

But as I've had a chance to reflect on this over the last few weeks, what's really striking me is bigger picture. This is really an investment in U.S. economic competitiveness and our environment. A new National Waterways Foundation Texas Transportation Institute study reaffirms that barges are the safest, and the most efficient, and have lowest carbon footprint among competing modes of transportation. The statistic I love; large transportation produces 43% less greenhouse gas emissions than rail, 832% less than trucks to move the same amount of cargo. So, I look at this investment in our waterways infrastructure, and I say that investment is going to help us to realize all of those environmental benefits. It's just huge. It's good for the barge industry. It's good for shippers. It's good for carpenters and pipe fitters and skilled labor who we're going to be working on them, but it's really good for our country, economically and environmentally.

Now, what do we need to do to really make it all happen? I think the Corp of Engineers did a great job in the work plan that they released recently. So, follow the capital investment strategy, which is really prioritized plan for allocating this funding that was jointly developed by the Corp and the Inland Waterways Users board. They're doing that. That's great. Keep doing that and then get that Inland Waterways Users Board up and running again so that it is available to consult with the Corp as monies are spent. This is a federal advisory committee that's been around for some time. It was temporarily paused last year when the new administration came in and took a look at all of its advisory committee. That's a common thing that new administrations do. It's been reconstituted, but that group needs to get and get meeting because there's important work to be done and to be collaborating on.

The U.S. Coast Guard recently announced it is proposing to revise user fees for inspected towing vessels. What's AWO's view on this, and what changes would it like to see (if any)?

JC: We were just talking about infrastructure. Everybody loves infrastructure; everybody hates user fees, for good reason. So just quick background. People don't always remember that or realize that user fees for certain Coast Guard services have been required by statutes since 1990 to offset the federal budget deficit. They don't provide any direct benefit to industry or to the Coast Guard. The Coast

Guard does not get this money.

So, as we look at this rule, the Coast Guard didn't just decide to do this. They are required to assess user fees. But they have the authority, under law, to consider factors, including the public interest, in deciding what fees to charge. We're going to be convening our members to do a deeper dive into their proposed rule. But what I would say at this point is we would like to see fees slashed for TSMS vessels and frozen for Coast Guard option vessels. TSMS vessel owners pay tens of thousands of dollars in fees to Coast Guard approved third parties. They have been really overpaying Coast Guard inspection user fees since the user fee went into effect for some as early as 2020. They really deserve a timeout from fees. For Coast Guard vessels, we think, keep it the same for now. Don't triple it. Companies who are using both options, TSMS and Coast Guard, have invested millions of dollars in compliance costs to get ready for the hundred percent COI to deadline in July of this year. And we really think coming up, a pandemic and a recession and facing labor shortage and increased costs across the board, now is not the right time to increase fees that don't increase safety or benefit Coast Guard programs.

With regard to Subchapter M, how are things looking on that front? And do you expect that almost everybody will be ready on time?

JC: I am feeling very bullish about AWO members being ready, being where they need to be, and getting to 100% fleet certification by July 19. We are increasingly seeing Subchapter M doing what it was intended to do, which was raise the bar of safety across the board. We've begun to see the retirement of some more marginal equipment. I think we're going to see more of that as we get closer to July 19. So that we really get to that date and it's like, "Hey, the vessels that are ready, the vast majority of vessels that are ready and meet the standards, off they go, and it's going to be a positive thing for industry safety."

Those vessels that just can't get there. They need to go; they need to be retired. They need to be taken out of service. And AWO members who are going to be ready on July 19 are expecting the Coast Guard to hold the whole industry accountable. The deadline is the deadline. It's been a long time coming. Everybody needs to be ready. And I think we're increasingly feeling good that the Coast Guard is serious about enforcing that deadline, which they need to be and which is only fair to the vast majority of operators who have worked really hard to get ready.

Technology in areas like vessel autonomy and electrification is advancing ahead of regulations. What's the solution to this problem, and how can the industry and regulators best strike a balance to ensure vessels remain safe without stifling innovation?

JC: Great question. A few thoughts on that. One is to really recognize the safety and environmental benefit of innovation and lean into it. Sometimes you hear innovation technology and you think, "Oh, this is something to be balanced against safety." And I think there are certainly times when that's true. But I think it's important to recognize that technology has huge potential to make things safer for the industry, to give mariners and shore side employees new and better tools to do things safely. It's important that we first and foremost, make sure that the adoption of safety enhancing technology is not being discouraged with ill-fitting regulations. So for example, if a vessel owner is installing certified, automated equipment in the engine room, which by regulation should qualify it for a manning level, a crewing level that takes into account that automation, then we need to make sure that it really does and not, "Wow, I've made this enormous investment in safety enhancing technology and I'm being told that I have to crew this engine room in exactly the same way I would if I didn't have it." That is a discouragement to the adoption of technology.

Two would be, we need to make sure that the Coast Guard has the statutory authority and flexibility to establish appropriate standards. And if they don't, then they need to get it. They need to go to Congress and get it. And we, as an industry, will certainly support it. So that could take a form of seeking statutory authority to authorize certain pilot projects and report back to Congress within a certain period of time on the safety benefits or on safety needs. It doesn't need to be as complicated as, "Oh boy. We have to be stuck here until we can rewrite the whole code of federal regulations or the whole US code as it applies to certain subjects." No. There'll be time to go back and make strategic changes, but there's an opportunity to make sure that the Coast Guard has the broad authority to

undertake pilot projects, for example.

Couple other things. Draw on the expertise of the private sector, like advisory committees, class societies, interagency and international partners. That worked really well with the Chemical Transportation Safety Advisory Committee and LNG, when the Coast Guard was trying to figure out, "Hey, what do we need to do to make sure that LNG-fueled vessels can operate safely or LNG bunker barges can be operated safely?" They worked with CTAC and they were able to really harness a lot of expertise in a pretty timely manner. Don't start from square one. Where there is technology that has been successfully used in Europe or other parts of the world, let's build on the work of others. What testing has been done on that? What experience is there on it? It hasn't happened here yet? Okay. But where has it been used up with that experience, and let's start from there rather than top dead center. And then finally, I would say regulatory certainty supports innovation and regulatory patchworks stifle it. And we saw that with ballast water, where investment owners were ready, they were willing to make enormous investments in ballast water treatment technology. And they were held back a bit because they didn't have assurance that that technology was going to be accessible in every state where that vessel might call. I hope that as we look at low and zero carbon technologies, other advanced technologies, we can learn from that experience and do better and make sure that yes, we've got appropriate safety standards in place and do that in a way that provides some uniformity and certainty, so that we don't have a situation where a company is willing to make a big bet, but just can't responsibly do that because they don't know if it's going to fly everywhere the vessel operates.

Earlier you discussed how barging is significantly cleaner overall compared to other transport options, but is there still room to clean up more and reduce emissions? And if so, what do you see as the avenues to do that right now?

JC: Yeah, absolutely. The whole issue of decarbonization and environmental footprint is one where our industry has both the near and the long term opportunity to be a huge part of the solution. If a shipper wants to reduce the carbon footprint of their supply chain now, a great step for them to take is to commit to moving more by barge. And that's great. And I expect that to continue for the foreseeable future.

Our industry, like any industry that operates vessels

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that has engines, these are internal combustion engines. Are there opportunities to further drive down emissions and improve carbon footprint? There absolutely are. And we need to explore those and we need to embrace those, and we need to do that in a smart way. One thing AWO members have said is, "Look, we've got an operationally diverse industry." And what makes sense as a harbor tug that is able to potentially plug into shore power, is going to be a different solution than works for a towboat moving 40 loads down the Mississippi River, or a tugboat moving cargo between the west coast of the United States and Hawaii." So, it's important to set performance targets rather than trying to dictate the technology of the future or the fuel of the future. It's quite likely that there will be different technological approaches that will be better fit depending on a vessel's mode and area of operation. So, recognizing that and not trying to shoehorn into one approach.

And then also recognizing that it's really important not to strand economically viable assets. Vessels that are operating and producing revenue today, that revenue is what is going to be used to invest in lower carbon technologies in the future. We can't nickel and dime away current operations at the expense of future gains. We're dealing with a situation right now in California where the California Air Resources Board, CARB, has proposed requirements for harbor tugs, which will just do exactly that. Take a perfectly brand new, state-of-the-art, Tier 4 engine and say, "That's not good enough. You have to put a diesel particulate filter on that." Wait a minute. These kinds of incremental improvements to the diesel engine, while potentially helpful, could stand in the way of investment in really more powerful emission reduction technologies that could be implemented in the future. So that is, I think, a really important thing to keep in mind. We need to be able to pay for this. And that's not trying to get out of something. That's being reasonable and practical. A company, a vessel owner has to have some assurance that when they make an investment in a new technology, they're going to be able to recoup that over a period of time, otherwise they're not going to make the investment. They're the market, and that's not good.

The emerging U.S. offshore wind industry will rely on a fleet of vessels—new and old—to help build, commission, service and eventually decommission a raft of new projects slated to sprout up in the coming years. With momentum gaining and project approvals expected to accelerate, does the U.S. currently have the capacity to build and crew these vessels in a timely manner?

JC: Yes, we can, and we need to get busy in a hurry because vessels take time to build. But I'm confident that we've got the shipyard capacity, we've got the expertise, we've got the know-how. We can do it. Sometimes people will ask, "Do we have all the vessels that we need now to produce 30 gigawatts of energy from offshore wind by 2030?" And I think that's the wrong question because this is a new industry that we're building in this country. We don't have vessels that have been sitting on the shelf waiting for something that didn't exist to come into fruition. We're building something new, and we've got to go create the supply chain that will support that. It's a hugely exciting opportunity, and I think the domestic maritime industry is well up to the task.

But the recent improvements to the permitting process, seeing projects actually get approved and come to fruition, that is huge in creating that regulatory certainty that we talked about in a previous question. Something else that creates certainty. Contracts, letters of intent. So, when a vessel owner knows there is a market for these new vessels, then they go forth and build. And I think in that regard, the statutory clarification that was enacted at the beginning of 2021, where Congress said US law, including the Jones Act, applies to offshore renewable energy, just as it does to oil and gas. That was really, really helpful in clarifying the ground rules and really paving the way for domestic maritime to step up to the task. Now we need Customs and Border Protection to be timely when it's given a request for a letter ruling. "Hey, how does this particular thing that I want to do comply or not comply with the Jones Act?" We need them to rule on that in a timely way, because that helps to create that certainty that will enable vessels to get built in the US.

What are the most important issues facing the tug, towing and barge industry today?

JC: One of our biggest challenges right now is labor. Like pretty much every sector of the economy, we have a near-term challenge finding the workers that we need to keep up with increasing demand. We also have, really, the lon-

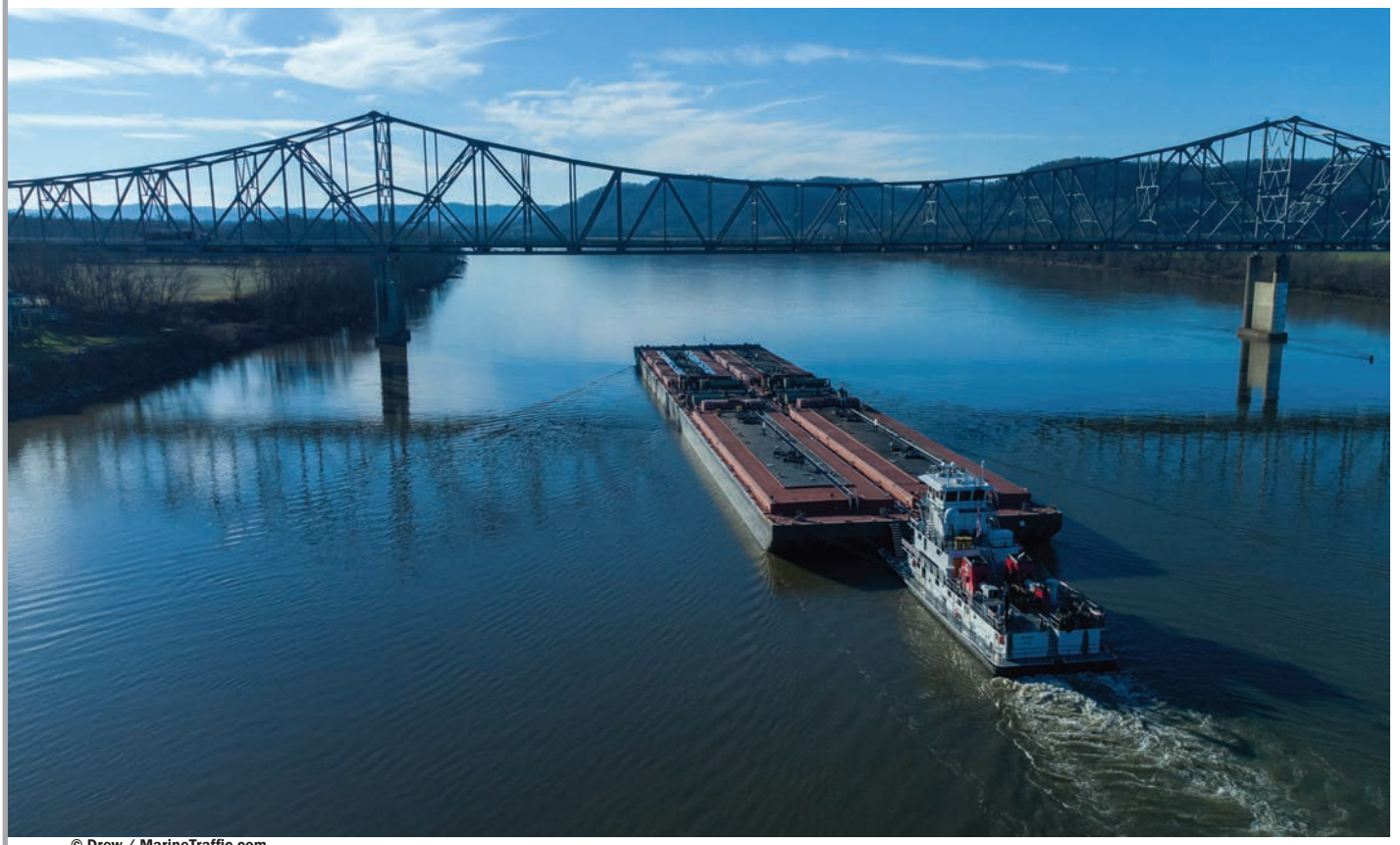
ger-term imperative. So, we've got to find our way through the current labor shortage, but we've also got to really work to create a future in which our industry is an employer of choice for a young man or a young woman who comes out of high school. They want to work hard. They want to be outdoors. They want to work with their hands. They don't want to be behind a desk. They don't want to live their life on a computer. Our industry has just tremendous opportunity that we can offer, economic opportunity, advancement opportunity, the opportunity to do really meaningful and relevant work, and we got to make sure that we are able to find and keep the pipeline of mariners that we need to continue to make the industry go.

The second big issue that I would highlight, we talked about it earlier, is surely environment and decarbonization. And as I said before, I think this is a huge opportunity for our industry. It's an immediate way for shippers to reduce the carbon footprint of their supply chain, because we really are a big part of the solution. But, as we discussed, there's also a challenge and we need to be smart and strategic as we work to drive the missions down further.

Is the industry doing enough to attract a diverse, skilled workforce?

JC: We've got to do more. I don't think we can ever do enough. People make this industry go, and so casting a wider net and ensuring that our workplace is inclusive and welcoming is crucial. And I think it's also important not only to our industry, but to our country. We need more U.S. mariners to support our economic and homeland security. So we need to be able to find them, they need to know our industry exists, and they need to understand why it matters and what it can do for them in terms of a career in the future. And we need to make sure that we've got a workplace that is welcoming to them and where they want to stay, because there's a lot of opportunity.

What are AWOs top goals for this year? And



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even beyond that. And what are your plans to achieve them?

JC: I want to go beyond talking about discouraging Jones Act waivers, or modernizing regulations to make sure they keep up with technology, or making sure that the Coast Guard has a fleet of waterways commerce cutters to keep our rivers and navigation channels open for business. Those are all important things that we're going to be doing.

When you look at the bit bigger picture, what are we trying to do? We are here to be the industry's advocate resource united voice, and we want to make sure that we are proactively identifying and shaping, influencing issues at the federal level, at the state level, at the regional level, at the international level, that affect our members ability to succeed in a changing environment. We are here to help members deal with the stuff that is in front of us right now, like getting to 100% fleet certification on Subchapter M, making sure that the Corp of Engineers is not issuing permits for docs that are going to cause navigation safety problems and impact the ability of moving the U.S. harvest to market. But we're also here to really support our members in planning and preparing for those longer-term challenges.

We talked about decarbonization, we talked about ensuring the workforce of the future, and those are things where there are concrete actions we can take now and we are taking now. And it's also about working to make sure that we have what we need in the future, because the really hard stuff, you can't do it alone. You have to partner with coalitions, you have to get ahead of it, you have to stay united, and you can't start thinking about it or dealing with it when it's a crisis or when it's right in your face. You have to be preparing for it.

Column

Infrastructure

Funding Opportunities for Small Ports

By James Kearns, Special Counsel, Jones Walker LLP

In the William M. (Mac) Thornberry National Defense Authorization Act (NDAA) for Fiscal Year 2021, Congress amended the Port Infrastructure Development Program (PIDP) administered by the U.S. Maritime Administration (MARAD) to reserve to smaller ports 18% of the amounts appropriated for grants under the PIDP, and increased this percentage to 25% in the NDAA for FY 2022. This replaced the minimum dollar threshold for PIDP grants of the lesser of $10 million or 10% of the total amount appropriated for the PIDP for a fiscal year. Congress has recently been appropriating substantially more than $100 million for the PIDP each year. This has undoubtedly been a positive development for the nation's ports generally, but it effectively meant that a grant requested from the PIDP set-aside would need to be at least $10 million. The infrastructure projects of many inland and smaller coastal ports frequently do not meet this threshold. Although Congress has also been reducing the minimum grant size to $1 million in its annual appropriations acts, the underlying statute for the PIDP has remained unchanged, leaving smaller ports uncertain as to what the minimum grant amount would be from year to year.

With the change made by the FY 2021 NDAA, for a project to be eligible for a grant from the PIDP set-aside, it need only be carried out by a port that has had an average of less than eight millions tons of cargo for the immediately three calendar years from the time the application is submitted. The tonnage is to be determined using data of the U.S. Army Corps of Engineers, or from data provided by an independent audit which is acceptable to MARAD.

The benefits of this change to the PIDP's set-aside became apparent in the first fiscal year of its implementation. On December 23, 2021 U.S. Secretary of Transportation Pete Buttigieg announced the award for FY 2021 of more the $241 million in funding under the PIDP for 25 projects. Of these 25 grants, 15 were made to small ports under the set-aside in a total amount of approximately $42.5 million. These grants ranged from less than $1.2 million to $4.1 million. With only one exception, each of these awards was for 100% of the amount requested by the applicant. Prior to the change in the PIDP set-aside approach, none of these applications would have been eligible for an award under the PIDP without the reduction in the required minimum grant amount made by the appropriations act for FY 2021.

The revised PIDP set-aside protects the grant requests of smaller ports in another way as well. No fewer than 232 applications were submitted to the PIDP for FY 2021, requesting grants totaling more than $3.6 billion for projects of more than $9 billion. Under the pressure of such a strong need for funding of port infrastructure projects, the relatively modest requests of smaller ports might easily have been passed over for much larger projects without the protection of the PIDP set-aside.

In the recently enacted Infrastructure Investment and Jobs Act (IIJA), sometimes referred to as the Bipartisan Infrastructure Law, Congress sought to address the imbalance between the need for port infrastructure funding and

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the availability of such funding. The IIJA offers several opportunities for ports to obtain assistance for infrastructure projects, but the PIDP remains the principal source of federal funding for port infrastructure needs.

The IIJA provides $5.25 billion for the PIDP, but this total amount is spread over five years, FY 2022 through FY 2026, at $450 million per year. The amount available each year, therefore, is not quite twice the total amount of grants made by the PIDP in FY 2021 and about one-eighth of the total amount of grant requests submitted to the PIDP in FY 2021 alone. Under the 25% set-aside, this works out to $112.5 million per year reserved for grants to small ports. The Department of Transportation has recently issued a Notice of Funding Opportunity (NOFO) for $450 in grant funding under the PIDP, for which $112.5 million is reserved for "small projects at small ports." Applications must be submitted by 11:59 p.m. Eastern time on May 16, 2022. This is a major improvement in the commitment of federal funding for port infrastructure projects, but it is still likely to leave the needs of many ports unmet.

Ports should be aware of other programs included in the IIJA that either provide funding exclusively for ports or for which ports would be eligible to apply. For example, IIJA provides $25 million for the MARAD Marine Highways Program. Not a large sum in comparison to the funding available under the PIDP, but for a small port with relatively modest needs, it could be a useful resource if its project meets the conditions of the Marine Highways Program.

Among the programs for which ports are eligible, although not exclusively, for federal funding under IIJA is the existing Rebuilding American Infrastructure with Sustainability and Equity (RAISE, formerly BUILD) Program of the U.S. Department of Transportation, referred to in IIJA as the "Local and Regional Project Assistance Program." The stated purpose of this program is to fund eligible projects that will have a significant local or regional impact and improve transportation infrastructure. Eligible projects include port infrastructure investments, including inland port infrastructure. The Department of Transportation has recently issued a NOFO for $1.5 billion in grant funding under the RAISE Program. This is the first discretionary funding program to accept applications under the IIJA. Applications must be submitted by 5 p.m. Eastern time on April 14, 2022.

Because many inland river ports are intermodal facilities that include the carriage of cargo by rail, another existing program from which small ports might receive funding is the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program administered by the Federal Railroad Administration. IIJA provides $5 billion in funding for this program over five fiscal years. Among the stated purposes of this program is the enhancement of multimodal connections, including projects that improve rail access to ports. There are no predetermined minimum or maximum dollar thresholds for CRISI awards.

The IIJA directs the Secretary of Transportation, in consultation with the Secretary of Energy and the Environmental Protection Agency, to establish and carry out a program to reduce truck idling at port facilities, including grants to fund projects that reduce truck emissions at ports, and provides $50 million for each of FY 2022 through FY 2026. The implementation of this new program will require time for the preparation and issuance of regulations and program details. This program will likely be among those coordinated by the Infrastructure Implementation Task Force established by President Biden's Executive Order No. 14052, co-chaired by Mitch Landrieu, former mayor of New Orleans and former lieutenant governor of New Orleans, and Brian Deese, Director of the National Economic Council.

Another new program that IIJA directs the Transport Secretary to establish is the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program. Eligible entities include public port authorities. IIJA provides funding for this program of $250 million for each of FY 2022 and FY 2023, and $300 million for each of FY 2024, FY 2025, and FY 2026. The implementation of this program will require time for the process of issuing and finalizing regulations and program details.

Becoming familiar with the various funding sources and their requirements for grant applications requires time and study. The websites of each of the programs and their and Notices of Funding Opportunity provide useful guidance on how to navigate the process. Resources are also available online and from trade associations for ports on the inland waterways. Consultants with experience and expertise in preparing grant applications can be engaged for a fee, if the size of the grant being requested justifies that cost. The chances of success might seem daunting in view of how much the need for port infrastructure exceeds the available funding, but one thing is certain: no one has received a grant who did not apply.

Blessey Marine Services

Recovery, Resilience and Demand Shifts to Drive Inland Waterway Cargo Flows

By Barry Parker

Waterway traffic is coming back. November 2021 saw 52.1 million tons moving on the U.S. inland waterway system, the highest monthly tonnage since October 2019, a few months before the onset of the COVID-19 pandemic, and the shutdowns and stoppages of early 2020. Flows estimated by the Bureau of Transportation Statistics (BTS), part of the U.S. Department of Transportation, based on data from the U.S. Army Corps of Engineers (USACE) show a 25% rise from June 2020. Data in a presentation by The Waterways Council Inc (WCI), also using USACE data, showed overall tonnage, in 2019, of 514.9 million short tons, with petroleum and products leading (with 150 million tons), followed by coal (95.6 million tons), aggregates (81 million tons) and grains (77 million tons).

During 2021, selected barge grain movements (moving through key locks, approximately half of overall tonnage shown above) were down slightly from the previous year, according to the U.S. Department of Agriculture's Decem-

ber 30 Grain Trade Report. Michael Steenhoek, executive director of the Soy Transportation Coalition, in speaking with ***Marine News***, stressed the linkages between the export markets and agricultural transportation on the rivers, noting that the U.S. exported 60.5 million total metric tons of soybeans in the marketing year ended August 31, 2021 adding that, overall, 35 million of the total went to China. He said the leading export region is the Mississippi/Gulf, accounting for 27 million tons in the 2020/2021 marketing year. He said that, normally, around 60% of U.S. soybean exports will come out of that region, with the overwhelming majority of that arriving via barge transportation.

Medium term trends on the waterway system were discussed within a detailed study on the waterways released by Vanderbilt University in September 2021. The authors noted, "The last 20 years validate that the underlying markets relevant to barge demand are stable and resilient, and the summary outlook for 2025 anticipates that tonnages will be slightly lower and ton-miles slightly higher than 2019.

The increase in ton-miles is in spite of a reduction of tons and is the result of a generally bullish outlook for the agricultural sector, which is expected to increase by nearly 15%. Most agricultural barge transports are also longhaul shipments of 1,000 miles or more. In short, the U.S. is expected to retain its position as one of the world's largest grain exporters." The USDA, in its 2021 "Agricultural Projections to 2030", shows small, but steady growth in exports (which drives barge traffic into the Lower Mississippi region) for the major grains.

While agricultural moves are likely to grow, the opposite is true for coal. The Vanderbilt University researchers note that "…the energy sector sees the most significant projected change, reflecting a continuing decline in utility coal use, and the beginning of a gradual shift away from petroleum use across numerous economic sectors as decarbonization policies and practices are implemented, impacting overall refined petroleum demand." Similar views can be seen at the level of individual ports. For example, in a Kentucky Economic Development Summit, held in Spring 2021, scenario-based forecasts for 11 individual riverports out to 2045 (prepared by IHS Markit) were presented. A number of ports saw grain replacing coal as the top commodity handled; in those ports handling coal, its moves fall substantially under the varied scenarios.

The forecast for the tank barge marketplace is upbeat. In a conference call accompanying the release of Kirby's 2021 fourth quarter earnings, company CEO David Grzebinski told investors: "In inland marine, we expect a strong market in 2022 driven by continued economic growth, increased volumes and minimal new barge construction. This should contribute to further improvements in the spot market with our barge utilization ranging in the high-80% to low-90% range for the year." He did caution that "the first quarter [would be] the lowest due to seasonality and the headwinds related to COVID with the positive pricing environment building throughout the year." For

comparison, during the Spring 2020 lockdowns, Kirby's utilization had plunged toward the 60% level, with 2021 providing a recovery up toward 80% utilization.

Clark Todd, chairman and CEO of Blessey Marine Services, a New Orleans area based specialist in transporting liquid cargoes for petroleum and petrochemical companies as well as commodity trading houses, explained to ***Marine News,*** "We have continued to see a moderate increase in demand for inland tugboat and barge business to start the year. The equilibrium of supply and demand of our assets across the industry is tightening up as fewer new build tug boats and barges will be built in 2022. We are optimistic that the upcoming summer driving season will yield stronger demand as consumption of refined products increases. So, we look for 2022 to be a better year for everyone in the inland tugboat in barge business."

In the investor call's Q&A session, Kirby's Grzebinski offered similar sentiments, saying, "Demand continues to grow. We still got some chemical plants coming on. And as you know, demand for liquid volumes typically goes up with GDP. We're looking at a pretty good GDP number this year and probably next year…. [the supply picture] is even better. With barge pricing a new 30,000-barrel barge is probably $4.1 million to $4.2 million for a brand-new barge. That's the highest we've ever seen. And a lot of that is steel price and some labor costs, but at those prices, we're not seeing much newbuilds if any at all… and barge retirements are still going on because the equipment is getting older…So, when you put supply and demand together, this is about the best we've seen in a long, long time, and we think it's a multiyear kind of upswing."

Equity analyst Gregory Lewis, from brokerage BTIG, in a report released following Kirby's call—where his recommendation was upgraded to "Buy" from "Neutral"—wrote, "After limping along for years, first around barge oversupply (2017-2019) and then from COVID (2020-

USACE

Blessey Marine Services

"We look for 2022 to be a better year for everyone in the inland tugboat in barge business."

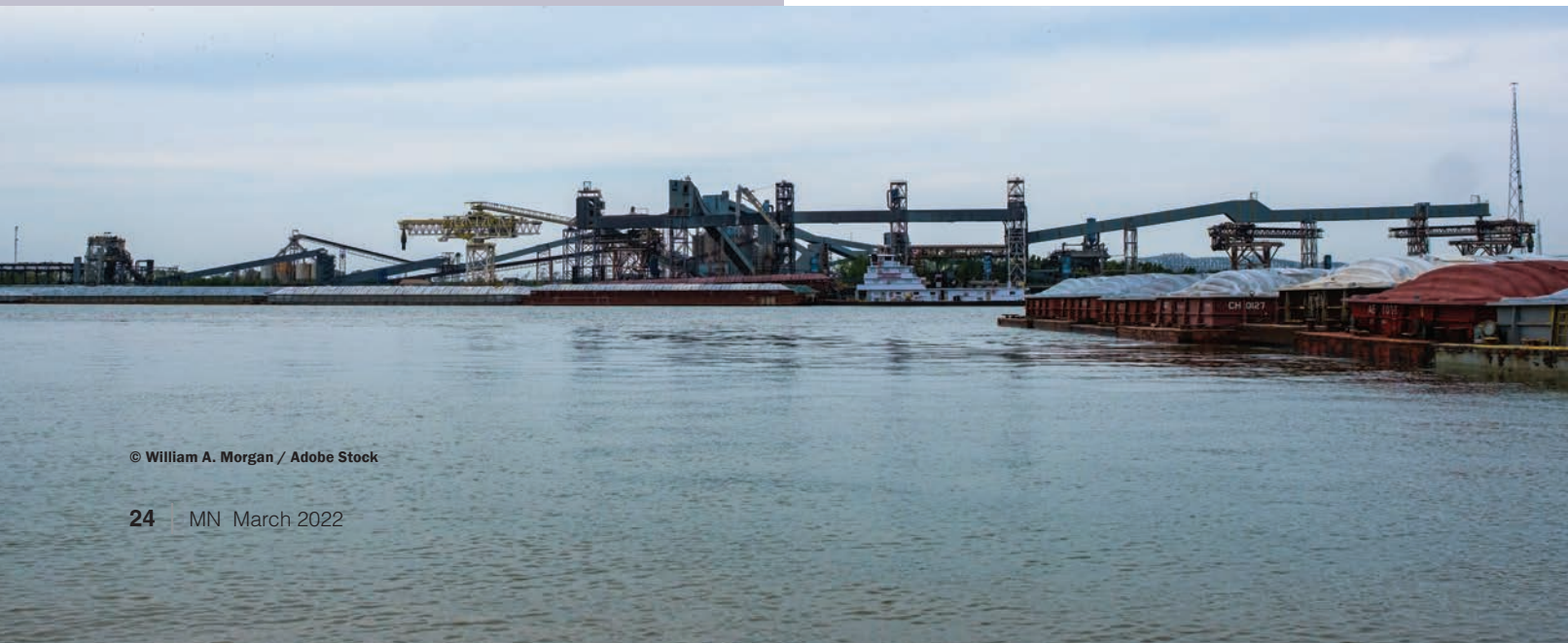
- Clark Todd,
Chairman and CEO,
Blessey Marine Services

2021), the inland barge market finally looks to be ready to inflect higher. Not surprisingly…the near- and medium-term setup looks good… And while the outlook for U.S. GDP remains constructive, which should buoy continued growth in both refined product and petrochemical volumes, on the back of what has been a challenging five-year period for barge owners the medium-term supply outlook is constructive (the inland barge fleet looks to have shrunk in 2021 and the lack of orders at yards points to negative fleet growth again in 2022)."

Going forward, new attention on infrastructure in Washington, D.C., against an ongoing backdrop of less carbon intensive transport generally—the subject of the Vanderbilt University study—may help waterborne cargo flows, with switching from less efficient modes and greater supply chain resiliency, encompassing matters such as Hurricane Ida, the I-40 Bridge and Colonial Pipeline disruptions now on the radar. The other big mover, aggregates (encompassing a variety of cargoes), is tied to construction, and waterborne flows could likely increase with spending on roads and other projects.

The WCI applauded the passage of the Infrastructure Bill, in late 2021, earmarking $2.2 billion for inland waterways projects. In mid-January, 2022, when the USACE identified specific projects to be funded, WCI president and CEO, Tracy Zea said, "Today's release of inland waterways infrastructure funds will not only advance the inland waterways construction portfolio but also create thousands of skilled jobs for America's building trades, make American farmers more competitive, and promote energy security. WCI thanks its members and supporters on Capitol Hill, who helped to push this funding over the goal line." Noteworthy projects funded included the Kentucky Lock (on the Tennessee River, near Paducah) the Montgomery Lock on the Ohio River (about 30 miles downstream from Pittsburgh), and Lock and Dam 25 on the Upper Mississippi River (mile 241, north of St. Louis), benefitting from the USACE's Navigation & Ecosystem Sustainability Program (NESP).

Indicative of future shifts of traffic onto the rivers is progress being made on shifting containerized cargo from crowded supply chains onto ships built specially for transporting boxes down the Mississippi River. American Patriot Holdings (APH), a company formed by a trio of industry veterans involved currently involved in barging of liquid cargoes, announced that it would be seeking bids from U.S. yards for construction of four "hybrid"—liquefied natural gas (LNG) and conventional fuel—fueled container vessels, with options on four additional vessels. APH has been inking tie-ups with ports on the rivers, including terminals at Plaquemines Parish, La., Memphis, Tenn. (a distribution hub served currently by container on barge services linking it to New Orleans), and nearby to St. Louis, which local organizations have promoted as "The Ag Coast of America". The vessel designs, ranging from 1,800 TEU for use on rivers with locks up to 2,400 TEU for use on the Mississippi River, will enable speeds faster than those of traditional tug/ barge tows. One group, the Mid-America Freight Coalition, wondered whether the plans represented a "Marine Freight Renaissance".



Efforts to supercharge container transport on the Mississippi have been underway for several years, but they have taken on a sense of urgency with the ongoing supply chain chaos of 2021. The Soy Transportation Coalition's Steenhoek offered a very positive view of APH's plans, in remarks at Kentucky's 2020 Riverports Summit. "There is a trend towards moving agricultural commodities via containers, including commodities like soybeans." In moving beans to export markets, he noted that bulk transport would predominate, but container transits, backhauls for boxes that transported consumer goods up the rivers: "the slice of the pie chart that is labeled as containerized shipping will continue to grow….as shippers try to localize supply chains in a global market."

Modal shifts from surface transport (road and rail) on to the rivers has also been a feature in the bulk cargo moves. The U.S. Maritime Administration's America's Marine Highway program's late 2021 awards included a $1.4 million grant for the M-70 Barge Service linking Cincinnati with ports in Kentucky along the Ohio River, following up on $2.9 million awarded the previous year for related projects. Steel producer Nucor Corporation, the project sponsor, will increase its transport of steel products by barge, taking trucks off the roads. When the 2021 grants were announced (which also included funding for Seacor's container-on-barge linkage from Memphis to the Lower Mississippi River), the Acting Maritime Administrator Lucinda Lessley described AMH as "an innovative program that encourages the use of America's navigable waterways for the movement of freight and people as an alternative to land-based transportation." Analysts and port executives participating in the Kentucky Riverports 2021 session (a follow-up to the 2020 event) emphasized the potential to divert multiple types of cargo moving in surface modes on to the Ohio River, and other waterways.

The year 2021 did not see any significant merger and acquisition activity, so that the well-known names continue to dominate. On the dry side, with a total fleet of more than 18,000 barges, Ingram's fleet totaled around 3,900, American Commercial Lines (ACL) with more than 3,000 and American River Transportation (tied to agri-giant ADM) with approximately 1,800 barges. On the liquid side, with 4,000 total barges, Kirby dominated with more than 1,000 units, followed by Canal Barge, ACL and Florida Marine, each with more than 300 barges.

In summing up the sector's overall picture for ***Marine News***, Blessey's Clark Todd said, "As the incoming chairman of the board of American Waterways Operators, I have a unique perspective of the entire inland tugboat and barge industry. In my role at AWO, I have the opportunity to have dialogues with the different sectors of the marine world. A few of the sectors have already started to see stronger demand and utilization. With rising crude oil prices, and an eagerness for folks to travel, we believe 2022 will be a very strong as a jumpstart to recovery in our industry."

Crowley

ALT-FUELED VESSELS: *Building the Business Case*

By Tom Ewing

There's no energy shortage when it comes to projects promoting the viability of alternatively fueled marine vessels (alt-fueled vessels).

Consider just a few examples:

- *Crowley Maritime Corp will take delivery in 2023 of an electric tugboat, dubbed eWolf, built by Master Boat Builders in Coden, Ala.*
- *The Hydrogen One towboat, using methanol-to-hydrogen technology, is being developed by its owner Maritime Partners.*
- *Master Boat Builders and Robert Allan Ltd. announced last fall the creation of a new battery hybrid, the ElectRA 3000-H, designed for U.S. tugboat operations.*

These projects deservedly draw a lot of attention. But do they spark interest—and action—among workboat company executives and engineers? Or are these projects viewed as, yes, interesting, but largely a curiosity?

Timing is critical. Many energy activists would like fossil fuel engines largely replaced by 2030, or at least on a steep phase-out schedule. Workboats, though, can last for

50 years, or longer. For an engine/energy transformation at scale the purchase of alt-fueled vessels has to be mainstreamed, pretty much starting now. Demonstration projects answer some basic questions. But what about other central questions: Is there a business case, now, for purchasing an alt-fueled vessel? Do projects like eWolf clarify and support that business case?

Indeed, workboat executives are following alt-fueled vessel projects, but keeping their distance. The total picture of technology, infrastructure and finances remains hazy. One operator on the Ohio and Mississippi Rivers called news about alt-fueled vessels "engaging," but not decisional or conclusive. A vessel and its power "has to be available and reliable," he said, "you can't struggle with power needed every second when you're moving 28,000 tons and a crew. You can't take a chance."

This person has investigated alt-fuels, specifically liquefied natural gas (LNG), even consulting designers in Europe, particularly focusing on a modular fuel tank replacement system. The effort confronted numerous and immediate challenges, from LNG storage on vessels to fuel transfers over water.

Another executive said "yes, most operators are thinking about this," topics and related decisions he called "daunting." His company recently repowered much of their fleet. Their decisions, though, were to improve fuel efficiency, reliability and reduce emissions by investing in upgraded but traditional engines and power systems, and not invest yet in alt-fuel vessels. He said "we're looking at new hybrid-electric power. We will be cautious. Not because we don't want to achieve the goal, we don't want to be a test case. We can't put a crew in harm's way." He added that it will "take a multitude of people and groups" to figure this out.

A new business group, the Blue Sky Maritime Coalition, was recently established to bring together the best, the brightest – and the realists – to focus on alt-fueled vessels and a low-carbon roadmap. The Coalition does not focus on one particular alt-fuel, hydrogen, say, or methanol or a diesel-battery hybrid. Rather, its focus is on assessing and evaluating business case decisions that align with safety, long-lived assets, operational demands and shore-side infrastructure.

The Coalition was formed last spring, 2021. Founding members include some of the biggest names in the business, including Moran, Canal Barge, Crowley, American Waterways Operators, Vancouver Fraser Port Authority, Kirby and Campbell Transportation. Total membership is 70 companies and organizations. The mission: "to accelerate the U.S. and Canada maritime value chain's pathway to net zero greenhouse gas (GHG) emissions by jointly developing and executing a road map to a commercially viable net-zero emission logistics value chain."

The Coalition works in four broad areas:

- *Measurement and operational efficiencies based on apples-to-apples comparisons of vessels and fleet utilization.*
- *Finance, commercial and chartering, an assessment of owner/charter CO2 reduction incentives.*
- *Policy, regulatory and incentives, advocacy regarding public policies that accelerate vessel development.*
- *Technology, infrastructure and fuels, including a focus on reduction strategies ready now and which can be modified as new possibilities emerge.*

David Cummins is Blue Sky's executive director. When asked about a business case for alt-fueled vessels Cummins replied, "there is a business case now," but he cautioned: "It's not a business case to invest right now. Rather, the business case is to be fully aware that the world is moving towards a place where GHG emissions will be restricted and possibly taxed." The business case, he advised, is "to get on the learning curve so that as new zero emission technologies and fuels become available shipping organizations are prepared to take advantage."

Cummins commented on "a profound change in shipowners' attitudes to get on this learning curve in the last 18-24 months." There are challenges, however, and it's hard to bet on a winner right now given considerable unknowns not just with alt-fuels but with safety, ship architecture and construction, port logistics and regulations. For a vessel owner, a wrong decision today, say on hydrogen or methanol, for a 50-year asset, could bankrupt the company.

Cummins sees a phased, three-step transition to low-carbon:

1. ***Short term*** – maximizing current operational and hardware potential to reduce GHG emissions.
2. ***Intermediate*** – being ready for alt-fuels that can work as "drop in" replacements, or at least close to drop in, a substitution requiring only relatively minor modifications to existing engines, vessels and fueling infrastructure, e.g., the ability to

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"For other e-tugs to be built, we really need to change the way the market is looking at this. As environmental regulations are put in place, the industry needs the ability to adapt to meet those regulations, as we are doing in San Diego."

– Coulston Van Gundy, VP, engineering services, Crowley

transition from diesel to methanol or ammonia or modular battery systems.

3. ***Longer term*** – a future point when alt-fuels and related systems are standardized and meet all related requirements for vessel safety and operations.

"We need to be working now, with urgency, in all three areas," Cummins commented. 2030 to 2050 are popularly viewed as the expected window for engine/fuel transitions. Cummins said a more realistic timeline is one that aligns with "whatever technology and economics can support."

Cummins said that projects such as Crowley's eWolf (as noted above, Crowley is a founding member of the Blue Sky Coalition) provide key learnings, informing engineers about what's viable and what's not. Tech advances will make costs more competitive, reducing the need for subsidies. Cummins noted that taxpayer and ratepayer subsidies now are heavily tilted towards generation, such as offshore wind and batteries. "For transport fuels," he commented, "you mostly see feasibility projects. We need more public sector investment support with fuels and availability and electricity and bunkering infrastructure. The private sector will then be in a better position to mobilize with financing."

With eWolf, cost and financing details have not been disclosed. As a private company, Crowley does not disclose specific financial information. The eWolf's public partners include the San Diego County Air Pollution Control District, the California Air Resources Board, the Port of San Diego, the U.S. Environmental Protection Agency and the U.S. Maritime Administration.

The 82-foot eWolf, the first U.S. all-electric harbor tug is expected to be ready in mid-2023. Its electric design will provide full performance capabilities—and zero carbon emissions—with an expected 70-ton bollard pull strength.

Coulston Van Gundy, vice president, engineering services for Crowley, was instrumental in the design of the eWolf platform.

It's important to be clear that at this point Crowley's work was not an evaluation, and then a decision: electric vs. diesel. That choice was already made – to build an electric tug. The eWolf is a first-in-class vessel. The business case for Crowley, obviously, and project funding, were different than standard, market-based decision making about new assets.

Van Gundy said the eWolf was designed from the keel up. He described a process that started with a traditional business case evaluation and engineering approach.

As with any vessel, an initial assessment is critical to determine the scope of services needed as well as the operational ability required. For performance and to meet environmental regulations in the Port of San Diego, Crowley's analysis said "yes," and the eWolf project moved forward.

Van Gundy added, though, that sometimes a fully electric vessel won't be the right answer. A diesel hybrid may be a better choice for transiting long distances, on Puget Sound, for example. Also critical: charging infrastructure, which is available for the eWolf in the port of San Diego. The point is an initial operational analysis will show if it makes sense to build a green vessel with resources available today.

Crowley's team approaches new project risks by evaluating the need for specialized contracting expertise as part of their design process. The eWolf's electrical system, for example, from batteries to wiring, was developed separately. This approach avoided mid-project learning curves because different systems were tasked up-front to specialists and then integrated during construction. This is a repeatable and predictable approach that Crowley uses on other projects. Or put another way: alt-vessel projects will benefit from the same design/engineering processes that benefit "regular" projects. At this point construction is on schedule and engineers have not encountered any unexpected glitches.

Van Gundy said that the "shell" of the eWolf presents as a well-understood and predictable construction project. The inside, though, includes "all of the latest and greatest technology that's on the market today." It's worth not-

ing here not just the availability of certain tech but the advantages from sharp declines in tech costs over the last 10-15 years. Also, over time, "latest and greatest" becomes standard and standardization almost always results in a lower cost cycle.

Other companies have approached Crowley asking for insights into eWolf's development. That information exchange has started.

Van Gundy was asked about ways to develop a business plan that can sustain the higher initial costs for alt-vessels, to get them built and in service so that vessel owners can then take advantage of lower operating costs. "For other e-tugs to be built," he said, "we really need to change the way the market is looking at this. As environmental regulations are put in place, the industry needs the ability to adapt to meet those regulations, as we are doing in San Diego." That market reference is to tug services themselves. A port or ship seeking to lower their own carbon footprints should place a higher value on port services from an e-tug. "Operators need to be rewarded for a decarbonized platform," Van Gundy commented. Then, higher payments will kick-start demand and a beneficial cycle of lower production costs will start to close the cost delta compared to diesel vessels.

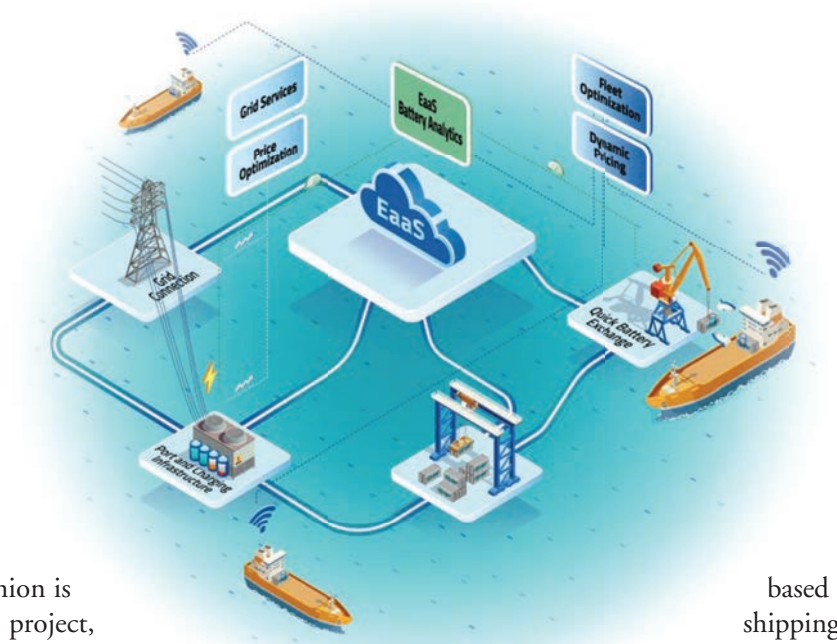
Hydrogen One, a new towboat using methanol-to-hydrogen technology, is being developed by owner Maritime Partners, in partnership with Elliott Bay Design Group, e1 Marine and ABB.

EBDG

CURRENT DIRECT:

A Transition Effort in Europe

By Tom Ewing



The European Union is underwriting a project, called Current Direct, to facilitate and hasten the transition to battery powered commercial maritime vessels. It's funded by the European Union's Horizon 2020 research and innovation program. It also has 13 private sector partners, including Blackstone Resources, Spear Power Systems and Wärtsilä. It has a quick timeline; a demonstration project should be ready by 2023.

New thinking and innovation run across every aspect of this project, from the batteries to a loading and replacement system to recycling.

One goal is to develop multiple novel battery production technologies. Blackstone Resources will be developing a novel 3D printed cell manufacturing process which enables thicker electrodes to increase cell level energy density. An advanced composite material being developed by the University of Brussels will reduce pack level costs and increase energy density. Spear Power Systems and Wartsila are developing the final "battery pack," a fully integrated package based on a standard 20-foot shipping container, maximizing energy and performance.

"Energy as service" is the central project idea. This includes development of strategically located battery swapping stations at port locations. An e-vessel needing new power would dock at a such a station. Then, instead of plugging into a charger, a crane would remove a spent battery pack and replace it with one fully charged. Each pack will be about the size of a 20-foot shipping container. The vessel, repowered, would move back into the workstream. That re-power timing goal is five minutes.

The planned 2023 demonstration project will be at the Port of Rotterdam. The modular built E-Pusher vessel, currently in use as a transport barge, will be the demonstration vessel. Again, to meet a five minute challenge.

Bigger picture, EU authorities believe this project will have payoffs in many areas, from energy to GHG reductions to triggering new investments in innovation and employment in the European marine transport and battery energy storage sectors.

Image: Current Direct

Eastern Shipbuilding Group

By Eric Haun

It's a common story in the U.S. shipbuilding industry today. A piece of equipment that used to be available for delivery on short notice—maybe in one or two weeks—now must be ordered months or more in advance, and it costs double. Add to this rising steel prices and the labor issues that have pervaded nearly all industrial sectors since the early days of the pandemic, and it's clear that business is far from usual for American shipyards.

Bollinger Shipyards president and CEO, Ben Bordelon, speaking as chairman of trade group the Shipbuilders Council of America (SCA) during a February 2021 a House Transportation and Infrastructure subcommittee hearing on the impact of the coronavirus pandemic on the maritime industry, said shipbuilders have been finding it difficult to navigate labor issues and supply chain disruptions. "Managing supply chain disruptions became essential to mitigating production delays because of the pandemic. The biggest drivers of schedule and cost impact have been increased rates of absenteeism—sometimes as high as 30% at some [SCA] member yards—unexpected loss of supervision and delayed equipment deliveries due to supply chain challenges." He added that these issues and "other COVID-related costs" have "impacted every area of our business, from our workforce and finance teams, to our technical infrastructure."

One year later, many of these challenges remain, according to shipyard execs like Peter Duclos, president and director of business development at Gladding-Hearn Shipbuilding, Duclos Corporation, who has four newbuild and six repair/refit projects ongoing. "Material lead times is a real problem and it's adding to our delivery times," he said. "We have done preordering on speculation of common products in advance of contracts to mitigate this problem, but there is some risk to that. The bigger problem is material cost for projects that were priced in early-mid 2021 with major expenditures occurring in 2022/2023. Pricing for materials have increased from 10 to 100%, and average about 25%."

But there's good news. Despite the various challenges, there's plenty of business to be had, both in established and emerging corners of the market.

DREDGING

The dredge building boom that was underway even before the arrival of COVID-19 is still going strong and is

Eastern Shipbuilding Group is building the lead vessels in the USCG's OPC program and is competing to win more vessels in stage 2.

Master Boat Builders recently began building Crowley's eWolf, the first all-electric ship assist tug in the U.S.

Crowley

expected to continue on the wings of the recent historic Infrastructure Investment and Jobs Act (IIJA), which includes much needed funding for a long list of port, coastal and inland waterway dredging projects.

Meanwhile, Brownsville, Texas shipyard Keppel AmFELS is building a new trailing suction hopper dredge (TSHD) for Manson Construction Co. Once completed, the 15,00-cubic-yard capacity Frederick Paup will be the largest dredge in the U.S. Not to be outdone, Callan Marine last summer released a tender package to build a 16,000 cubic yard hopper dredge, Admiral Nimitz. Other hopper dredges known to be under construction currently include one each being built by Eastern Shipbuilding and Conrad Shipyard for Weeks Marine and Great Lakes Dredge & Dock Corporation (GLDD) respectively, both scheduled for 2023 deliveries.

A number of cutter suction dredges are also being built, including Callan Marine's General Marshall at DSC Dredge in Reserve, La. for handover in late 2022; and Mike Hooks' Lorraine at SPI/Mobile Pulley Works in Mobile, Ala. and Southwest Shipyard in Galveston, Texas, for scheduled delivery in the first quarter of 2022.

OFFSHORE WIND

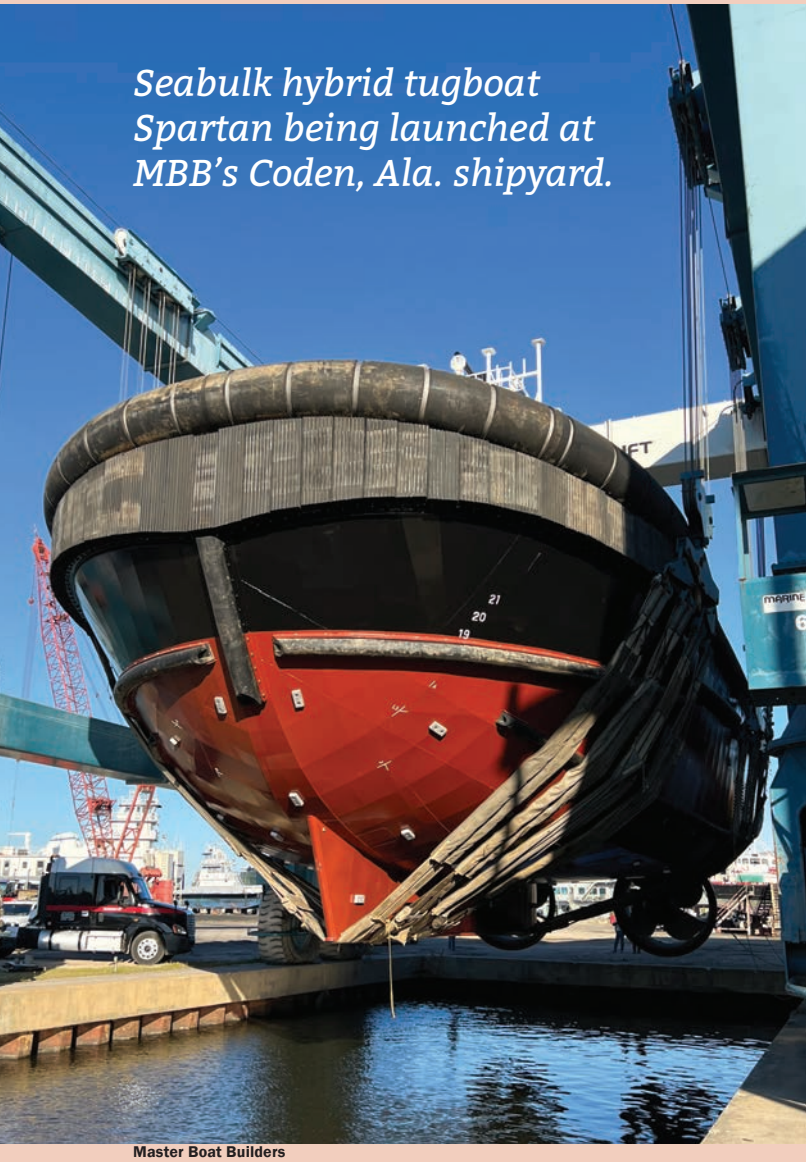
Another promising area for U.S. shipbuilders is America's newly forming offshore wind industry, which will require a fleet of new vessels to help build, service and eventually decommission the wind farms due to sprout up in U.S. waters, first along the East Coast, but also in the U.S. Gulf, Great Lakes and Pacific Ocean.

In November 2021, crew transfer vessel (CTV) owner/operator American Offshore Services ordered two CTVs from Blount Boats in Warren, R.I., with plans for further expansion. It was also announced that Senesco Marine in North Kingstown, R.I. will build three CTVs for sister company WindServe Marine, both part of the Reinauer Group. In October, Gladding-Hearn Shipbuilding in Somerset, Mass. said it secured an order to build an Incat Crowther-designed CTV for U.S. offshore wind farm developer Mayflower Wind. In the years ahead, it's expected that dozens of CTVs will be built as part of a new fleet of Jones Act compliant vessels required to support the construction and long-term service of new offshore wind farms.

Jones Act-compliant service operations vessels (SOV) will also be needed to support this emerging industry.

Ørsted and Eversource have taken the lead, contracting with Edison Chouest Offshore for construction of an SOV at several of its yards in the Gulf Coast. Crowley, having teamed up with established European offshore wind player ESVAGT, is awaiting the results of a bid and could be close to announcing an SOV order.

Facing an anticipated global shortage of wind turbine installation vessels (WTIV), Dominion Energy, the owner of the Coastal Virginia Offshore Wind (CVOW) project, has opted to order a Jones Act compliant WTIV—the first ever—from Keppel AmFELS. Charybdis is scheduled for delivery in 2023. In another first, Great Lakes Dredge & Dock recently announced that it is moving ahead with the construction of a Jones Act compliant wind farm scour protection/rock installation vessel, which is being built at Philly Shipyard for delivery in late 2024. The deal includes an option for a second vessel.



Seabulk hybrid tugboat Spartan being launched at MBB's Coden, Ala. shipyard.

Master Boat Builders

PASSENGER VESSELS

Business in U.S. passenger vessel construction was solid prior to COVID-19, but this sector was hit hard by the coronavirus pandemic, and plans for new orders were shelved or in some cases totally scrapped. While it may be a long while until build activity returns to pre-2020 levels, there are glimmers of hope, such as U.S. river and coastal cruise shipping company American Cruise Lines' recently announced plan for 12 new identical sister ships to be built by Chesapeake Shipbuilding in Salisbury, Md. The first two Project Blue ships are already under construction and are due for delivery in 2023.

Green vessel technologies like alternative fuels and electrification are also generating opportunities for U.S. shipyards and their suppliers. Notably, Bellingham, Wash. yard All American Marine recently completed SWITCH Maritime's Sea Change, the U.S.' first zero-emissions, hydrogen fuel cell-powered, electric ferry. Washington State Ferries' next five Olympic class ferries to be built by Vigor will be WSF's first hybrid-electric newbuilds, in line with plans to make America's largest ferry fleet emissions free by 2050. The first vessel, Wishkah, is expected to enter service in 2024. Nearby, Skagit County Public Works and Seattle-based vessel designer Glosten have developed an all-electric double-ended vehicle and passenger ferry to replace the Guemes. A yard has yet to be selected. Glosten is also working with Seattle-based Bieker Boats to develop a carbon fiber hydrofoil ferry. Elsewhere, the Alaska Marine Highway System (AMHS) is in the process of selecting a U.S. shipyard to build a Glosten-designed replacement for its 57-year-old ferry Tustamena. Also out for bid is a 190-foot hybrid-electric passenger/vehicle ferry designed by Elliott Bay Design Group (EBDG) to operate between Manhattan and Governors Island.

In more good news for ferry builders and their suppliers, the U.S. Department of Transportation's Federal Transit Administration (FTA) recently awarded $45.3 mil-

lion in grants to help buy, repair and modernize ferry boats and terminals. The San Francisco Bay Area Water Emergency Transportation Authority (WETA) will receive $3.4 million to construct a new zero-emission ferry. The Casco Bay Island Transit District in Portland, Maine, will receive $3.6 million to replace a passenger ferry nearing the end of its useful life, with a new ferry equipped with a diesel electric hybrid propulsion system. Kitsap Transit in Kitsap County, Wash., will receive $7.7 million to replace a diesel vessel with a new, environmentally friendly battery-electric passenger-only ferry and necessary charging infrastructure to carry passengers across Sinclair Inlet, between Port Orchard and Bremerton.

GREEN WORKBOATS

The green trend is also driving business in the workboat market, with several hybrid-electric and alternative fuel vessel projects currently ongoing as the maritime industry continues to develop and implement new technologies for cleaner vessel operations. Duclos said Gladding-Hearn is seeing "lots of interest hybrid and all electric vessels of all kinds", and that, "We will definitely be seeing some of these for the right applications."

Seabulk's new Robert Allan Ltd.-designed electric-hybrid tugboat, Spartan, was delivered in January from Master Boat Builders' (MBB) Coden, Ala., shipyard. The yard's president Garrett Rice recently told ***Marine News*** that MBB sees growing interest in hybrid- and fully-electric tugs as operators work toward decreasing or in some cases removing emissions from their operations. In December, Master Boat Builders started building Crowley's eWolf, the first all-electric ship assist tug in the U.S. The 82-foot harbor tug is expected to be completed and ready for service in mid-2023 at the Port of San Diego.

A first of its kind methanol-to-hydrogen fuel cell powered towboat is set to hit the water in 2023. The Hydrogen One is being developed by owner Maritime Partners in cooperation with naval architecture firm EBDG and hardware suppliers e1 Marine and ABB.

Another emerging opportunity for U.S. shipyards in the "green" realm is liquefied natural gas (LNG) bunkering barges like the one currently under construction at Fincantieri Bay Shipbuilding for Crowley. Set to be delivered in late 2023, the barge will be the largest of its kind in the U.S. and will be operated under long-term charter to Shell. Bay Shipbuilding is also building another noteworthy vessel, The Interlake Steamship Company's recently launched Mark W. Barker, the first new Great Lakes bulk carrier to be built in nearly four decades. The 639-foot laker is expected to be completed and underway in Spring 2022.

GOVERNMENT SHIPBUILDING

Facing a shortage of commercial shipbuilding projects, a number of U.S. shipyards have turned to government work to keep busy, and several of these yards are now hard at work building, or jockeying to build, vessels for the U.S. Coast Guard (USCG) and U.S. Navy. Of note, the USCG is soon expected to select shipyards to design and construct its new river buoy and inland construction tenders as part of the waterways commerce cutter (WCC) program. In total, the Coast Guard plans to acquire 16 river buoy tenders, 11 inland construction tenders and three inland buoy tenders to replace its aging inland tender fleet.

Another closely watched Coast Guard build program is the Heritage Class Offshore Patrol Cutter, the first four of which are being built by Eastern Shipbuilding Group in Florida. The Coast Guard has called the OPC its "top acquisition priority", and it intends to order 25 of the vessels in total. Eastern has bid for the second

Gladding-Hearn Shipbuilding

Gladding Hearn is currently building four pilot boats, including a 70-foot pilot boat for the Galveston Pilots.

stage of the build program and is believed to be competing with yards such as Bollinger, Austal USA and Huntington Ingalls Industries' Ingalls Shipbuilding. Stage 2 contracts could be awarded as soon as Spring 2022.

Pascagoula, Miss. shipbuilder Halter Marine has been awarded contracts to build the first two U.S. Coast Guard Polar Security Cutters to replace the Coast Guard's existing fleet of heavy icebreakers. Construction on the first PSC kicked off in 2021 with delivery planned for 2024, while work on the second vessel is expected to be completed by September 2026. Halter Marine, which has an option for a third PSC, is also building the U.S. Navy's fifth Auxiliary Personnel Lighter–Small (APL(S)) 67 Class berthing and messing barge as well as oceanographic survey ship (T-AGS 67).

Fincantieri Marinette Marine in Marinette, Wis., which is currently building the Freedom Class littoral combat ships (LCS), has been awarded the first two of up to 10 Constellation-class guided missile frigates (FFGs), a new series of warships for the U.S. Navy. The lead ship is planned for delivery in around 2026. Mobil, Ala.-based Austal USA has four Independence-class LCS currently under construction, with two Expeditionary Fast Transports also under construction and a third under contract. In October, Austal USA was awarded a contract to build a pair of Navajo class Towing, Salvage, and Rescue Ships (T-ATS) for the U.S. Navy, the first contract for Austal's new steel construction facility. Gulf Island Fabrication and Bollinger Shipyards have also secured contracts to build Navajo class ships. Bollinger, which has 11 shipyards in Louisiana, was four additional USCG Sentinel-Class Fast Response Cutters (FRC) in 2021, bringing the total number of FRCs awarded to Bollinger up to 64 vessels since the program's inception.

Anoter significant government build program is the series of five training ships known as National Security Multi-Mission Vessels (NSMV) that Philly Shipyard is constructing for the U.S. Maritime Administration (MARAD). The ships will be operated by the state maritime academies, and the first is scheduled to be delivered to SUNY Maritime College in 2023.

All images: Carboline

CARBOLINE

BY ERIC HAUN

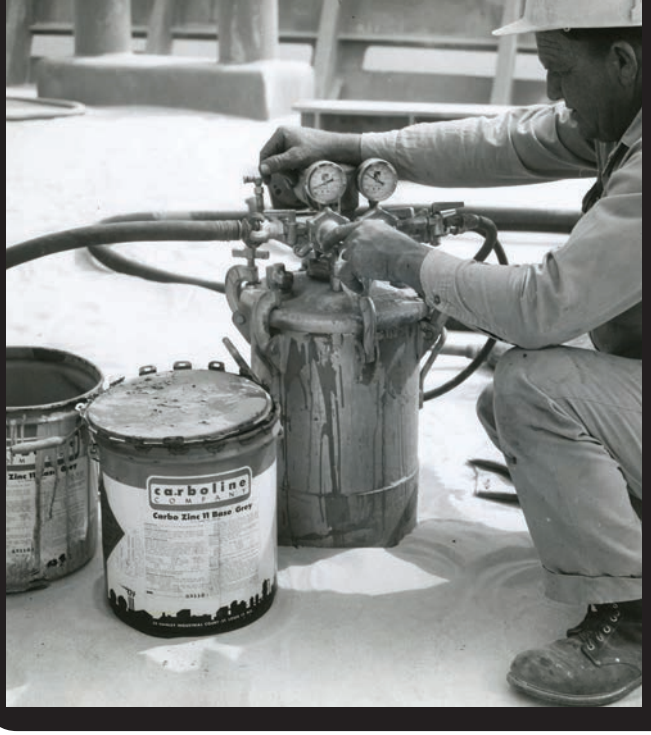
St. Louis-based coatings specialist Carboline is celebrating its 75th year in business in 2022. From humble beginnings in 1947, Carboline has grown into a global organization that has launched more than 500 products, with more than seven research facilities, 20 manufacturing facilities and hundreds of warehouses. Still, the company has remained laser-focused on quality, innovation and top-notch service.

"Our offering to the maritime market is very unique," said Brad Treuting, Carboline's director of sales for marine and offshore in the U.S. Gulf and East Coast. "One of the things that we pride ourselves on is that we provide products that have no equal within the market. We have various products that will give a lifespan that is above and beyond any product that our competitors offer, and we'll stand behind a 10-plus-year lifespan of those products."

Carboline's U.S. marine business today is primarily focused on dredging and marine construction, as well as inland and oceangoing tugs, barges and offshore support vessels. "We do a lot of commercial vessels that are servicing the construction industry and the oil and gas markets," Treuting said.

Within those markets, the company's business model is very much "quality over quantity", according to Treuting. "When we look at our maritime business, we're not going to be your high-volume supplier," he said. "If you're looking for the cheapest product, we won't waste your time. . . The products that we offer cost us more to make; we have some products that have a lamellar flake of aluminum that allows a layering where the penetration of water is almost nil so we get 10 plus years in oceangoing markets with no blisters on the vessels.

"A good coating on the vessel from the start not only increases the lifespan of the vessel, but it will also add to the amount of time that you can keep that vessel in service without picking it up and putting it on dry dock or doing maintenance on it. And time is money. Every day that boat is up on dry dock, it's costing you lost time in making revenues, and it's also costing you more to have a shipyard



take that coating down and put on a new one.

"So, we can preach that and show evidence of that. And we're going to expect to get a higher price for a high-quality product and not just devalue it and just sell it in volume, because we don't want to do that. We want to be able to keep our intimacy and take care of our customer."

Treuting emphasized Carboline's complete service offering, which he calls "unmatched". "We're involved in the front end when our customers bring in a vessel up to give them a free survey, to really let them know what they're coming in for, give our best recommendation for it. We're there during the process of the vessel undergoing maintenance or being built. And then we're also there at the final end to make sure that it's checked off and done correctly so that they're going to see the most benefit for the money that are put toward that asset."

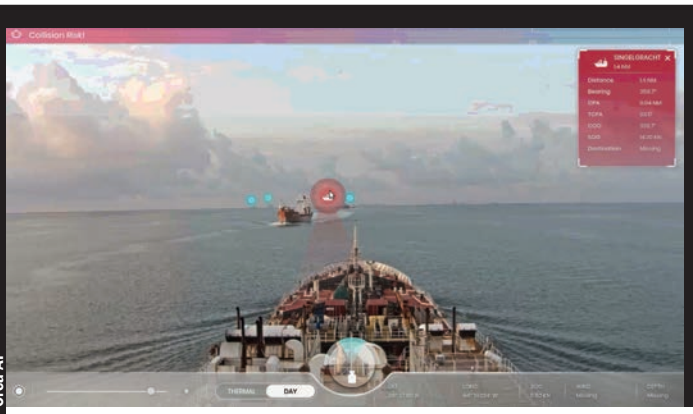
Another pillar to Carboline's customer-centric service offering is the experience and expertise of its personnel. "We have people that have been within our marine team and in the coating business for 40 years. They've been around a long time on all sides of the business. I have reps that have been on the construction side, and I have guys that have actually owned vessels. We have the ability to put ourselves in the owner's position because they've been there and they've done it so long. It gives us a leg up when going to sell to our customer base."

The marine coating business, like nearly every other, has been profoundly impacted by COVID-19 and its unique set of challenges, from activity slowdowns to supply chain and worker shortages. While many challenges remain, Treuting said he's seeing growing interest driven by increased activity in liquefied natural gas (LNG) projects, dredging, offshore wind and the shift to hybrid and greener vessels. "It's driven toward new markets. You're not going to see a lot of people looking to build what the maritime industry would deem dinosaurs of the past. The market has changed. The servicing of oil assets in the Gulf has been, in my opinion, forever changed as people are looking to do things with different fuel sources. . . That's where things are going, and in order to get there, it's going to require new-build programs because the older vessels are strictly diesel driven vessels that are becoming outdated and too costly to operate. And they're not falling under the green footprint within the current sustainability initiatives."

Similarly, Carboline is constantly working to improve its offering, with current R&D efforts aimed at checking off the boxes of its customers' wish lists. The company is developing lower volatile organic compound (VOC) options, solutions that keep employees and contractors safe, and products that help to prolong the life of an asset. "Fast forward, we'll come out with the product and go back to customers who requested it to do product demos. If we see success, we'll release it to the market," Treuting said. "I can tell you until the end of time within Carboline, our R&D efforts will continually move in a direction that leads us to the next best product."

Asked about keys to success over Carboline's 75-year history, Treuting said, "One thing that's been constant has been the intimacy and the service that Carboline has always been able to provide for the customer. We have a very, very strong technical presence, and we can provide solutions. These the things that have continuously kept Carboline moving in the right direction, and we use that foundation to build bigger and better."

Tech Files



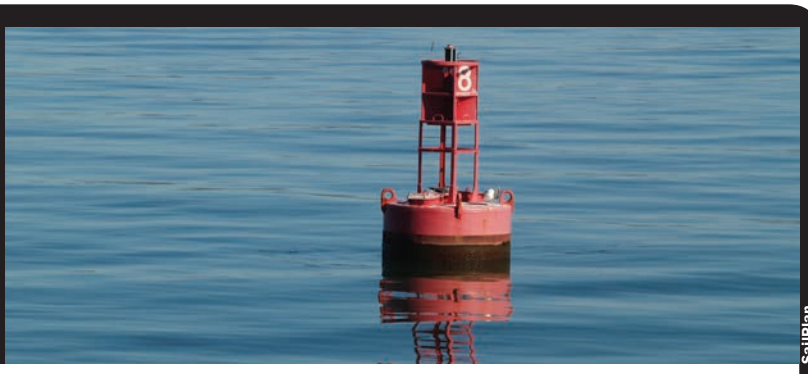
Orca AI

Orca AI

Orca AI's AI-powered collision avoidance and navigation safety platform has received product design assessment (PDA) certification from the American Bureau of Shipping (ABS), reportedly the first time an AI based navigation platform receives this certification. ABS PDA is an assessment of materials, components, products or systems for a specific use in compliance with ABS Rules, Guides, and national or international standards. Based on PDA, the final approval is given when an engineer or surveyor accepts the assessed item for a specific user and installation.

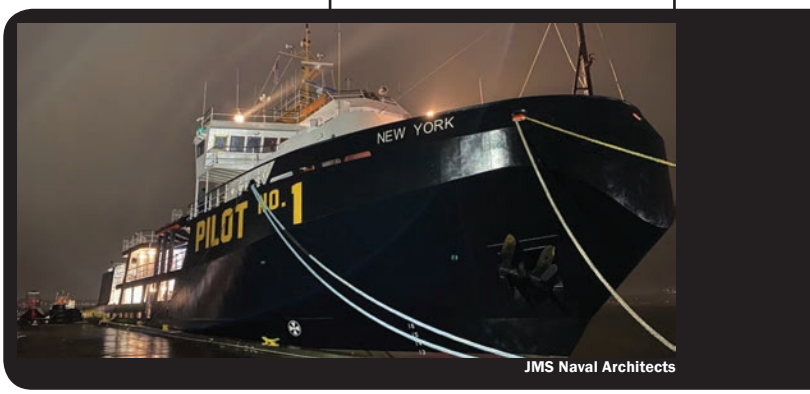
Designed for the marine domain, the Orca AI system consists of a software platform supported by computer vision sensors, thermal and low-light cameras, and AI-powered algorithms, with all aimed to increasing safety in shipping. The solution is designed to automatically detect, prioritize and alert on maritime targets to crews onboard in real time, offering enhanced situational awareness. The product is already in use by Maran Tankers, TMS Gas, Enesel, Wartsila and NYK.

SailPlan


SailPlan

The U.S. Coast Guard (USCG) has partnered with maritime cleantech company SailPlan to monitor aids to navigation (ATONS) in the Chesapeake Bay. By utilizing SailPlan's technology, the USCG is able to easily monitor real-time high-resolution weather, air quality, and other data affecting navigation and make it available to mariners. The agreement provides a test-bed for real-time monitoring and sharing of weather, current, tide, sea state, and air quality data while also providing real-time station-keeping data to the USCG. SailPlan and the USCG will collect data, perform studies, and increase infrastructure resilience while reducing ATON maintenance costs. The deployed technology will ensure that critical marine infrastructure remains on-station and in good working order without the need for routine in-person inspections.

New York



JMS Naval Architects

A vessel that formerly operated as an oil spill response vessel has been converted to a pilot station vessel and delivered to the United New York & New Jersey Sandy Hook Pilots Association.

The conversion work was performed by Feeney Shipyard of Kingston, N.Y., and design and engineering work for the project was led by JMS Naval Architects, of Mystic, Conn. In general, the conversion design included extensive modifications to remove the oil recovery systems, add a large deck house for the pilot berthing, lounge and mess, and incorporate operational capabilities specific to the pilots' mission.

The 208-foot vessel, previously known as Maine Responder, has been renamed New York, and it will go to work for the Sandy Hook pilots, which operates a 24/7, 365 days a year operation on Pilot Station at Ambrose, located over 25 nautical miles east of the entrance of New York Harbor.

Steel Skipper


Plimsoll Marine

Plimsoll Marine has taken delivery of Steel Skipper, the fourth vessel in a series of newbuilds from Master Marine, Inc. Designed by Entech Designs, LLC, the 67' x 28' towboat is powered by two Laborde Products, Inc. Mitsubishi 803 HP Tier III diesel marine engines operating at 1,400 RPM and coupled to Twin Disc 5321 gears. Laborde Products also supplied electrical power with two Northern Lights 65KW Tier III electronic controlled generators with RW Fernstrum, Inc. keel coolers throughout.

A pair of Sound Propeller Services, Inc. 70" x 48" x 7" four-blade stainless steel propellers provide thrust through two J & S Machine Works, Inc. 7" ABS Grade two propeller shafts with all Thordon Bearings, Thorplas bushings and shaft seals. RIO Controls and Hydraulic, Inc. supplied the steering system for the two 7" main and four 7" flanking rudders. Gulf Coast Air & Hydraulics, Inc. provided a pair of Quincy reciprocating air compressors and ventilation fans. Schuyler Maritime, LLC supplied all 18" x 12" rubber fendering around the perimeter of the vessel and push knees. R.S Price & Son provided a Carrier mini-split HVAC system in all interior spaces with Blakeney Marine providing all custom woodwork and interior finishes. Donavon Marine supplied the large Bomar aluminum windows and Dales Welding and Fabricators, LLC provided the aluminum exterior doors. Wintech International, LLC supplied a pair of 40-ton deck winches and New World, Inc. provided all electronics and communications, with an alarm system from Unlimited Control & Supply, Inc.

Each of the four towboats have the capacity for 10,400 gallons of fuel, 4,359 gallons of potable water and 9,500 gallons of ballast water, along with providing a maximum 7'-9" working draft. Each vessel is outfitted with three crew staterooms housing six crewmen, 1.5 baths and a full galley arrangement.

Vessels

LNG Bunker Barges

Fincantieri Bay Shipbuilding

Centerline Logistics

Fincantieri Bay Shipbuilding announced it has started construction on the largest liquefied natural gas (LNG) bunkering barge ever built in the U.S. The newbuild, expected to be completed in late 2023, is being built for Crowley, the largest independent operator of tank vessels in the U.S., who will operate the vessel under a long-term charter with Shell NA LNG, LLC. Bay Shipbuilding announced it won the contract to build the barge in September. The 416-foot vessel, which will have the capacity for 12,000 cubic meters (3.17 million gallons) of LNG, will be the largest Jones Act-compliant vessel of its kind, and the second Jones Act-compliant bunker barge Shell has under a time charter in the U.S. Serving the U.S. East Coast, it will be used to help expand current LNG network capacity and meet demands for cleaner energy sources for ships.

U.S. marine petroleum transportation company Centerline Logistics has signed a letter of intent (LOI) with naval architecture and marine engineering firm Vard Marine to develop a customized 6,000-cubic-meter-capacity articulated tug and barge (ATB) LNG bunker barge. Aiming to meet the shipping industry's growing need for LNG bunkering, the Jones Act-compliant ATB barge will be designed to navigate U.S. and International waters and to provide LNG refueling to a variety of ships as well as call at terminals. The barge is expected to enter service in 2024.

Charles Hughes

Vane Brothers

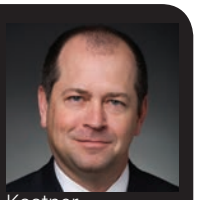
Baltimore-based Vane Brothers announced it has taken delivery of the final boat in a series of four 3,000-horsepower Salisbury Class push tugs. Named the Charles Hughes, Vane's newest addition is the 20th Maryland-built towing vessel to join Vane Brothers' fleet since 2008.

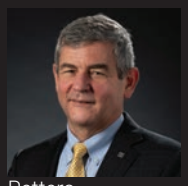
Designed and constructed by Chesapeake Shipbuilding Shipbuilders and Naval Architects of Salisbury, Md., Vane's Salisbury Class push tugs have a molded depth of only 10.5 feet, making them well suited for working in confined, shallow-draft waterways. The Charles Hughes' operational area is the Northeast United States.

The Charles Hughes' three sister tugs, the Salisbury, Annapolis and Rock Hall, were delivered in 2019, 2020 and 2021, respectively. Along with providing exceptional crew comfort, reliability and operational efficiency, all four Salisbury Class push tugs comply with federally mandated, U.S Coast Guard-enforced Subchapter M safety standards.

People & Companies


Vekich


Kastner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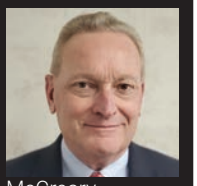
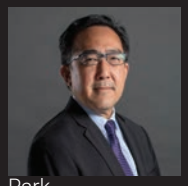
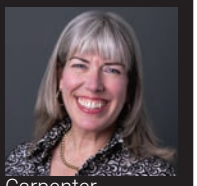
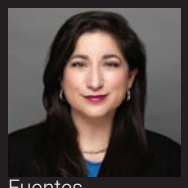
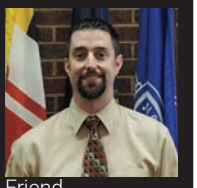

McCreary


Park


Carpenter


Fuentes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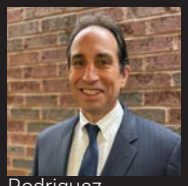
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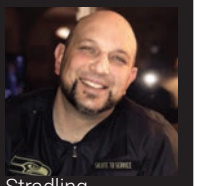
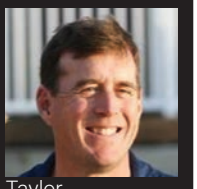

Stradling


Johnson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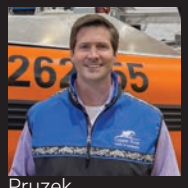
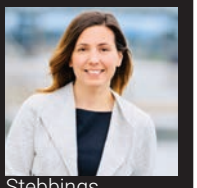

Pruzek


Stebbings

Vekich Swon in as FMC Commissioner

Max Vekich was sworn-in as a Commissioner of the Federal Maritime Commission for a term expiring June 30, 2026.

Kastner to Lead HII

Huntington Ingalls Industries chief operating officer Chris Kastner will become president and CEO, replacing Mike Petters wo will become executive vice-chairman of the board for a transition period. Both changes are expected to take effect on March 1.

Devall Takes the Helm at TSDG

Kenny Devall, who previously served as chief operating officer at Devall Towing, is being promoted to succeed Chris Sullivan, who served as interim CEO of The Southern Devall Group following Ed Grimm's retirement in July 2021.

McCreary Named President of Gulf Marine Repair

Richard McCreary was appointed president of Hendry Marine's Tampa, Fla. repair yard Gulf Marine Repair, effective January 31. He succeeds John Gallagher, who is retiring.

AMP Elects New Leadership

Ku'uhaku Park has been elected president of the American Maritime Partnership (AMP). He is joined by new vice president Jennifer Carpenter, and Sara Fuentes who will serve dual roles as secretary and treasurer. Each will hold their positions for a two-year term.

New Leaders at MITAGS

The Maritime Institute of Technology and Graduate Studies (MITAGS) announced the appointment of Eric Friend as executive director, and Mike Rodriguez as interim director.

Furuno USA Hires Stradling

Furuno USA announced it recently hired Andrew Stradling as technical applications manager.

TSGI Hires Johnson

The Shearer Group, Inc. (TSGI) announced it has hired mechanical engineer Ethan Johnson.

Taylor Joins PTL Marine

PTL Marine recently hired Steven Taylor as its manager of business development with responsibility for the California markets.

RECONCRAFT Names Pruzek EVP

RECONCRAFT has named Josh Pruzek as executive vice president, effective January 1.

Stebbings to Lead PNWA

The Pacific Northwest Waterways Association (PNWA) announced it has hired Heather Stebbings as executive director.

Products

1 **In-Mar Solutions**

2 **Thordon Bearings**

3 **ESAB**

4 **VETUS**

1. 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

2. BlueWater Propeller Shaft Seal

Thordon Bearings has debuted a new propeller shaft seal for the commercial shipping industry featuring a unique Safe Return to Port (SRTP) design. Completing the COMPAC open seawater lubricated propeller shaft bearing system, Thordon's new BlueWater Seal is described by the manufacturer as a cost effective, commercial grade axial lip seal specifically designed for merchant shipping fleets. It incorporates Thordon's emergency SRTP capability, first used in the company's TG100 and SeaThigor – designed for the workboat and specialized naval vessel markets respectively – representing the first SRTP seal designed for the merchant fleet.

3. Robust Feed AVS Voltage-sensing Wire Feeder

ESAB Welding & Cutting Products has launched the Robust Feed AVS voltage-sensing feeder, which eliminates the need for a power supply/control cable between the power source and the feeder. The design simplifies cable management in portable applications, eliminating a cable that could potentially get damaged. Voltage-sensing feeder technology also enables the feeder to work with either constant current (CC) or constant voltage (CV) power sources for greater flexibility.

4. BOW PRO Boosted 300 DC Thrusters

VETUS has introduced in the U.S. what it claims is the world's most powerful DC thrusters. The new BOW PRO Boosted 300 series are the highest output thrusters in VETUS's lineup of advanced BOW PRO units, which boast DC-to-DC charging technology, quiet operation, precision proportional control and long runtimes. Suitable for boats up to 30 m/95 ft, the new BOWB285, BOWB300 and BOWB320 are the first BOW PRO units in the 300-mm tunnel range and provide 40% more output at 285 to 320 kgf force.

GENERAL MANAGER - SUPERYACHT FACILITY

Salary: $ $125,000/yr - $150,000/yr
Full-time
Job Location: Fort Lauderdale,
Description:
Wide Effect has partnered with an organization that has provided leading service to the Yachting Industry for decades. This group has multiple locations on the Eastern Seaboard, and is actively seeking a seasoned and respected leader for their Ft. Lauderdale location. The successful candidate will have a strong aptitude for change management and the ability to navigate daily challenges presented by a constantly evolving and growing organization.

This is an opportunity to take the helm of a brand recognized across the Industry, and work directly with ownership and key organizational leaders to grow and improve all aspects of daily operations.

Responsibilities & Opportunities

Mentor, Build, and Mold a constantly evolving organization made up of passionate leaders and team members.

Optimize relationships within industry - Specifically with Captains, Owners, and Management Companies.

Strategically implement KPIs s to accurately measure performance and identify areas for improvement

Partner with the Business Development team to constantly challenge the strategies that allow the organization to stay competitive, efficient, and relevant in the evolving global superyacht refit market.

Listen to input from all layers of the organization to constantly improve culture, growth, and revenue streams.

Communicate and Collaborate with Human Resources to continuously grow and strengthen the workforce.

Requirements:

Bachelor's Degree - Engineering, Naval Architecture, Management, or similar qualification preferred

Verifiable experience in a leadership position within relevant industry verticals

Track Record of Success in the Shipbuilding/Ship Repair Industry - Preferably Superyacht

Excellent communication skills

Adaptable to any environment presented

Proficient with Microsoft Office Suite of products

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Full Time (Temporary)
Category: Shipboard Officer / Personnel / Crew

Job Location: 297 Rosecrans St. SAN DIEGO, CA, 92106 United States
Contact
HR Generalist
Email: NMFHR@UCSD.EDU
Work Phone : 858-534-1644
297 Rosecrans St. SAN DIEGO, CA, 92106 United States
Skills: LICENSES AND CERTIFICATIONS U.S. Coast Guard Second Assistant Engineer license for related vessel.
U.S. Coast Guard Standards of Training, Certification and Watchkeeping for Seafarers (STCW95) and lifeboat endorsement.
Transportation Worker Identification Credential (TWIC) issued by the Transportation Security Administration (TSA).
U.S. Coast Guard Merchant Mariners Document (MMD) or Credential (MMC) with 2nd Asst Engineer License.

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